MONDAY, 6/24/2024

32-01 High Fidelity CFD
6/24/2024
8:00 AM to 10:00 AM - Pod 4- Entrance S5 & S6

Chair: ***Alex Stein -***
Chair: ***Emil Goettlich -***
Chair: ***Andrew Melzer -***
Presentations:

Towards New Insights in Gas Turbine Aerothermodynamics With Wall-Modeled LES and Immersed Boundary Method, {GT2024-121022}
Technical Paper Publication
Francesco De Vanna - Università degli Studi di Padova
Ernesto Benini - Università degli studi di Padova

High-Fidelity Investigation of Vortex Shedding From a Highly-Loaded Turbine Blade, {GT2024-125856}
Technical Paper Publication
Xavier Gloerfelt - DynFluid Laboratory - Arts et Métiers Insitute of Technology
Paola Cinnella - Institut Jean Le-Rond D'Alembert - Sorbonne Universite

Prediction and Analysis of Turbulence Anisotropy in a Low-Pressure Turbine Cascade at Two Reynolds Numbers Based on Transitional DDES, {GT2024-121415}
Technical Paper Publication
Nima Fard Afshar - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Felix M. Möller - German Aerospace Center (DLR), Institute of Test and Simulation for Gas Turbines
Johannes Deutsch - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Stefan Henninger - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Christian Morsbach - German Aerospace Center (DLR), Institute of Propulsion Technology
Dragan Kožulović - University of the Bundeswehr Munich
Patrick Bechlars - MTU Aero Engines AG
Peter Jeschke - - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University

High-Fidelity Predictions of Aerodynamic Losses Through a Supersonic Stator Vane, {GT2024-127676}
Technical Paper Publication
Camille Matar - Institut Jean le Rond d'Alembert, Sorbonne University
Xavier Gloerfelt - DynFluid, Ecole Nationale supérieure d'Arts et Métiers
Paola Cinnella - Institut Jean le Rond d'Alembert, Sorbonne University

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40-01 Stall & Surge in Radial Machines
6/24/2024
8:00 AM to 10:00 AM - Pod 7- Entrance S5 & S6

Chair: ***Herbert Harrison -***
Chair: ***Reid A. Berdanier - Penn State - University***
Chair: ***Grzegorz Liskiewicz -***
Presentations:

Experimental Characterisation of Surge Cycles and Second Quadrant Operation for a Centrifugal Compressor, {GT2024-121338}
Technical Paper Publication
Ola Ilseth Pronk - Norwegian University of Science and Technology (NTNU)

Lars Eirik Bakken - Norwegian University of Science and Technology (NTNU)

A Review of Numerical Methodologies for Predicting Rotating Stall and Surge in High-Speed Centrifugal Compressors, {GT2024-121417}
Technical Paper Publication
Francesco Neri - TU Delft
Stefan Hickel - TU Delft
Matteo Pini - TU Delft

Transient Analysis of Flow Unsteadiness and Machine Instabilities in a Centrifugal Compressor at Surge and Second Quadrant Operation, {GT2024-128034}
Technical Paper Publication
Alberto Serena - Norwegian University of Science and Technology
Lars Eirik Bakken - Norwegian University of Science and Technology

Model for Local Cavitation Instabilities in 2-Bladed Turbopump Inducers, {GT2024-129494}
Technical Paper Publication
Youngkuk Yoon - Seoul National University
Seung Jin Song - Seoul National University

31-04 Tip Clearance Flows
6/24/2024
8:00 AM to 10:00 AM - Pod 1- Entrance S5 & S6

Chair: ***Amit Paspulati -***
Chair: ***Lisa Brilliant - RTX/Pratt & Whitney***
Chair: ***Rohit Khattar - Siemens Energy***
Chair: ***Daniel Wilkin II - GE***
Presentations:

Flow Variations in Transonic Compressors Tip Flow — An Experimental Perspective Utilizing High Speed PIV, {GT2024-126281}
Technical Paper Publication
Fabian Klausmann - Technical University of Darmstadt
Jonas Bargon - Technical University of Darmstadt
Heinz-Peter Schiffer - Technical University of Darmstadt

Numerical Investigation on Mechanism and Modeling of Tip Leakage Flow Loss in Partially Shrouded Axial Flow Fans, {GT2024-129593}
Technical Paper Publication
Jinkong Qin - Xi'an Jiaotong University
Xiaowen Hu - Corporate Research Center of Midea Group
Mingyi Wang - Xi'an Jiaotong University
Hongzhou Fan - Xi'an Jiaotong University
Zhiheng Wang - Xi'an Jiaotong University
Guang Xi - Xi'an Jiaotong University

Effect of Reynolds Number and Tip Clearance on the Transonic Axial Compressor During Geometric Scaling, {GT2024-127220}
Technical Paper Publication
Wuan Zhao - Beihang University
Jiang Chen - Beihang University
Hang Xiang - Beihang University

Dynamic Characteristics of the Tip Clearance Flow Based on the Leakage Flow Model, {GT2024-124529}
Technical Paper Publication

Shiyan Lin - Northwestern Polytechnical University
Ruiyu Li - School of Aerospace Engineering, Xi'an Jiaotong University
Limin Gao - School of Power and Energy, Northwestern Polytechnical University

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12-03 Experimental techniques and scaling
6/24/2024
8:00 AM to 10:00 AM - SG25/SG26

Chair: ***John McClintic -***
Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Sean Bradshaw -***
Presentations:

Biot Number Error in Low Temperature Inconel Overall Effectiveness Experiments, {GT2024-124338}
Technical Paper Publication
Bailey Hopkins - US Air Force
Jacob Hughes - US Air Force
Carol Bryant - US Air Force Academy
James L. Rutledge - Air Force Institute of Technology

Revisiting Dimensionless Parameters Quantifying Film Cooling, {GT2024-126110}
Technical Paper Publication
Chien-Shing Lee - Purdue University
Tom Shih - Purdue University
Douglas Straub - National Energy Technology Laboratory
Justin Weber - National Energy Technology Laboratory

Impact of Blowing and Density Ratio on the Film Cooling and Heat Transfer in an Aggressive Turbine Center Frame, {GT2024-125674}
Technical Paper Publication
Patrick R. Jagerhofer - Graz University of Technology
Tobias Glasenapp - MTU Aero Engines AG
Bastian Patzer - MTU Aero Engines AG
Emil Göttlich - Graz University of Technology

Experimental Investigation of the Film Cooling Effectiveness Deviation Using Pressure Sensitive Paint Measurement for Different Hole Structures, {GT2024-127088}
Technical Paper Publication
Yuzhu Lou - School of Energy and Power Engineering, Beihang University
Zhi Tao - National Key Laboratory of Science and Technology on Aero Engines Aero-Thermodynamics, Beihang University
Haiwang Li - Research Institute of Aero-Engine, Beihang University
Zhiyu Zhou - Research Institute of Aero-Engine, Beihang University
Jinghan Zhang - National Key Laboratory of Science and Technology on Aero Engines Aero-Thermodynamics, Beihang University
Gang Xie - National Key Laboratory of Science and Technology on Aero Engines Aero-Thermodynamics, Beihang University

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18-01 Advanced Manufacturing and Design I
6/24/2024

8:00 AM to 10:00 AM - SG4

Chair: ***Markus Meurer - WZL Aachen***
Chair: ***Taylor Robertson - CNRC***
Presentations:

Challenges in the Production of Fuel Cells for Aviation, {GT2024-125888}
Technical Paper Publication
Patrick Sperling - Fraunhofer Institute for Production Technology IPT
Rainer Horstkotte - Fraunhofer Institute for Production Technology IPT
Jan Sommer - Laboratory for Machine Tools and Production Engineering (WZL) of RWTH Aachen University
Sascha Gierlings - Fraunhofer Institute for Production Technology IPT
Henning Janssen - Fraunhofer Institute for Production Technology IPT
Tim Herrig - Laboratory for Machine Tools and Production Engineering (WZL)
Thomas Bergs - Laboratory for Machine Tools and Production Engineering (WZL) of RWTH Aachen University
Christian Brecher - Fraunhofer Institute for Production Technology IPT

Numerical Investigation of Different Forming Approaches for the Manufacturing of Titanium Bipolar Plates for the Aviation Industry, {GT2024-127515}
Technical Paper Publication
Jan Sommer - Laboratory for Machine Tools and Production Engineering (WZL) of RWTH Aachen University
Max Meerkamp - Laboratory for Machine Tools and Production Engineering (WZL) of RWTH Aachen University
Martina Müller - Laboratory for Machine Tools and Production Engineering (WZL)
Rainer Horstkotte - Fraunhofer Institut für Produktionstechnologie IPT
Sascha Gierlings - Fraunhofer Institut für Produktionstechnologie IPT
Tim Herrig - Laboratory for Machine Tools and Production Engineering (WZL)
Thomas Bergs - Laboratory for Machine Tools and Production Engineering (WZL)

Application of CFRP Sleeve to Increase Efficiency of Air Compressor for Fuel Cell Electric Vehicle, {GT2024-123751}
Technical Paper Publication
Changha Lee - Hyundai Motor Company
JONGSUNG LEE - HANONSYSTEMS
Hyunsup Yang - HANONSYSTEMS
Jeong Kyu Lim - Hyundai Motor Company
Young-Yoon Ko - Hyundai Motor Company
Jeong Hee Park - Hyundai Motor Company
Seung-Jin Dong - HANKUK-FIBER

13-01 - Heat Exchangers
6/24/2024
8:00 AM to 10:00 AM - SG27/SG28

Chair: ***Cosimo Bianchini -***
Chair: ***Robert Krewinkel -***
Chair: ***Guillermo Paniagua-Perez - Purdue University***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Ethan Stearns - Pratt & Whitney***
Chair: ***Ethan Stearns - Pratt & Whitney***
Presentations:

CFD Modeling of Additively Manufactured Extreme Environment Heat Exchangers for Waste Heat Recuperation, {GT2024-121284}
Technical Paper Publication
Vyas Duggirala - Boeing Research & Technology, India

Venkateswara Reddy - Boeing Research & Technology, India
Arun Muley - Boeing Research & Technology, Huntington Beach, CA
Michael Stoia - Boeign Research & Technology, Huntington Beach, CA
Doug Vanaffelen - Boeing Research & Technology, Huntington Beach, CA

An Experimental Case Study in Combining Topology Optimization and Additive Manufacturing Techniques to Generate Novel and High-Performance Compact Heat Exchanger Designs, {GT2024-128871}
Technical Paper Publication
Thomas Rees - ToffeeAM Ltd
Abdullah Azam - Boeing
Nicola Casari - ToffeeAM
Polly Banks - Boeing
Lukas Jiranek - Boeing
Stefano Furino - ToffeeAM Ltd
Arun Muley - Boeing

Multidisciplinary Optimisation of Additive Manufactured Heat Exchangers for Aeronautical Applications, {GT2024-126786}
Technical Paper Publication
Alessandro Chiodi - Politecnico di Torino
Alessandro Alaia - OPTIMAD
Edoardo Lombardi - OPTIMAD
Marco Cisternino - OPTIMAD
Konstantinos Gkaragkounis - OPTIMAD
Shahrokh Shahpar - Rolls-Royce Plc

Multi-Disciplinary Optimization of Gyroid Topologies for a Cold Plate Heat Exchanger Design, {GT2024-128603}
Technical Paper Publication
Elhusseiny Daifalla - Rolls-Royce
Shahrokh Shahpar - Rolls-Royce
Indi Tristanto - Rolls-Royce
Mario Carta - Rolls-Royce

14-02 Compressor Cavities 2
6/24/2024
8:00 AM to 10:00 AM - SG29

Chair: ***Robert Proctor -***
Chair: ***Mike Barringer -***
Chair: ***Stephen Lynch -***
Chair: ***Carl Sangan -***
Chair: ***Lesley Wright -***
Chair: ***Sebastiaan Bottenheim -***
Presentations:

Mass and Heat Exchange in Rotating Compressor Cavities With Variable Cob Separation, {GT2024-126600}
Technical Paper Publication
Tom Nicholas - University of Bath
Mikolaj Pernak - University of Bath
Gary Lock - University of Bath
James Scobie - University of Bath
Hui Tang - University of Bath

Experimental Measurements of Buoyancy Induced Flow in Rotating Cavities Under High Reynolds Number Conditions, {GT2024-128942}
Technical Paper Publication

Mark Puttock-Brown - University of Sussex
Vasudevan Kanjirakkad - University of Sussex

Windage Characteristics of a Compressor Stator Well Cavity, {GT2024-129288}
Technical Paper Publication
Erinc Erdem - TEI
Ahmet Cuneyt Kahraman - TEI
Onur Garip - TEI
Sinan Sal - TEI

Numerical Investigation of Flow Structure and Pressure Drop Prediction for Radial Inflow Between Co-Rotating Discs With Negative Effective Inlet Swirl Ratio, {GT2024-124027}
Technical Paper Publication
Xu Yang - School of Energy and Power Engineering, Beihang University
Shuiting Ding - Research Institute of Aero-Engine, Beihang University
Peng Liu - Research Institute of Aero-Engine, Beihang University
Yu Zhao - Research Institute of Aero-Engine, Beihang University
Tian Qiu - Research Institute of Aero-Engine, Beihang University

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04-34: Pressure Gain Combustion I
6/24/2024
8:00 AM to 10:00 AM - SG13

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Brent A. Rankin - Air Force Research Lab***
Chair: ***Myles Bohon -***
Chair: ***Robert Fievisohn - AFRL***
Presentations:

Numerical Investigation of Two-Phase N-Decane/Air Rotating Detonation Engines With Different Numbers of Fuel Orifices, {GT2024-123851}
Technical Paper Publication
Xiaofeng Shao - Harbin Engineering University
Dr. Ningbo Zhao - Harbin Engineering University
Wei Zhang - Harbin Engineering University
Hongtao Zheng - Harbin Engineering University

Numerical Study of Flow and Combustion Dynamics in a Hydrogen-Air Rotating Detonation Combustor-Stator Integrated System, {GT2024-129058}
Technical Paper Publication
Pinaki Pal - Argonne National Laboratory
James Braun - North Carolina State University
Yiqing Wang - Argonne National Laboratory
Venkat Athmanathan - Purdue University
Guillermo Paniagua - Purdue University
Terrence R. Meyer - Purdue University

Quantitative Measurements in the Exhaust Flow of a Rotating Detonation Combustor Using Rainbow Schlieren Deflectometry, {GT2024-129420}
Technical Paper Publication
Apurav Gupta - The University of Alabama
Robert Miller - The University of Alabama
Kayla Bell - The University of Alabama
Dalton G. Langner - The University of Alabama

Ajay K. Agrawal - University of Alabama

Performance Characterization of a Radial Rotating Detonation Combustor With Axial Exhaust, {GT2024-129429}
Technical Paper Publication
Dalton Langner - The University of Alabama
Apurav Gupta - The University of Alabama
Ashley James - The University of Alabama
Ajay K. Agrawal - University of Alabama

34-04 Through flow methods
6/24/2024
8:00 AM to 10:00 AM - Pod 2- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Martina Ricci - Baker Hughes***
Chair: ***Lorenzo Cozzi -***
Presentations:

Extracting Meanline Modeling Parameters for Radial Turbomachinery From CFD, {GT2024-129356}
Technical Paper Publication
Chase Oliphant - Brigham Young University
Jason Metten - Brigham Young University
Steve Gorrell - Brigham Young University
Dan Maynes - Brigham Young University
Kerry Oliphant - Concepts NREC

Extension of the MULTALL Open Source Throughflow Code for the Improved Off – Design Calculations, {GT2024-126534}
Technical Paper Publication
Mustafa Bilgiç - TEI
Özgür Uğraş Baran - Middle East Technical University
Mehmet Halûk Aksel - UTAA

A Through-Flow Approach Associating Velocity and Pressure Gradient Equations for Transonic Axial Flow Compressors Performance Prediction, {GT2024-128690}
Technical Paper Publication
Mingyi Wang - Xi'an Jiaotong University
Tongxi Li - Xi'an Jiaotong University
Zhiheng Wang - Xi'an Jiaotong University
Guang Xi - Xi'an Jiaotong University

34-13 Hydraulic pump methods
6/24/2024
8:00 AM to 10:00 AM - Pod 5-Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Eric Monson -***
Chair: ***Jeffrey Gluck -***
Presentations:

Experimental and Numerical Investigations of the Influence of Cavitation on the Head Drop Curves of Centrifugal Pumps, {GT2024-121515}
Technical Paper Publication

Mehmet Kaya - Kale Arge
Erkan Ayder - Istanbul Technical University

High-Fidelity Simulation of an Industrial Low-Pressure Pump of Helicopter Using Coupled LES/CAA Method, {GT2024-123185}
Technical Paper Publication
Pierre Benez - CORIA - UMR 6614 - CNRS
Vincent Moureau - CORIA - UMR 6614 - CNRS
Melody Cailler - Safran Tech, Digital Sciences and Technologies Department
Guillaume Ribert - CORIA - UMR 6614 - INSA Rouen Normandie
Pascal Mingret - Safran Helicopter Engines
Marine Robin - Safran Helicopter Engines

Computational Study of Flow Characteristics of an Inducer Dropleg Configuration for Pulp Pumping Applications, {GT2024-127484}
Technical Paper Publication
Radheesh Dhanasegaran - Sulzer Pumps Finland Oy
Kalle Tiitinen - Sulzer Pumps Finland Oy
Timo Vahteri - Sulzer Pumps Finland Oy

36-02 Neural-Network based approaches (1)
6/24/2024
8:00 AM to 10:00 AM - Pod 6- Entrance S5 & S6

Chair: ***Christian Voss -***
Chair: ***Marcus Meyer -***
Chair: ***Marc Nagel - MTU***
Presentations:

Physics Guided Graph Neural Networks (PG-GNNs): Numerical Investigation of High-Pressure Turbine Flow, {GT2024-123649}
Technical Paper Publication
Zhihui Li - Imperial College London
Francesco Montomoli - Imperial College London

A Physics-Informed Deep Learning Approach for HDGT Compressor Performance Simulation, {GT2024-124689}
Technical Paper Publication
Manman Wei - Dalian University of Technology
Xiaomo Jiang - Dalian University of Technology
Yiyang Liu - Dalian University of Technology
Xin Ge - Dalian University of Technology

Prediction of Steady and Unsteady Flow Quantities Using Multiscale Graph Neural Networks, {GT2024-121697}
Technical Paper Publication
Sebastian Stroenisch - TUD Dresden University of Technology
Maximilian Sander - TUD Dresden University of Technology
Marcus Meyer - Rolls-Royce Deutschland Ltd. & Co. KG
Andreas Knuepfer - TUD Dresden University of Technology

04-05 High Hydrogen I
6/24/2024
8:00 AM to 10:00 AM - SG20/SG21

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Michael Duesing -***
Chair: ***Andrea Gruber -***
Presentations:

Operation of FT4000® Single Nozzle Combustor With High Hydrogen, {GT2024-121321}
Technical Paper Publication
Justin Locke - RTX Technology Research Center
Wookyung Kim - RTX Technology Research Center
Lance Smith - RTX Technology Research Center
Timothy Snyder - Pratt & Whitney
James Dayton - Mitsubishi Power Aero

Nonpremixed Approaches for Fuel Flexible, Low NOx Combustors in High-Efficiency Gas Turbines, {GT2024-129213}
Technical Paper Publication
Benjamin Emerson - Georgia Tech
Shivam J. Patel - Georgia Institute of Technology
Srujan Gubbi - Georgia Institute of Technology
Randal G. McKinney - Georgia Institute of Technology
David Wu - Georgia Institute of Technology
David R. Noble - EPRI
Tim C. Lieuwen - Georgia Institute of Technology

Experimental and Numerical Investigation of Hydrogen Combustion in a Dual-Swirl Burner for Aero-Engine Applications, {GT2024-121767}
Technical Paper Publication
Simon Gövert - German Aerospace Center (DLR)
Johannes Berger - German Aerospace Center (DLR)
Jonathan Timo Lipkowicz - German Aerospace Center (DLR)
Soworka Thomas - German Aerospace Center (DLR)
Christoph Hassa - German Aerospace Center (DLR)
Thomas Behrendt - German Aerospace Center (DLR)
Bertram Janus - German Aerospace Center (DLR)

Considerations for Hydrogen Fueled Aerospace Gas Turbine Combustion Sub-System Design, {GT2024-122593}
Technical Paper Publication
Carsten Clemen - Rolls-Royce Deutschland Ltd Co KG
Murthy Ravikanti - Rolls-Royce plc
Nicholas La Bianca - Rolls-Royce plc
Ruud Eggels - Rolls-Royce Deutschland Ltd Co KG
Benno Wurm - Rolls-Royce Deutschland Ltd Co KG
Ken Young - Rolls-Royce plc

04-10 Flashback and Blowoff I
6/24/2024
8:00 AM to 10:00 AM - SG12

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Jacqueline O'Connor - Pennsylvania State University***
Chair: ***Keith McManus - GE Aerospace***
Presentations:

Lean Blow-Off Behaviour of Premixed Bluff-Body Stabilized Hydrocarbon-Air Flames and Ammonia/Hydrogen/Nitrogen-Air Flames, {GT2024-124613}
Technical Paper Publication
Tong Su - Norwegian University of Science and Technology
Boyan Xu - Eindhoven University of Technology
Rob Bastiaans - Eindhoven University of Technology
Nicholas Worth - Norwegian University of Science and Technology

Experimental Studies on Lean Blowout Limits for a Hydrogen-Enriched Methane-Fueled Trapped Vortex Combustor, {GT2024-126746}
Technical Paper Publication
Nikhil Verma - Indian Institute of Science
R .V . Ravikrishna - Indian Institute of Science

Fuel Property Impact on Lean Blow Out for Sustainable Aviation Fuels in Gas Turbine Combustors, {GT2024-126789}
Technical Paper Publication
Debolina Dasgupta - Argonne national laboratory
Sibendu Som - Argonne National Laboratory

Prediction of Lean Blowout Limits for Bluff Body Stabilized Flame Using a Gradient Method of Damköhler Number and Temperature, {GT2024-127015}
Technical Paper Publication
Xin Jia - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences
Bin Hu - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences
Xiuming Sui - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences
Wen Zeng - School of Aero-engine, Shenyang Aerospace University
Xin Yu - School of Astronautics, Harbin Institute of Technology
Qingjun Zhao - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences ; Beijing Key Laboratory of Distributed Combined Cooling Heating and Power System

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23-14, Seals and dampers II
6/24/2024
8:00 AM to 10:00 AM - SG23/SG24

Chair: ***Steven Chatterton - Politecnico di Milano***
Chair: ***Jürg Schiffmann -***
Presentations:

Experimental Investigations on Carbon Segmented Seals With Smooth and Pocketed Pads, {GT2024-124822}
Technical Paper Publication
Pascal Jolly - Institut Pprime
Mihai Arghir - Institut Pprime
Hidetoshi Kasahara - EAGLE INDUSTRY CO., LTD.
Wataru Kimura - EAGLE INDUSTRY CO., LTD.

Effect of Piston Ring Grooves on the Radial and Tangential Forces of a Squeeze Film Damper, {GT2024-122802}
Technical Paper Publication
Emanuele Giampaolo - Safran Aircraft Engines / Institut PPrime, Université de Poitiers
Mihai Arghir - Institut Pprime, Université de Poitiers

Hugo Festjens - Safran Aircraft Engines

21-01: Last Stage Blades and Low Pressure Sections
6/24/2024
8:00 AM to 10:00 AM - SG2

Chair: ***Ivan Mcbean -***
Chair: ***Christian Siewert - Siemens Energy***
Chair: ***Tomohiko Tsukuda - Toshiba***
Presentations:

Experimental and Numerical Investigations of Flow Patterns at Low Volume Flow Rate Conditions in Low Pressure Steam Turbine, {GT2024-127659}
Technical Paper Publication
Soichiro Tabata - Mitsubishi Heavy Industries, Ltd.
Kiyoshi Segawa - Mitsubishi Heavy Industries, Ltd.
Tadashi Takahashi - Mitsubishi Heavy Industries, Ltd.
Jin Aoyagi - Mitsubishi Heavy Industries, Ltd.

Steam Turbine Low Pressure 75in Last Stage Blade for Nuclear Half Speed Applications, {GT2024-127874}
Technical Paper Publication
Sergey Kostyuschenko - GE
Ivan Mcbean - GE
Pierre-Alain Masserey - GE
Christian Casu - GE
Vivian Noirot - GE
Julien Lemaire - GE
Christophe Berquier - GE

Development of a Low-Pressure Section for Industrial Power Generation Application, {GT2024-128909}
Technical Paper Publication
Lorenzo Arcangeli - Baker Hughes
Antonio Aquilino - Baker Hughes
Filippo Brazzini - Baker Hughes
Lorenzo Cosi - Baker Hughes
Nicola Maceli - Baker Hughes
Sara Rizzi - Baker Hughes

28-01 Mistuning
6/24/2024
8:00 AM to 10:00 AM - SG16

Chair: ***Harald Schoenenborn -***
Chair: ***Azzedine Dadouche -***
Chair: ***Bernd Beirow -***
Presentations:

Mass Mistuning Reduced Order Models for Bladed Disks With Shroud Friction Joints, {GT2024-123976}
Technical Paper Publication
Giacomo Saletti - Politecnico di Torino
Mehrdad Pourkiaee - Politecnico di Torino
Stefano Zucca - Politecnico di Torino

The Effect of Temperature on the Forced Response of a Blisk Rotor With Inherent Mistuning, {GT2024-129258}
Technical Paper Publication
Jhansi Dodda - Purdue University, West Lafayette
Yujun Leng - Purdue University, West Lafayette
Nicole Key - Purdue University, West Lafayette

Integrated System Modal and Mistuning Identification for Integrally Bladed Rotors, {GT2024-129165}
Technical Paper Publication
Joseph Beck - Perceptive Engineering Analytics, LLC
Jeffrey Brown - U.S. AFRL Turbine Engine Division
Daniel Gillaugh - U.S. AFRL Turbine Engine Division

A Physics-Informed Neural Network Surrogate Model for Mistuned Bladed Disks Dynamics, {GT2024-125397}
Technical Paper Publication
Yu Fan - Beihang Univ
Jiasen Fan - Beihang Univ
Anlue Li - Beihang Univ
Yaguang WU - Beihang University
Yuning Zhang - China United Gas Turbine Technology
Zhiqiang Song - China United Gas Turbine Technology

17-02 Techno-Economic Analysis of Energy Systems
6/24/2024
8:00 AM to 10:00 AM - SG5

Chair: ***Clement Joly -***
Chair: ***Vlad Goldenberg - SoftInWay***
Presentations:

Energy and Economic Optimization of the Design and Operation of Hybrid Energy Plants Under Current and Future Economic Scenarios, {GT2024-121980}
Technical Paper Publication
Giulia Anna Maria Castorino - Università degli Studi di Ferrara
Enzo Losi - Università degli Studi di Ferrara
Lucrezia Manservigi - Università degli Studi di Ferrara
Michele Pinelli - Università degli Studi di Ferrara
Pier Ruggero Spina - Università degli Studi di Ferrara
Mauro Venturini - Università degli Studi di Ferrara

State-of-Charge (SoC) Management of PTES Coupled Industrial Cogeneration Systems, {GT2024-128921}
Technical Paper Publication
Alp Albay - Imperial College London
Zhennan Zhu - Imperial College London
Mehmet Mercangoz - Imperial College London

Development of an Efficient Compressor and Turbine for a 2MW-Class Emergency Gas Turbine, {GT2024-120898}
Technical Paper Publication
Takao Kohama - IHI Power Systems Co., Ltd.
Shuichi Anzawa - IHI Power Systems Co., Ltd.
Yutaro Seki - IHI Power Systems Co., Ltd.

27-02 Rotordynamic Design and Applications
6/24/2024
8:00 AM to 10:00 AM - SG15

Chair: ***Theodore Brockett -***
Chair: ***Filippo Cangioli -***
Chair: ***Yujiao Tao -***
Presentations:

The Effect of O-Ring Compression Set on the Rotordynamic Behavior of Turbomachinery, {GT2024-120913}
Technical Paper Publication
Christopher Simpson - Collins Aerospace
Ali Shakil - Collins Aerospace

Correlation and Repeatability Improvement Between Tie Bolt Stretch and Vibration Levels Using Automated Stretch Tool and Regression Analysis, {GT2024-125266}
Technical Paper Publication
Lajos Horvath - Pratt and Whitney
Gregory Savela - Pratt and Whitney
Parag Mathuria - Pratt and Whitney
Joshua Seyler - Pratt and Whitney

Influence of Baseplate Flexibility in Rotordynamic Analysis of Rotating Equipment, {GT2024-127259}
Technical Paper Publication
Vincenzo D'Addio - Baker Hughes
Alessio Gorgeri - Baker Hughes
Mirko Libraschi - Baker Hughes
Francesco Capanni - Baker Hughes

Rotor Design of Heavy-Duty Gas Turbines for Power Generation: A Comparative Analysis for Transition to Net Zero Emission Target, {GT2024-128686}
Technical Paper Publication
Diego Ugel - Ansaldo Energia Switzerland
Sven Olmes - Ansaldo Energia Switzerland AG
Claudio Cassinelli - Ansaldo Energia
Michael Goerzer - Ansaldo Energia Switzerland AG
Sinisa Ivkovic - Ansaldo Energia Switzerland AG
Torsten Winge - Ansaldo Energia Switzerland AG
Luca Bordo - Ansaldo Energia

05-01 Advanced Controls & Modeling
6/24/2024
8:00 AM to 10:00 AM - SG7

Chair: ***Donald Simon - NASA***
Chair: ***Igor Loboda -***
Chair: ***Liang Tang - GE Research***
Presentations:

A Comparative Study of Model Predictive Control Approaches for Surge Mitigation in Centrifugal Compressors, {GT2024-122251}
Technical Paper Publication
Luigi Bono Bonacchi - Baker Hughes
Marta Fiorucci - Baker Hughes
Manuel Pencelli - Baker Hughes
Guido Schillaci - Baker Hughes
Andrea Politano - Baker Hughes
Giovanni De Magistris - Baker Hughes
Daniele Galeotti - Baker Hughes

Giovanni Tonno - Baker Hughes

Real-Time Jet Engine Performance Analysis System With Compressor Surge and Turbine Choked Flow Detection Functions, {GT2024-122824}
Technical Paper Publication
Hoang Nguyen Huy - Viettel Aerospace Institute
Hung Vu Xuan - Viettel Aerospace Institute
Anh Pham Tuan - Viettel Aerospace Institute
Son Bui Van - Viettel Aerospace Institute
Nam Trinh Thanh - Viettel Aerospace Institute
Vinh Ngo Ngoc - Viettel Aerospace Institute
Linh Nguyen Viet - Viettel Aerospace Institute
Duong Nguyen Thanh - Viettel Aerospace Institute

Improved Stall Recovery in "Electrified" Gas Turbine Engines, {GT2024-125341}
Technical Paper Publication
Zhenhao Jing - Georgia Institute of Technology
Yedidia Neumeier - Georgia Institute of Technology
J. V. R. Prasad - Georgia Institute of Technology
Darrell James - Honeywell International, Inc.

Development of a Dynamic Model of a Two-Shaft Turbine for Control Tuning and Testing, {GT2024-129374}
Technical Paper Publication
Lorenzo Ferrari - University of Pisa – DESTEC
Tommaso Bigazzi - Baker Hughes
Gabriele Di Gioia - Baker Hughes
Gianni Bagni - Baker Hughes
Lorenzo Giovanardi - Baker Hughes

06-01 Carbon Capture Integration
6/24/2024
8:00 AM to 10:00 AM - SG1

Chair: ***Majed Sammak - General Electric***
Chair: ***Alessandro Sorce - University of Genoa***
Chair: ***Ward De Paepe - UMONS***
Chair: ***Ioannis Roumeliotis - Cranfield University***
Chair: ***Homam Nikpey Somehsaraei - UIS***
Presentations:

Gas Turbine Combined Cycle System Integration with Carbon Capture Plant for Improved Value, {GT2024-124227}
Technical Paper Publication
Majed Sammak - GE Vernova
Raub Smith - GE Vernova
Parag Kulkarni - GE Vernova
Ravi N - GE Vernova
John Sholes - GE Vernova

Retrofitting an Existing Combined Cycle Gas Turbine With Post-Combustion Carbon Capture: Assessment of Solvent Selection Impact on Performance, {GT2024-125053}
Technical Paper Publication
Antoine Verhaeghe - University of Mons
Laurent Bricteux - University of Mons
Frederiek Demeyer - Engie Laborelec
Julien Blondeau - Vrije Universiteit Brussel
Ward De Paepe - University of Mons

Understanding the Potential and the Challenges of a NGCC Integrated With Hydrogen-Assisted EGR and CO2 Capture, {GT2024-125639}
Technical Paper Publication
Elettra Vantaggiato - SINTEF Energy Research
Luca Riboldi - SINTEF Energy Research
Rahul Anantharaman - SINTEF Energy Research
Carlo Carcasci - University of Florence
Antonio Andreini - University of Florence
Simon Roussanaly - SINTEF Energy Research
Mario Ditaranto - SINTEF Energy Research

Semi-Closed Oxy-Combustion Combined Cycles (SCOC-CC) for Combined Heat and Power Applications, {GT2024-129329}
Technical Paper Publication
Andrea Zelaschi - Politecnico di Milano
Andrea Giostri - Politecnico di Milano
Paolo Chiesa - Politecnico di Milano
Emanuele Martelli - Politecnico De Milano - Dept. of Energy

19-02 Applications 2
6/24/2024
8:00 AM to 10:00 AM - SG3

Chair: ***Grzegorz Liskiewicz -***
Chair: ***Aaron Rimpel -***
Presentations:

Surge Detection of Centrifugal Compressor Using CFD Results, {GT2024-121888}
Technical Paper Publication
Al Shahriar - Danfoss
Yintao Wang - Danfoss
Jin Yan - Danfoss Turbocor Inc

Experimental Investigation on the Dynamic Response of a Turbocharger Centrifugal Compressor in Surge Transitions, {GT2024-122102}
Technical Paper Publication
Paolo Silvestri - University of Genoa
Silvia Marelli - University of Genoa
Vittorio Usai - Università degli Studi di Genova

Off-Design Performance Analysis of Centrifugal Compressor of a Small Gas Turbine Engine, {GT2024-125485}
Technical Paper Publication
GIRIDHAR KUMAR DHINNE - Siemens Energy Industrial Turbomachinery India Private Limited

Effect of Turbulence Transition Models on the Flow Field of a Centrifugal Compressor Operating in Low Reynolds Number Condition, {GT2024-129010}
Technical Paper Publication
Weihan Kong - Tsinghua University
Baotong Wang - Tsinghua University
Xinqian Zheng - Tsinghua University
Yoshihiro Ishikawa - Mitsubishi Heavy Industries, Ltd.
Tadashi Kanzaka - Mitsubishi Heavy Industries, Ltd.

01-07 Inlets, Nozzles, Mixers and Nacelles I
6/24/2024
8:00 AM to 10:00 AM - SG19

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Kevin Lowe - Virginia Tech***
Chair: ***David Hall - Penn State University***
Chair: ***Asad Asghar - Royal Military College of Canada***
Presentations:

Impact of Various Intake Configurations on the Flight Mission Performance of an Unmanned Aircraft, {GT2024-122647}
Technical Paper Publication
Jonas Remiger - University of the Bundeswehr, Department of Aerospace Engineering, Institute of Jet Propulsion
Andreas Grois - University of the Bundeswehr, Department of Aerospace Engineering, Institute of Jet Propulsion
Marcel Stößel - University of the Bundeswehr, Department of Aerospace Engineering, Institute of Jet Propulsion
Dragan Kožulović - University of the Bundeswehr, Department of Aerospace Engineering, Institute of Jet Propulsion
Michael Krummenauer - Wehrtechnische Dienststelle für Luftfahrzeuge und Luftfahrtgerät der Bundeswehr (WTD61)

Flow Analysis of Various Intake Configurations of an Unmanned Aircraft Considering External Flow and Different Flight Conditions, {GT2024-124210}
Technical Paper Publication
Andreas Grois - University of the Bundeswehr Munich, Department of Aerospace Engineering, Institute of Jet Propulsion
Jonas Remiger - University of the Bundeswehr Munich, Department of Aerospace Engineering, Institute of Jet Propulsion
Marcel Stößel - University of the Bundeswehr Munich, Department of Aerospace Engineering, Institute of Jet Propulsion
Michael Krummenauer - Bundeswehr Technical Centre for Aircraft and Aeronautical Equipment (WTD61)
Dragan Kozulovic - University of the Bundeswehr Munich, Department of Aerospace Engineering, Institute of Jet Propulsion

Noise Reduction by Lowering the Jet Mach Number and Using Inverted Velocity Profile at Fixed Thrust and Mass Flow, {GT2024-126854}
Technical Paper Publication
Junhui Liu - Naval Research Laboratory

01-02 Conceptual Design and Optimization I
6/24/2024
8:00 AM to 10:00 AM - SG17/SG18

Chair: ***Kevin Lowe - Virginia Tech***
Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Kurt Rouser - Oklahoma State University***
Chair: ***Lukas Benjamin Inhestern - Purdue University***
Presentations:

Assessment of a Liquid Hydrogen Conditioning System for Retrofitting on Kerosene Designed Turbofan, {GT2024-121997}
Technical Paper Publication

Pavlos Rompokos - Cranfield University
Vasileios Kyritsis - Rolls-Royce plc
Christos Mourouzidis - Cranfield University
Ioannis Roumeliotis - Cranfield University

Step-by-Step Evaluation of the Fuel Switch From Kerosene to Hydrogen on the Thermodynamic Cycle in Gas Turbine Engines, {GT2024-123977}
Technical Paper Publication
Alexander Görtz - German Aerospace Center
Björn Schneider - German Aerospace Center

Advanced Power Management Strategies for Complex Hybrid-Electric Aircraft, {GT2024-126483}
Technical Paper Publication
Dimitrios Bermperis - Mälardalen University
Mavroudis D. Kavvalos - German Aerospace Center (DLR)
Stavros Vouros - Mälardalen University
Konstantinos Kyprianidis - Mälardalen University

Experimental Evaluation of an Electric Powertrain Designed for a 180-kW Turboelectric Aircraft Ground Test Rig, {GT2024-126590}
Technical Paper Publication
Joshua Johnsen - Oklahoma State University
Joshua Melvin - Oklahoma State University
Joshua Drake - Oklahoma State University
Muwanika Jdiobe - Oklahoma State University
Kurt Rouser - Oklahoma State Univsersity

30-07 Heat Exchangers
6/24/2024
8:00 AM to 10:00 AM - SG11

Chair: ***Renaud Le Pierres - Heatric***
Chair: ***Marie Kasprzyk - Oak Ridge National Laboratory***
Chair: ***Timothy Allison - SWRI***
Presentations:

Investigation of SPS Tungsten-Lithium Heat Pipe for Primary Heat Exchanger Applications, {GT2024-122070}
Technical Paper Publication
Abhilash M. Prasad - CATER | University of Central Florida
Elena Torres - CATER | University of Central Florida
Nandhini Raju - CATER | University of Central Florida
Marcel Otto - CATER | University of Central Florida
Ladislav Vesely - CATER | University of Central Florida
Erik Fernandez - CATER | University of Central Florida
Zachariah Koyn - Energy Driven Technologies, LLC
Jayanta Kapat - CATER | University of Central Florida

Micro-PIV Investigation of Near-Critical and Liquid CO2 Conditions Inside a T-Channel Setup, {GT2024-122370}
Technical Paper Publication
Ritesh Ghorpade - University of Central Florida
Gihun Kim - University of Central Florida
Soroush Niazi - University of Central Florida
Yoav Peles - University of Central Florida
Subith Vasu - University of Central Florida

Topological Shape and Performance Optimisation of Microchannel Diffusion-Bonded Heat Exchangers Used in sCO2 Brayton Cycle, {GT2024-124223}
Technical Paper Publication
Shubham Kumar Vishwakarma - Indian Institute of Science Bangalore
Adhip Srivastava - Indian Institute of Science Bangalore
Pramod Kumar - Indian Institute of Science Bangalore
Pradip Dutta - Indian Institute of Science Bangalore
Nagendra Somanath - Indian Institute of Science Bangalore

Numerical Modelling of a Primary Heat Exchanger in sCO2 Power Cycles for Thermal Energy Storage Systems, {GT2024-127401}
Technical Paper Publication
Alexandre Guille - Helmholtz-Zentrum Dresden-Rossendorf
Malini Bangalore Mohankumar - Helmholtz-Zentrum Dresden-Rossendorf
Sebastian Unger - Helmholtz-Zentrum Dresden-Rossendorf
Uwe Hampel - Helmholtz-Zentrum Dresden-Rossendorf

03-06 Design for sustainability
6/24/2024
8:00 AM to 10:00 AM - SG6

Chair: ***Angela Serra - Baker Hughes***
Chair: ***Luca Mazzotta - La Sapienza***
Presentations:

Design and Simulation Model of a Direct Supply Cryogenic LH2 Fuel Aircraft System for Airborne Applications, {GT2024-123206}
Technical Paper Publication
Fynn Thilker - FH Joanneum Graz
Andreas Tramposch - FH Joanneum Graz
Fabrice Giuliani - Combustion Bay One e.U.

Design for Sustainability of Gas Turbines: Accuracy on Carbon Footprint at Different Design Steps, {GT2024-127558}
Technical Paper Publication
Mosè Al Freijat - Baker Hughes
Rachele Orlandi - Baker Hughes
Martina Pucciarelli - Baker Hughes
Giacomo Ragni - Baker Hughes
Angela Serra - Baker Hughes
Francesco Fantozzi - Università degli studi di Perugia

Thermodynamic Optimization of Load-Following Operation in a Decarbonized Combined Cycle Power Plant Under Net-Zero Scenarios, {GT2024-127796}
Technical Paper Publication
Silvia Ravelli - University of Bergamo

On the Design of a Scaled-Up Pulsed Methane Pyrolysis Reactor for Clean Hydrogen Production, {GT2024-125320}
Technical Paper Publication
Cosimo Bianchini - Ergon Research
Riccardo Da Soghe - Ergon Research
Davide Bertini - Ergon Research
Donald Kendrick - EKONA
Scott Gray - EKONA
John Hinkey - Geminus TD
Michael J. Aarnio - Geminus TD
Roberto Meloni - Baker Hughes

09-10 Hydrogen/Ammonia Storage and Microgrids
6/24/2024
8:00 AM to 10:00 AM - SG9

Chair: ***David Sanchez - University of Seville***
Chair: ***Stefano Barberis - University of Genoa***
Chair: ***Daria Bellotti - Uniersity of Genova***
Presentations:

Techno-Economic Analysis of Green Hydrogen Energy Storage in a Cryogenic Flux Capacitor, {GT2024-129208}
Technical Paper Publication
Joshua Schmitt - Southwest Research Institute
Bikram Roychowdhury - Air Liquide
Adam Swanger - NASA Kennedy Space Center
Marcel Otto - University of Central Florida
Jayanta Kapat - University of Central Florida

Techno-Economic Analysis of Emerging Energy Storage Technologies for a Microgrid, {GT2024-129215}
Technical Paper Publication
Joshua Schmitt - Southwest Research Institute
Douglas Hofer - Southwest Research Institute
Owen Pryor - Soutwest Research Institute
George Khawly - Southwest Research Institute
Fernando Karg Bulnes - Southwest Research Institute
Aaron Mcclung - Southwest Research Laboratory

Development of a Power Generation and Economic Model for Micro-Grid Applications, {GT2024-129362}
Technical Paper Publication
Owen Pryor - Southwest Research Institute
Aaron Mcclung - GE Research
George Khawly - Southwest Research Institute
Joshua Schmitt - Southwest Research Institute
Timothy Allison - Southwest Research Institute

31-06 Tandem Design
6/24/2024
1:30 PM to 3:30 PM - Pod 4- Entrance S5 & S6

Chair: ***Max Hock - GE***
Chair: ***Amit Paspulati -***
Presentations:

Numerical Analysis of the Boundary Layer Behavior of Low-Speed Linear Cascade Compressor Airfoils With Single and Tandem Configurations, {GT2024-128813}
Technical Paper Publication
Lukas Reisinger - Technical University of Munich
Philippe Bieli - Technical University of Munich
Volker Gümmer - Technical University of Munich

Numerical Investigation of the Effect of Diffusion Factor Variation on the Performance of Single-Row and Tandem Bladings in Low-Speed Axial Compressor Stages, {GT2024-127650}
Technical Paper Publication

Philipp von Jeinsen - Technical University of Munich
Samuele Giannini - Technical University of Munich
Volker Gümmer - Technical University of Munich

Experimental Characterization of Very High Turning Single and Tandem Compressor Profiles, {GT2024-128776}
Technical Paper Publication
Cedric Babin - von Karman Institute for Fluid Dynamics
Kevin Leclercq - von Karman Institute for Fluid Dynamics
Anis Al Rifai - Safran Aero Boosters
Remy Princivalle - Safran Aero Boosters
Fabrizio Fontaneto - von Karman Institute for Fluid Dynamics

Investigations on Unsteady Flow Structure Formation in Tandem Bladed Axial Flow Compressor Stage, {GT2024-129574}
Technical Paper Publication
Ajey Singh - Indian Instiute of Technology Khargapur
Chetankumar Mistry - Indian Institute of Technology Kharagpur

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12-06 Turbine blade tip film cooling studies
6/24/2024
1:30 PM to 3:30 PM - SG25/SG26

Chair: ***Shailendra Naik -***
Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Randall M. Mathison -***
Presentations:

Film Cooling Performance Comparison of Blade Tips With a Trailing Edge, Pressure Side Cutback or a Suction Side Squealer in a Transonic Linear Cascade, {GT2024-124605}
Technical Paper Publication
Ming Feng Yeh - Texas A&M University
Timothy A. Burdett - Messiah University
Lesley M. Wright - Texas A&M University
Je-Chin Han - Texas A&M University

Effect of the Upstream Shroud Purge Flow on the Cooling Performances of Turbine Blade Tip, {GT2024-122469}
Technical Paper Publication
Zhenzhen Xue - Beihang University
Haiwang Li - Beihang University
Zhi Tao - Beihang University
Zhiyu Zhou - Beihang University
Gang Xie - Beihang University
Long Meng - Beihang University

Effects of Mainstream Incidence Angle on the Cooling Performance of the Rotational Turbine Blade Tip, {GT2024-126197}
Technical Paper Publication
Xilai Wang - Beijing University of Aeronautics and Astronautics
Zhi Tao - Beijing University of Aeronautics and Astronautics
Haiwang Li - Beijing University of Aeronautics and Astronautics
Zhiyu Zhou - Beijing University of Aeronautics and Astronautics
Gang Xie - Beijing University of Aeronautics and Astronautics
Long Meng - Beijing University of Aeronautics and Astronautics

Cooling Injection Effect on the Suction Side Near-Tip Region of Turbine Blade With High-Speed Relative Casing Motion, {GT2024-128395}
Technical Paper Publication
Xu Peng - Shanghai Jiao Tong University
Hongmei Jiang - Shanghai Jiao Tong University
Shaopeng Lu - Shanghai Jiao Tong University

32-03 Boundary Layer & Transition
6/24/2024
1:30 PM to 3:30 PM - Pod 1- Entrance S5 & S6

Chair: ***Paul Giel -***
Chair: ***Emil Goettlich -***
Chair: ***Thomas Praisner - Pratt&Whitney***
Presentations:

Impact of the Wall-Parallel Length Scale of Roughness on the Development of Turbulent Boundary Layers in Turbines, {GT2024-122213}
Technical Paper Publication
Abigail Berhane - Whittle Laboratory, Cambridge University
John Longley - Whittle Laboratory, Cambridge University

The Onset of Low Reynolds Number Separation in High-Lift High-Work LPT Passages, {GT2024-124273}
Technical Paper Publication
Christopher Marks - Wright Patterson Air Force Base
Nathan Fletcher - US Air Force Research Laboratory
Molly Donovan - U.S. Air Force Research Laboratory
John Clark - U.S. Air Force Research Laboratory

Transitional Flows Within Cooled HP Turbines, {GT2024-124918}
Technical Paper Publication
Christopher Clark - University of Cambridge, Whittle Laboratory
Nicholas Atkins - University of Cambridge, Whittle Laboratory
Mark Stokes - Rolls-Royce
Raul Vazquez-Diaz - Rolls-Royce

Dissipation in Skewed Boundary Layers, {GT2024-125855}
Technical Paper Publication
Rob Peacock - Whittle Laboratory, University of Cambridge
Graham Pullan - Whittle Laboratory, University of Cambridge
Masha Folk - Rolls-Royce Corporation

18-02 Additive Manufacturing
6/24/2024
1:30 PM to 3:30 PM - SG4

Chair: ***Pontus Slottner -***
Chair: ***Alex Bridges - EPRI***
Chair: ***Md Abir Hossain -***
Chair: ***Robin Day -***
Presentations:

Creep Properties of Nickel Alloys - Comparison Between Conventional and Laser Powder Bed Fusion Manufacturing Routes, {GT2024-128767}
Technical Paper Publication
Sandra Megahed - Technical University Darmstadt, Insitute for Materials Technology
Erina Okabe - Ritsumeikan University
Karl Michael Kraemer - Techincal University Darmstadt, Additive Manufacturing Center
Christian Kontermann - Technical University Darmstadt, Insitute for Materials Technology
Christoph Heinze - Siemens Energy Global GmbH & Co. KG, Gas Services, Innovation
Matthias Oechsner - Technical University Darmstadt, Institute for Materials Technology

Small Volume Fatigue Testing of Additively Manufactured Hybrid IN718/XH67 and IN939 Ni Based Superalloys, {GT2024-129621}
Technical Paper Publication
Deepshree Awale - Indian Institute of Technology, Bombay
Naimish Shah - Pratt & Whitney R&D Center
Dheepa Srinivasan - Pratt & Whitney
Nagamani Jaya Balila - Indian Institute of Technology, Bombay

Residual Stress Optimisation for Manufacturing of a Nozzle Guide Vane in Mar-M-509 by Laser Powder Bed Fusion, {GT2024-127715}
Technical Paper Publication
Sébastien Lani - Switzerland Innovation Park Biel/Bienne
Yogiraj Pardhi - Sulzer Pumps (UK) Ltd
Hossein Ghasemi - Switzerland Innovation Park Biel/Bienne
Felix Reinert - ProtoShape 3D-Printing AG
Andreas Burn - Switzerland Innovation Park Biel/Bienne
Charles Soothill - Sulzer Management AG

Fuel Thermal Management and Injector Part Design for LPBF Manufacturing, {GT2024-128600}
Technical Paper Publication
Ralf Becker - Dt. Luft- und Raumfahrtzentrum
Galina Kasperovich - Dt. Luft- und Raumfahrtzentrum
Peter Tiessen - Dt. Luft- und Raumfahrtzentrum
Jan Haubrich - Dt. Luft- und Raumfahrtzentrum
Thomas Behrendt - Dt. Luft- und Raumfahrtzentrum
Bertram Janus - Dt. Luft- und Raumfahrtzentrum

13-02 - Additive Manufacturing
6/24/2024
1:30 PM to 3:30 PM - SG27/SG28

Chair: ***Robert Krewinkel -***
Chair: ***Guillermo Paniagua-Perez - Purdue University***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Cis De Maesschalck -***
Presentations:

Impacts of Material and Machine on the Variation of Additively Manufactured Cooling Channels, {GT2024-122409}
Technical Paper Publication
Abbigail Y. Altland - Pennsylvania State University
Thomas M. Corbett - Pennsylvania State University
Karen A. Thole - Pennsylvania State University

Scaling Heat Transfer and Pressure Losses of Novel Additively Manufactured Rib Designs, {GT2024-122792}

Technical Paper Publication
Thomas Corbett - The Pennsylvania State University
Karen Thole - The Pennsylvania State University

Assessment of Additive Manufactured Micro-Channel Characteristics: Impact of Hydraulic Diameter Evaluation, {GT2024-126159}
Technical Paper Publication
Tommaso Bacci - University of Florence
Alessio Picchi - University of Florence
Niccolò Castelli - University of Florence
Bruno Facchini - University of Florence
Francesco Morante - Baker Hughes
Luca Innocenti - Baker Hughes

From Early Development to Industry's Successful Adoption, the Journey in Additive Manufacturing Cooling Technology for Improved Gas Turbine Capabilities, {GT2024-126843}
Technical Paper Publication
Gregory Vogel - PSM
Michele Borja - Power System Mfg., LLC
Mark Zangara - Power Systems Mfg., LLC
John Hunt - Power Systems Mfg., LLC

14-06 Compliant Seals
6/24/2024
1:30 PM to 3:30 PM - SG29

Chair: ***Aaron Bowsher -***
Chair: ***Mike Barringer -***
Chair: ***Stephen Lynch -***
Chair: ***Carl Sangan -***
Chair: ***Lesley Wright -***
Chair: ***Michael J Pekris -***
Presentations:

Investigation of Grooved Front Plate for Inlet Swirl Reduction in Brush Seals, {GT2024-127753}
Technical Paper Publication
Abdullah Abbas - University of Surrey
Michael J Pekris - University of Surrey
John Chew - University of Surrey

Modeling of Frictional Inter-Bristle Contact in Brush Seals With Shaft Radial Movements, {GT2024-127824}
Technical Paper Publication
Harry Phan - University of Surrey
Michael J Pekris - University of Surrey
John Chew - University of Surrey
Thomas Greenslade - University of Surrey

Tracking of Bristle Tip Deflections to Demonstrate Blow-Down in Brush Seals, {GT2024-128820}
Technical Paper Publication
Joshua Bowen - University of Bath
Aaron Bowsher - Cross Manufacturing Company (1938) Ltd
Peter Crudgington - Cross Manufacturing Company (1938) Ltd
Sam Bull - University of Bath
Carl Sangan - University of Bath
James Scobie - University of Bath

Development of Large-Diameter Hybrid Film-Riding Seals for sCO2 Turbines, {GT2024-123289}
Technical Paper Publication
Rahul Bidkar - GE Research
Uttara Kumar - GE Research
Deepak Trivedi - GE Research
Xiaohua Zhang - GE Research
Collin Rambacher - GE Research
Aaron Rimpel - SwRI
Thomas Kerr - SwRI
Jeremy Johnson - SwRI

04-41 Combustion dynamics - hydrogen flames I
6/24/2024
1:30 PM to 3:30 PM - SG12

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Marc Furi - Siemens***
Chair: ***Antoine Durocher - NRC Canada***
Presentations:

Analysis of Thermo-Acoustic Instabilities Induced by Hydrogen Swirling Flames, {GT2024-123877}
Technical Paper Publication
Nicolas Vaysse - Laboratoire EM2C
Daniel Durox - Laboratoire EM2C
Ronan Vicquelin - Laboratoire EM2C
Sébastien Candel - Laboratoire EM2C
Antoine Renaud - Laboratoire EM2C

Impact of Diluents on Flame Stability With Blends of Natural Gas and Hydrogen, {GT2024-125999}
Technical Paper Publication
Javier Rodriguez Camacho - Pennsylvania State University
Dang Le - Solar Turbines Incorporated
James Blust - Solar Turbines Incorporated
Jacqueline O'Connor - Pennsylvania State University

Experimental Investigation on the Effect of Nozzle Bluntness Thickness on the Combustion Characteristics of a High-Speed Parallel Jet Mild Combustor, {GT2024-127424}
Technical Paper Publication
Ningjing Yang - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics, Chinese Academy of Sciences
Yan Xiong - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics, Chinese Academy of Sciences
Zhigang Liu - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics, Chinese Academy of Sciences
Xiang Xu - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics, Chinese Academy of Sciences

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34-01 LES solvers and applications 1
6/24/2024
1:30 PM to 3:30 PM - Pod 2- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Chunill Hah -***
Chair: ***Koen Hillewaert -***
Presentations:

Detailed Characterization of Turbulence Intensity and Dissipation As Boundary Condition for 3D RANS Simulations, {GT2024-128617}
Technical Paper Publication
Virginia Bologna - University of Genova
Pietro Paliotta - University of Genova
Daniele Petronio - Università degli Studi di Genova - DIME
Francesca Satta - University of Genova
Daniele Simoni - University of Genova
Matteo Giovannini - MorfoDesign
Simone Paccati - MorfoDesign
Luca De Vincentiis - MorfoDesign
Monica Gily - AvioAero

Implementation of a TBLE-Based Wall Model With Pressure Gradient in a Massively Parallel LES Solver, {GT2024-122031}
Technical Paper Publication
Mehdi Cizeron - CERFACS
Nicolas Odier - CERFACS
Florent Duchaine - CERFACS
Laurent Gicquel - CERFACS
Franck Nicoud - Université de Montpellier

Exploiting a Transformer Architecture for Simultaneous Development of Transition and Turbulence Models for Turbine Flow Predictions, {GT2024-125550}
Technical Paper Publication
Yuan Fang - University of Melbourne
Maximilian Reissmann - University of Melbourne
Roberto Pacciani - University of Florence
Yaomin Zhao - Peking University
Andrew Ooi - University of Melbourne
Michele Marconcini - University of Florence
Harshal Akolekar - Indian Institute of Technology, Jodhpur
Richard Sandberg - University of Melbourne

Hybrid RANS-LES Simulation of Rotor-Stator Interaction in a Compressor Stage Using Grid-Adaptive Simulation Method, {GT2024-129552}
Technical Paper Publication
Yumeng Tang - Beihang University
Xindi Wei - Beihang University
Yangwei Liu - Beihang University

34-12 Hydraulic turbines methods
6/24/2024
1:30 PM to 3:30 PM - Pod 6- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Kiran Kumar Palla Venkata Satya - Rolls-Royce plc***
Chair: ***Carlo Arguinzoni - Ansys***
Presentations:

Applicability of Volume of Fluid Method to Two-Phase Flow Turbomachinery Application, {GT2024-121558}

Technical Paper Publication
Christina Salpingidou - Turbo Systems Switzerland Ltd
Kwok Kai So - Turbo Systems Switzerland Ltd

Cavitation Measurements and Flow Visualization on a Hydrofoil With Different Tip Gaps, {GT2024-123823}
Technical Paper Publication
Sabri Deniz - Lucerne University of Applied Sciences

22-01 Inlet Distortion and Fan Aerodynamic Excitation 1
6/24/2024
1:30 PM to 3:30 PM - SG23/SG24

Chair: ***Lorenzo Pinelli -***
Chair: ***Yoon Choi - GE***
Chair: ***Hien Phan -***
Presentations:

The Influence of Mode Shape on Flutter Stability of a Scaled Composite UHBR Fan, {GT2024-126529}
Technical Paper Publication
Jan Goessling - Institute of Turbomachinery and Fluid Dynamics - Leibniz University Hannover
Niklas Marodlt - Institute of Turbomachinery and Fluid Dynamics, Leibniz University Hannover
Sina Stapelfeldt - Department of Mechanical Engineering, Imperial College London

Generic Framework for an Accurate, and Efficient Flutter Analysis, {GT2024-127818}
Technical Paper Publication
Laith Zori - Ansys Inc.
Purvic Patel - Ansys Inc.
Sunil Patil - Ansys Inc
Stephen Orlando - Ansys
Rubens Campregher - Ansys Canada Ltd.

Experiments on Structurally Mistuned UHBR Open-Test-Case Fan ECL5/CATANA, {GT2024-129163}
Technical Paper Publication
Christoph Brandstetter - Ecole Centrale de Lyon
Alexandra P. Schneider - Ecole Centrale de Lyon
Anne-Lise Fiquet - Centrale Innovation
Benoit Paoletti - Ecole Centrale de Lyon
Xavier Ottavy - Ecole Centrale de Lyon

Non-Synchronous Vibration: Characterisation of the Aerodynamic Disturbance and its Dependency on Local Tip Clearance, {GT2024-129186}
Technical Paper Publication
Pierre Tharreau - Imperial College London
Magnus Hardy-Falch - École Centrale de Lyon
Sina Stapelfeldt - Imperial College London
Christoph Brandstetter - École Centrale de Lyon

04-14 Combustion Modeling II
6/24/2024
1:30 PM to 3:30 PM - SG13

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***

Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Dustin Davis - Pratt & Whitney***
Chair: ***Dustin Davis - P&W***
Presentations:

Investigation of the Coupling Between the Dynamics of Vortical Structures and Flame Stability in Bluff-Body Premixed Combustion Using Extended Spectral Proper Orthogonal Decomposition, {GT2024-125203}
Technical Paper Publication
Morteza Khalifehei - Universidad Politecnica de Madrid
Yagiz Yalcinkaya - Istanbul Technical University
Ivan Padilla-Montero - Universidad Politecnica de Madrid
Ayse Gul Gungor - Istanbul Technical University
Daniel Rodriguez - Universidad Politecnica de Madrid

Adjoint-Based Optimization for the Venturi Mixer of a Burner, {GT2024-124337}
Technical Paper Publication
Min Xu - Ansys Inc
Akram Radwan - Ansys Germany GmbH
Yu Xia - Ansys UK Ltd

A Dynamic Thickening Strategy for High-Fidelity CFD Analyses of Multi-Regime Combustion, {GT2024-125777}
Technical Paper Publication
Andrea Ballotti - DIEF - University of Florence
Simone Castellani - DIEF - University of Florence
Antonio Andreini - DIEF - University of Florence

21-03: Flexible Operation of Steam Turbines / Operational Aspects
6/24/2024
1:30 PM to 3:30 PM - SG2

Chair: ***Alessandro Sorce - University of Genoa***
Chair: ***Armin de Lazzer - Siemens Energy***
Presentations:

Thermal and Structural-Mechanical Modeling and Optimization of a Transiently Operated Steam Turbine Using the FE Method, {GT2024-125910}
Technical Paper Publication
Hendrik Lange - RWTH Aachen University
Yevgen Kostenko - Siemens Energy Global GmbH & Co. KG
David Veltmann - Siemens Energy Global GmbH & Co. KG

The Hybrid Pathway to Flexible Power Turbines: Part C, Enabling Live Thermal Boundary Prediction Using Real-Time Plant Measurements and LSTM Neural Networks, {GT2024-128908}
Technical Paper Publication
Mark Baker - University of Oxford
Budimir Rosic - University of Oxford

The Hybrid Pathway to Flexible Power Turbines: Part D, Automated Construction of Mesh Derived Thermal Network Models for Fast Full-Machine Thermal Analysis, {GT2024-128918}
Technical Paper Publication
Mark Baker - University of Oxford
Budimir Rosic - University of Oxford

37-03 Radial Compressor Unsteady Flow
6/24/2024
1:30 PM to 3:30 PM - Pod 5-Entrance S5 & S6

Chair: ***Sebastiano Mauri - MA***
Chair: ***Bob Mischo -***
Chair: ***Hideaki Tamaki -***
Presentations:

Unsteady Investigation of Side Loading Effect on Single-Stage Centrifugal Compressors, {GT2024-127932}
Technical Paper Publication
Marco Bicchi - Baker Hughes
Fabrizio Lottini - Baker Hughes
Davide Biliotti - Baker Hughes
Massimiliano Ortiz Neri - Baker Hughes
Lorenzo Querini - Baker Hughes
Cosimo Bianchini - Ergon Research

Development and Validation of an Isolated Unsteady Diffuser Computational Model for a Vaned Centrifugal Compressor, {GT2024-128050}
Technical Paper Publication
Benjamin Holtmann - Purdue University
Mark Shapochka - Purdue University
Nicole Key - Purdue University

A Study of Loss Model Parameter Sensitivity in Compressor Unsteady Flow Simulations, {GT2024-128143}
Technical Paper Publication
Zhenhao Jing - N/A
Yedidia Neumeier - Georgia Institute of Technology
J. v. R. Prasad - Georgia Institute of Technology
Darrell James - Honeywell International, Inc.

Unsteady Flow Mechanism of Impeller Stall Inception in a High-Pressure Ratio Centrifugal Compressor With Bleed Slots, {GT2024-128457}
Technical Paper Publication
Nobumichi Fujisawa - Waseda University
Yuta Yamamoto - Waseda University
Yutaka Ohta - Waseda University
Atsushi Ogino - Honda R&D Co., Ltd.
Ryo Nakayama - Honda R&D Co., Ltd.
Eijiro Kitamura - Honda R&D Co., Ltd.

28-02 System Response / Blade-Tip-Timing
6/24/2024
1:30 PM to 3:30 PM - SG16

Chair: ***Fabrice Thouverez -***
Chair: ***Azzedine Dadouche -***
Chair: ***Laurent Blanc -***
Presentations:

Determination of Vibration Properties and Reliable Frequency Estimation for Synchronous Vibrations Through Improved Blade-Tip-Timing Techniques Without a Once-per-Revolution Sensor, {GT2024-122642}
Technical Paper Publication
Marios Sasakaros - RWTH Aachen, Institute of Power Plant Technology, Steam and Gas Turbines

Luca Mann - RWTH Aachen, Institute of Power Plant Technology, Steam and Gas Turbines
Markus Schafferus - RWTH Aachen, Institute of Power Plant Technology, Steam and Gas Turbines
Manfred Wirsum - RWTH Aachen, Institute of Power Plant Technology, Steam and Gas Turbines

Forced Response of Rotating Blisks: Prediction and Correlation to Blade Tip-Timing Measurements, {GT2024-125535}
Technical Paper Publication
Biao Zhou - Nanjing University of Aeronautics and Astronautics
Chengyu Xie - Nanjing University of Aeronautics and Astronautics
Giuseppe Battiato - Politecnico di Torino
Teresa Berruti - Politecnico di Torino

Modal Identification of Rotating Blades by Tip Timing and Strain Gauge Measurements in Operating Condition, {GT2024-128878}
Technical Paper Publication
Roberto Guida - Ansaldo Energia
Luigi Carassale - University of Genova
Michela Marrè-Brunenghi - Ansaldo Energia

An Optimization Method for Stiffness and Damping Mistuning Identification From Blade Tip Timing Data, {GT2024-125263}
Technical Paper Publication
Troy Krizak - The Ohio State University
Eric Kurstak - GE Aerospace
Kiran D'souza - The Ohio State University

27-04 Methods and Modeling in Rotordynamics
6/24/2024
1:30 PM to 3:30 PM - SG15

Chair: ***Theodore Brockett -***
Chair: ***Alice Innocenti - Mercedes AMG High Performance Powertrains***
Chair: ***Edoardo Gheller - Politecnico di Milano, Department of Mechanical Engineering***
Presentations:

Damping Phenomena in Rotating Machines: A Focus on Rotor Damping With Synchronous and Asynchronous Excitation, {GT2024-125865}
Technical Paper Publication
Francesco D'alessandro - SAFRAN AIRCRAFT ENGINES
Florian Garnier - SAFRAN AIRCRAFT ENGINES
Damien Guivarch - SAFRAN AIRCRAFT ENGINES
Amit Zutshi - General Electric Aerospace
Weize Kang - General Electric Aerospace
Manoj Kunnil - General Electric Aerospace
Payyoor Narayanan - General Electric Aerospace
Mark Robinson - Hexagon
j.s. Kumar - Hexagon
Jianming Cao - Hexagon
Ted Rose - Hexagon

Computationally Lightweight Method for Campbell Diagram Plotting in High-Speed Electric Machines, {GT2024-127941}
Technical Paper Publication
Emil Kurvinen - University of Oulu
Qasim Khadim - University of Oulu
Eero Ikäheimo - University of Oulu
Tuhin Choudhury - Lappeenranta-Lahti University of Technology LUT
Rafal Jastrzebski - University of Turku

Accuracy Analysis of Multi-Plane Unbalance Identification Using Different Model Order Reduction Techniques, {GT2024-128790}
Technical Paper Publication
Khurram Shehzad - Lappeenranta-Lahti University of Technology LUT
Gyan Ranjan - Lappeenranta-Lahti University of Technology LUT
Tuhin Choudhury - Lappeenranta-Lahti University of Technology LUT
Charles Nutakor - Lappeenranta-Lahti University of Technology LUT
Jussi Sopanen - Lappeenranta-Lahti University of Technology LUT

Insight Into the Rotor Dynamics Consortium's History, Vision, and Ongoing Technical Projects, {GT2024-129422}
Technical Paper Publication
Donald Powell - The Boeing Company
Hemant Patel - Hexagon MI

05-02 Advanced Controls for Electrified Aircraft Propulsion
6/24/2024
1:30 PM to 3:30 PM - SG7

Chair: ***Liang Tang - GE Research***
Chair: ***Igor Loboda -***
Chair: ***Donald Simon - NASA***
Presentations:

Hybrid Electric Aircraft With Unlike Engine Degradation, {GT2024-121184}
Technical Paper Publication
Halle Buescher - NASA
Joseph Connolly - NASA

Optimal Control Allocation for Distributed Electric Propulsion in a Series/Parallel Partial Hybrid Powertrain, {GT2024-122380}
Technical Paper Publication
Jonathan Litt - NASA Glenn Research Center

A Comparison of Model Predictive Control Architectures for Application to Electrified Aircraft Propulsion Systems, {GT2024-123859}
Technical Paper Publication
Elyse D. Hill - Oak Ridge Associated Universities
Donald L. Simon - NASA Glenn Research Center
Joseph W. Connolly - NASA Glenn Research Center

Reversionary Control Modes for the Mitigation of Failures in a Partially Turboelectric Aircraft Propulsion System, {GT2024-125914}
Technical Paper Publication
Donald Simon - NASA
Amy Chicatelli - HX5, LLC
Santino Bianco - NASA Glenn Research Center
Marcus Horning - HX5, LLC
Joseph Saus - NASA Glenn Research Center

33-02 Experiments of particle deposition in engine components
6/24/2024
1:30 PM to 3:30 PM - Pod 7- Entrance S5 & S6

Chair: ***Sergio Lavagnoli - von Karman Institute for Fluid Dynamics***
Chair: ***Bruce Varney - Rolls-Royce Corporation***
Chair: ***Jeffrey Bons - The Ohio State University***
Presentations:

Experimental Analysis of the Micro-Sized Particle Adhesion in a Subsonic Stationary Cascade, {GT2024-129214}
Technical Paper Publication
Alessio Suman - University of Ferrara
Nicola Zanini - University of Ferrara
Mattia Piovan - University of Ferrara
Michele Pinelli - University of Ferrara

Direct and Refined Characterization of Rebound for Irregularly Shaped, High-Speed Particles Incident on Aerospace Grade Titanium, {GT2024-124173}
Technical Paper Publication
Brandon Weindorf - Virginia Tech
Alix Ehlers - Virginia Tech
Todd Lowe - Virginia Tech
Wing Ng - Virginia Tech
Mark Caddick - Virginia Tech
Jim Loebig - Rolls-Royce
Matthew Morrison - Virginia Tech

The Effect of Thermal Cycling on Deposition in an Impingement/Effusion Cooling Geometry, {GT2024-129054}
Technical Paper Publication
George Gogidze - Ohio State University
Jeffrey Bons - The Ohio State University
Ryan Lundgreen - Pratt & Whitney

Temperature Dependence of Aerated Turbine Lubricating Oil Degradation From a Lab-Scale Test Rig, {GT2024-128396}
Technical Paper Publication
Raquel Juarez - Texas A&M University
Barry Creighton - Texas A&M University
Eric L. Petersen - Texas A&M University

19-03 Energy Recovery Applications
6/24/2024
1:30 PM to 3:30 PM - SG3

Chair: ***Michaã«L DELIGANT -***
Chair: ***Aaron Rimpel -***
Presentations:

A High-Temperature, High-Speed, Oil-Free Syngas Compressor for Small-Scale Combined Heat and Power, {GT2024-125975}
Technical Paper Publication
Victoria He - Laboratory for Applied Mechanical Design (LAMD) - Ecole Polytechnique Fédérale de Lausanne (EPFL)
Jan Van Herle - Ecole Polytechnique Fédérale de Lausanne (EPFL)
Jürg Schiffmann - Ecole Polytechnique Fédérale de Lausanne (EPFL)

Efficient Energy Harvesting and Storage in Small-Scale Solar-Biomass-Micro Gas Turbine Systems, {GT2024-126416}
Technical Paper Publication
Patrizia Simeoni - University of Udine

Gianmario L. Arnulfi - University of Udine
Andrea Della Putta - University of Udine

A High-Speed, High-Temperature Micro-Cantilever Steam Turbine for Hot Syngas Compression in Small-Scale Combined Heat and Power, {GT2024-128096}
Technical Paper Publication
Victoria He - Laboratory for Applied Mechanical Design (LAMD) - Ecole Polytechnique Fédérale de Lausanne (EPFL)
Jan Van Herle - Ecole Polytechnique Fédérale de Lausanne (EPFL)
Jürg Schiffmann - Ecole Polytechnique Fédérale de Lausanne (EPFL)

Evaluating the Energy Recovery Potential in Industrial Gas Pipeline Networks: A Preliminary Analysis of Gas Expander Applications for Nitrogen, Oxygen and Hydrogen, {GT2024-121397}
Technical Paper Publication
Mattia Baiguini - Istituto Universitario di Studi Superiori di Pavia and Università degli Studi di Brescia (double affiliation)
Michele Doninelli - Università degli Studi di Brescia
Gioele Di Marcoberardino - Università degli Studi di Brescia
Paolo Giulio Iora - Università degli Studi di Brescia
Costante Mario Invernizzi - Università degli Studi di Brescia

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01-09 Modelling, Simulation and Validation I
6/24/2024
1:30 PM to 3:30 PM - SG17/SG18

Chair: ***Kevin Lowe - Virginia Tech***
Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Wilfried Visser - TU Delft***
Chair: ***Xin Zhao - Chalmers University***
Chair: ***TAYLAN ERCAN -***
Presentations:

A Data-Driven Method for Predicting the Overall Performance of a Three-Rotor Dual-Variable Cycle Engine, {GT2024-124941}
Technical Paper Publication
Qiyu Yuan - Beihang University
Tian Qiu - Research Institute of Aero-Engine, Beihang University
Guixian Qu - Research Institute of Aero-Engine
Peng Liu - Research Institute of Aero-Engine, Beihang University
Chuankai Liu - Research Institute of Aero-Engine
Shuiting Ding - Research Institute of Aero-Engine,Beihang

On the Performance of Variable-Geometry Ducted E-Fans, {GT2024-122602}
Technical Paper Publication
Mavroudis Kavvalos - German Aerospace Center (DLR)
Rainer Schnell - German Aerospace Center (DLR)
Maximilian Mennicken - German Aerospace Center (DLR)
Marco Trost - German Aerospace Center (DLR)
Konstantinos G. Kyprianidis - Mälardalen University (MDU)

A Validated Unsteady Turbofan Engine Performance Simulation Using Pseudo Bond Graph Approach, {GT2024-122738}
Technical Paper Publication
Jan Goeing - TU Braunschweig/Institute of Jet Propulsion and Turbomachniery
Sebastian Lueck - TU Braunschweig/Institute of Jet Propulsion and Turbomachniery
Jens Friedrichs - TU Braunschweig/Institute of Jet Propulsion and Turbomachniery

06-09 Advanced Simulation & Testing
6/24/2024
1:30 PM to 3:30 PM - SG1

Chair: ***Lorenzo Ferrari - University of Pisa – DESTEC, Italy***
Chair: ***Chaitanya Halbe - Carrier Global Corporation***
Presentations:

Design and Commissioning of the IRIS: A Setup for Aircraft Vapour Compression Cycle-Based Environmental Control System Testing, {GT2024-123714}
Technical Paper Publication
Federica Ascione - Delft University of Technology
Adam Joseph Head - Delft University of Technology
Piero Colonna - Delft University of Technology
Carlo Maria De Servi - Delft University of Technology

Calculation of the Overspeed at Emergency Shutdown of a Transonic Test Turbine Facility Using a Web-Based Thermodynamic Simulation Tool, {GT2024-126277}
Technical Paper Publication
Wolfgang Sanz - Graz University of Technology
Erhard Perz - SimTech Simulation Technology
Emil Göttlich - Graz University of Technology

Negative CO2 Emission Gas Power Plant As Technology for Utilization of Sewage Sludge, Production of Electrical Energy, and CO2 Capture - Case of Chamber Under Transpiration Cooling, {GT2024-128805}
Technical Paper Publication
Paweł Ziółkowski - Gdansk University of Technology
Kamil Stasiak - Gdańsk University of Technology
Mario Ditaranto - SINTEF Energy Research
Samuel Wiseman - SINTEF Energy Research
Dariusz Mikielewicz - Gdańsk University of Technology

A Large Language Model Interface for Cycle Modeling, {GT2024-129443}
Technical Paper Publication
Reese Roddy - Southwest Research Institute
Cole Replogle - Southwest Research Institute
Brian Connolly - Southwest Research Institute

30-05 Solar Thermal Systems
6/24/2024
1:30 PM to 3:30 PM - SG8

Chair: ***Ty Neises - NREL***
Chair: ***Timothy Allison - SWRI***
Presentations:

Performance Evaluation of a Direct Air-Cooled Supercritical Recompression Brayton Cycle Using CO2/n-Butane As the Working Fluid Operating Under Off-Design Conditions, {GT2024-121685}
Technical Paper Publication
Xurong Wang - Henan University of Urban Construction
Longwei Zhang - Shandong University
Jianhui Qi - Shandong University

Xiaowei Fan - Henan University of Urban Construction
Yiping Dai - Xi'an Jiaotong University

Techno-Economic Analysis and Optimal sCO2 Power Cycle Configuration for Novel CSP Plants Adopting Tubular Fluidized Particles Central Receivers, {GT2024-122779}
Technical Paper Publication
Dario Alfani - Politecnico di Milano
Filip Sobic - Politecnico di Milano
Marco Astolfi - Politecnico di Milano
Marco Binotti - Politecnico di Milano
Paolo Silva - Politecnico di Milano

Simultaneous Design Optimization of Binary CO2-Mixture-Based Power Cycles for Concentrated Solar Power Applications, {GT2024-124083}
Technical Paper Publication
Balkan Mutlu - Teesside University - NET Zero Industry Innovation Centre
Kumar Patchigolla - Teesside University - NET Zero Industry Innovation Centre
Dhinesh Thanganadar - UK Atomic Energy Authority

Preliminary Characterization of the Desolination Project Demo Plant: Design and Off-Design Operability, {GT2024-127246}
Technical Paper Publication
Ettore Morosini - Politecnico di Milano
Marco Astolfi - Politecnico di Milano
Michele Doninelli - Università degli studi di Brescia
Paolo Iora - Università degli studi di Brescia
Damien Serret - Temisth SAS
Jean-Michel Hugo - Temisth SAS
Giampaolo Manzolini - Politecnico di Milano

30-13 Turbines
6/24/2024
1:30 PM to 3:30 PM - SG11

Chair: ***Paolo Del Turco -***
Chair: ***Jason Wilkes -***
Chair: ***Timothy Allison - SWRI***
Presentations:

Numerical Investigation of the Axial Thrust Load of a Prototype Radial Turbine for Supercritical CO2 Cycles, {GT2024-123806}
Technical Paper Publication
Benedikt Lea - Ruhr-Universität Bochum
Francesca Di Mare - Ruhr-Universität Bochum
Holger Franz - MAN Energy Solutions SE

A Method to Develop Radial Inflow Turbine Performance Maps for Off-Design and Dynamic Simulation Studies of sCO2 Cycles, {GT2024-127958}
Technical Paper Publication
Colin Du Sart - University of Cape Town
Pieter Rousseau - Stellenbosch University
Ryno Laubscher - Stellenbosch University

Study on the Casing Recess Design Method for a Supercritical Carbon Dioxide Axial Turbine, {GT2024-128606}
Technical Paper Publication

Zhuo Hu - School of Vehicle and Mobility, State Key Laboratory of Intelligent Green Vehicle and Mobility, Tsinghua University
Hongsheng Jiang - School of Vehicle and Mobility, State Key Laboratory of Intelligent Green Vehicle and Mobility, Tsinghua University
Weilin Zhuge - School of Vehicle and Mobility, State Key Laboratory of Intelligent Green Vehicle and Mobility, Tsinghua University
Yuping Qian - School of Vehicle and Mobility, State Key Laboratory of Intelligent Green Vehicle and Mobility, Tsinghua University
Yangjun Zhang - School of Vehicle and Mobility, State Key Laboratory of Intelligent Green Vehicle and Mobility, Tsinghua University

Evaluation of Cold Flow Test Conditions and Test Fluid Selection for a 60-kW Radial Inflow Supercritical CO2 Turbine, {GT2024-129197}
Technical Paper Publication
Syed Jiaul Hoque - Indian Institute of Science
Shrey Sahai Gupta - Indian Institute of Science
Pramod Kumar - Indian Institute of Science

03-05 Ammonia
6/24/2024
1:30 PM to 3:30 PM - SG6

Chair: ***Domenico Borello - Università di Roma La Sapienza***
Chair: ***Pietro Bartocci - crbnet***
Chair: ***Angela Serra - Baker Hughes***
Chair: ***Marina Braun-Unkhoff - DLR***
Chair: ***Paolo Venturini -***
Chair: ***Rachele Orlandi - Baker Hughes***
Presentations:

Partially Cracked Ammonia Mixture Combustion in Gas Turbine Combustors, {GT2024-120975}
Technical Paper Publication
Sreenath Gupta - Argonne National Lab
Timothy Weathers - CRAFT-TECH
Tristan Shaheen - Purdue University
Rohan Gejji - Purdue University
Shashikant Aithal - Argonne National Laboratory
Ashvin Hosangadi - CRAFT-Tech

Experimental and Numerical Investigation of NH3/H2/N2 Combustion in a Premixed/Stratified Swirl Burner, {GT2024-127419}
Technical Paper Publication
Jordan Davies - Cardiff University
Luca Mazzotta - Sapienza University of Rome / Baker Hughes
Daisuke Sato - Cardiff University
Syed Mashruk - Cardiff University
Daniel Pugh - Cardiff University
Domenico Borello - Sapienza University of Rome
Agustin Valera Medina - Cardiff University

Ammonia and Ammonia/Hydrogen Mixtures Ignition Delay Times and Chemical Kinetic Model Validation at Gas Turbine Relevant Conditions, {GT2024-129083}
Technical Paper Publication
Michael Pierro - University of Central Florida
Christopher Dennis - University of Central Florida
Alex-Abraham Pothen - University of Central Florida

Nikolas Hulliger - University of Central Florida
Tyler Kelly - University of Central Florida
Matthew Fraze - University of Central Florida
Justin Urso - University of Central Florida
Ramees K. Rahman - University of Central Florida
Cory Kinney - University of Central Florida
Mark Winquist - GTI Energy
John Vega - GTI Energy
Ganesan Subbaraman - GTI Energy
Robert Steele - EPRI
Subith Vasu - University of Central Florida

Development of a Toroidal Jet-Stirred Reactor for Lean Blowoff and Emissions Studies of Ammonia-Hydrogen Mixtures, {GT2024-124109}
Technical Paper Publication
David Zamora - University of Central Florida
Marzuqa Ahmed - University of Central Florida
Guillermo Barrios Cadenas - University of Central Florida
Amanda Maia - University of Central Florida
Priyankar Garai - University of Central Florida
Shahzad Bobi - University of Central Florida
Ramees K. Rahman - University of Central Florida
Justin Urso - University of Central Florida
Subith Vasu - University of Central Florida

09-02 Thermal Energy Storage
6/24/2024
1:30 PM to 3:30 PM - SG9

Chair: ***David Sanchez - University of Seville***
Chair: ***Francesco Crespi - University of Seville***
Chair: ***Pablo Ale - Individual***
Presentations:

Thermal Performance Assessment of High-Temperature Sensible Solid Thermal Energy Storage (SSTES): Various Designs, Storage Materials and Heat Transfer Fluids, {GT2024-126448}
Technical Paper Publication
Malini Bangalore mohankumar - Helmholtz-Zentrum Dresden-Rossendorf (HZDR)
Sebastian Unger - Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany
Alexandre Guille - Helmholtz-Zentrum Dresden-Rossendorf (HZDR)
Andres Carro - University of Seville
Ricardo Chacartegui Ramírez - University of Seville
Uwe Hampel - Helmholtz-Zentrum Dresden-Rossendorf (HZDR)

Technology Readiness Assessment of Thermal Energy Storage Integrated With Gas Turbine Power Plants, {GT2024-126653}
Technical Paper Publication
Leonard Angello - EPRI
Chirstopher Perullo - Turbine Logic
Stanley Widener - Turbine Logic
George Booras - EPRI
Eric Prescott - EPRI

Energy and Cost Analysis of Concentrated Solar Thermal Plants Integrated With Latent Heat Thermal Energy Storage for the Decarbonization of Industrial Processes, {GT2024-127835}
Technical Paper Publication
Davide Giampietro - Polytechnic University of Bari

Michele Stefanizzi - Polytechnic University of Bari
Francesco Fornarelli - University of Foggia
Lorenzo Dambrosio - Polytechnic University of Bari
Daniele Nicolini - Italian National Agency for New Technology, Energy and Sustainable Development (ENEA)
Adio Miliozzi - Italian National Agency for New Technology, Energy and Sustainable Development (ENEA)
Sergio Mario Camporeale - Polytechnic University of Bari

04-53 High Hydrogen IV
6/24/2024
1:30 PM to 3:30 PM - SG20/SG21

Chair: ***Samir Rida - GE Vernova***
Chair: ***Michael Duesing -***
Chair: ***Andrea Gruber -***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Presentations:

Investigation of Pressure Effects on Combustion Characteristics of Hydrogen Annular Micro-Mixing Nozzles, {GT2024-123935}
Technical Paper Publication
Jian Liu - Harbin Institute of Technology
Penghua Qiu - Harbin Institute of Technology
Xiyu Wang - Harbin Institute of Technology
Qiming Hu - Harbin Institute of Technology
Li Liu - Harbin Institute of Technology
Linyao Zhang - Harbin Institute of Technology
Chang Xing - Harbin Institute of Technology

100% H2 DLE Gas Turbine Combustion Technology Platform Development, {GT2024-128517}
Technical Paper Publication
Sebastian Hermeth - Siemens Energy Global GmbH & Co. KG
Lukasz Panek - Siemens Energy Global GmbH & Co. KG
Benjamin Witzel - Siemens Energy Global GmbH & Co. KG
Christopher Grandt - Siemens Energy Global GmbH & Co. KG
Berthold Koestlin - Siemens Energy Global GmbH & Co. KG
Stefan Wanjura - Siemens Energy Global GmbH & Co. KG
Hannes Teuber - Siemens Energy Global GmbH & Co. KG
Nishant Parsania - Siemens Industrial Turbomachinery Ltd
Suresh Sadasivuni - Siemens Industrial Turbomachinery Ltd
Ghenadie Bulat - Siemens Industrial Turbomachinery Ltd
Ertan Yilmaz - Siemens Energy, Inc
Mike Koenig - Siemens Energy, Inc

Development of a Hydrogen Micro Gas Turbine Combustor: NOx Emissions and Secondary Air Injection, {GT2024-125086}
Technical Paper Publication
Tom Tanneberger - Technische Universitaet Berlin
Johannes Mundstock - Euro-K GmbH
Christoph Rex - Euro-K GmbH
Sebastian Rösch - Euro-K GmbH
Christian Oliver Paschereit - Technische Universitaet Berlin

Combustion System Development and Test for Stoichiometric H2/O2 Combustion in Steam Atmosphere, {GT2024-128826}
Technical Paper Publication
Matthias Hase - Siemens Energy
Juergen Meisl - Siemens Energy

Bernd Prade - Siemens Energy

12-04 Film cooling measurements with engine-like flow features
6/24/2024
4:00 PM to 5:30 PM - SG25/SG26

Chair: ***Andrew Nix -***
Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Seth Lawson - DOE***
Presentations:

Effect of Blockages on Film Effectiveness on the Pressure Surface of a Turbine Blade, {GT2024-121903}
Technical Paper Publication
Tassilo von Mueller - University of Oxford
David Bacci - University of Oxford
Augustin Wambersie - University of Oxford
Tsun Holt Wong - University of Oxford
Peter Ireland - University of Oxford
Dougal Jackson - Rolls-Royce PLC

Film Cooling and Thermal Performances of a Blade Tip Winglet Operated in an Annular Test Rig and a Test Gas Turbine Power Plant, {GT2024-128684}
Technical Paper Publication
Shailendra Naik - Ansaldo Energia Switzerland AG
Marc Henze - Ansaldo Energia Switzerland AG
Manuel Wilhelm - OHB Digital Connect GmbH
Heinz-Peter Schiffer - Technische Universitat Darmstadt

Experimental Study of the Effect of Swirling Inflow on Full-Film Cooling of Turbine Guide Vane, {GT2024-124593}
Technical Paper Publication
haonan Yan - Northwestern Polytechnical University
Cunliang Liu - Northwestern Polytechnical University
Tianliang Zhou - Northwestern Polytechnical University
Fan Zhang - Northwestern Polytechnical University
Ming Ren - Northwestern Polytechnical University

40-06 Turbine Flowpath Geometry Effects
6/24/2024
4:00 PM to 5:30 PM - Pod 1- Entrance S5 & S6

Chair: ***Nateri Madavan -***
Chair: ***Reid A. Berdanier - Penn State - University***
Chair: ***Florian Herbst - German Aerospace Center (DLR) - Institute of Propulsion Technology***
Presentations:

The Development of Turbulence Quantities in Different Intermediate Turbine Duct Configurations, {GT2024-126475}
Technical Paper Publication
Asim Hafizovic - Graz University of Technology
Nicolas Krajnc - Graz University of Technology
Filippo Merli - von Karman Institute for Fluid Dynamics

Marian Staggl - Graz University of Technology
Francesco Mangini - Graz University of Technology
Patrick Zeno Sterzinger - GE Aerospace, Advanced Aviation Technology
Andreas Marn - Graz University of Technology
Emil Göttlich - Graz University of Technology

Modeling Combustor Turbine Interaction Using Efficient Joint Simulation Strategy, {GT2024-126729}
Technical Paper Publication
Ishan Verma - Ansys Software Pvt. Ltd.
Laith Zori - Ansys Inc.
Jaydeep Basani - Honeywell
Benjamin Kamrath - Honeywell
Dustin Brandt - Honeywell

Understanding Entropy Wave Evolution in High-Pressure Turbines: the Role of Hot Spot Position and Features, {GT2024-127446}
Technical Paper Publication
Lorenzo Pinelli - University of Florence - Department of Industrial Engineering
Giovanni Giannini - University of Florence - Department of Industrial Engineering
Michele Marconcini - University of Florence
Roberto Pacciani - University of Florence
Andrea Notaristefano - Politecnico di Milano
Paolo Gaetani - Politecnico di Milano

32-09 ORC & Supersonic Turbines 1
6/24/2024
4:00 PM to 5:30 PM - Pod 4- Entrance S5 & S6

Chair: ***Lukas Benjamin Inhestern - Purdue University***
Chair: ***Emil Goettlich -***
Chair: ***Eric Bach - Purdue University***
Presentations:

Roughness Effects on Dense-Gas Turbine Flow: Comparison of Experiments and Simulations, {GT2024-125144}
Technical Paper Publication
Xavier Gloerfelt - DynFluid Laboratory - Arts et Métiers Institute of Technology
Leander Hake - Department of Mechanical Engineering - Muenster University of Applied Sciences
Aurélien Bienner - DynFluid Laboratory - Arts et Métiers Institute of Technology
Camille Matar - Institut Jean Le-Rond D'Alembert - Sorbonne Universite
Paola Cinnella - Institut Jean Le-Rond D'Alembert - Sorbonne Universite
Stefan Aus Der Wiesche - Department of Mechanical Engineering - Muenster University of Applied Sciences

Investigation of a Transonic Dense Gas Flow Over an Idealized Blade Vane Configuration, {GT2024-127215}
Technical Paper Publication
Leander Hake - Muenster University of Applied Sciences
Stefan Aus Der Wiesche - Muenster University of Applied Sciences
Stephan Sundermeier - Muenster University of Applied Sciences
Maximilian Passmann - Ruhr-University Bochum
Aurelien Bienner - Arts et Métiers ParisTech
Xavier Gloerfelt - Arts et Métiers ParisTech
Paola Cinnella - Sorbonne University

Development of Compact and Hermetic ORC Turbine Generator With Upgraded Cooling Capability, {GT2024-127400}
Technical Paper Publication
Toshimitsu Tanaka - Mitsubishi Heavy Industries, Ltd.
Ryo Takata - Mitsubishi Heavy Industries, Ltd.
Takuma Hirado - Mitsubishi Heavy Industries, Ltd.

Akira Kawanami - Mitsubishi Heavy Industries Marine Machinery & Equipment Co., Ltd.

25-05 Fatigue Life Modelling
6/24/2024
4:00 PM to 5:30 PM - SG15

Chair: ***Onome Scott-Emuakpor -***
Chair: ***Karl Michael Kraemer -***
Chair: ***Felix Kölzow -***
Presentations:

Enhancing Gas Turbine Component Life Predictions Using Fleet Data and Probabilistic Methods, {GT2024-123332}
Technical Paper Publication
Kristopher Kapitzke - Solar Turbines Incorporated
Joshua Maxted - Frazer-Nash Consultancy
Christopher Meyer - Solar Turbines Incorporated
Andrew Moffat - Solar Turbines Incorporated

Analysis and Optimization of the Fatigue Damage Accumulation Under Transient Vibrations of Mistuned Bladed Disks, {GT2024-129237}
Technical Paper Publication
Tong Jing - Nanjing University of Aeronautics and Astronautics
Chaoping Zang - Nanjing University of Aeronautics and Astronautics
Evgeny Petrov - University of Sussex

Forecasting High Cycle and Very High Cycle Fatigue Through Enhanced Strain-Energy Based Fatigue Life Prediction, {GT2024-129455}
Technical Paper Publication
Dino Celli - Air Force Research Laboratory
Luke Sheridan - Air Force Research Laboratory
Tommy George - Air Force Research Laboratory
Justin Warner - Air Force Research Laboratory
Lucas Smith - ARCTOS

13-07 - Cooling Methods and Radiation Effects
6/24/2024
4:00 PM to 5:30 PM - SG29

Chair: ***Charles Haldeman -***
Chair: ***Robert Krewinkel -***
Chair: ***Guillermo Paniagua-Perez - Purdue University***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Paul Giel -***
Presentations:

The Impact of Manufacturing Variations on the Aerothermal Performance of High-Pressure Turbine Blade Shrouds, {GT2024-125688}
Technical Paper Publication
Bram Hulhoven - University of Cambridge
John D. Coull - University of Oxford
Dougal Jackson - Rolls-Royce
Nicholas R. Atkins - University of Cambridge

Impact of High-Temperature Radiation on the Heat Transfer Characteristics of Film-Cooled Guide Vanes in Gas Turbines, {GT2024-124193}
Technical Paper Publication
Meng Wang - Research Institute of Aero-Engine, Beihang University
Ruquan You - Research Institute of Aero-Engine, Beihang University
Haiwang Li - Research Institute of Aero-Engine, Beihang University

Assessment of Measurement Techniques for Adiabatic Cooling Effectiveness in Transonic Flow Over a Flat Plate, {GT2024-127493}
Technical Paper Publication
Wei Zeng - Shanghai Jiao Tong University
Siming Dai - Shanghai Jiao Tong University
Yisu Liu - Shanghai Jiao Tong University
Haiteng Ma - Shanghai Jiao Tong University

11-03 Experimental investigations of effusion cooling
6/24/2024
4:00 PM to 5:30 PM - SG27/SG28

Chair: ***Alessio Picchi -***
Chair: ***Antonio Andreini - University of Florence***
Chair: ***Cosimo Bianchini -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Pradip Xavier -***
Presentations:

Dirt Ingestion Impacts on Cooling Within a Double-Walled Combustor Liner, {GT2024-124619}
Technical Paper Publication
Kyle McFerran - The Pennsylvania State University
Karen A. Thole - The Pennsylvania State University
Stephen P. Lynch - The Pennsylvania State University

Overall Cooling Effectiveness of Effusion Cooled and Thermal Barrier Coated Swirl Stabilized Liquid Fueled Combustor Liner in Reacting Flow Conditions With Infrared Thermography, {GT2024-122132}
Technical Paper Publication
Ibrahim Edhem Tin - Tusas Engine Industries
Muhammed Emin Ural - Tusas Engine Industries
Hamdullah Ozogul - Tusas Engine Industries

Research on Film Cooling Characteristics and Mechanism of Longitudinal Corrugated Heat Shield in Afterburner, {GT2024-126256}
Technical Paper Publication
Song Fu - Northwestern Polytechnical University
Haiyong Liu - Northwestern Polytechnical University
Ziwen Wang - Northwestern Polytechnical University
Xiaohui Bai - Northwestern Polytechnical University
Cunliang Liu - Northwestern Polytechnical University

04-11 Flashback and Blowoff II
6/24/2024
4:00 PM to 5:30 PM - SG12

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Luis Tay Wo Chong Hilares -***
Presentations:

Numerical Prediction of Lean Blow Out Event in an Industrial Gas Turbines Through an LES Based CFD Analysis, {GT2024-128640}
Technical Paper Publication
Rajesh M - Baker Hughes
Meloni R - Baker Hughes
Arun A K - Baker Hughes

Blowoff Characteristics of a Bluff-Body Stabilized, Multi-Element, Lean Premixed Pre-Vaporized Combustor for Supersonic Transport Applications, {GT2024-129322}
Technical Paper Publication
Mitchell Passarelli - Georgia Institute of Technology
Samuel Wonfor - Georgia Institute of Technology
Andy Zheng - Georgia Institute of Technology
Yi Mazumdar - Georgia Institute of Technology
Adam Steinberg - Georgia Institute of Technology
Hannah Bower - GE Vernova - Research
John Hong - GE Aerospace - Research
Krishna Venkatesan - GE Aerospace - Research

Investigation of Lean Blow Off Limits of a Spray Flame in a Laboratory-Scale RQL-Type Burner, {GT2024-127205}
Technical Paper Publication
Jun Nagao - Kyoto University
Preethi Rajendram Soundararajan - University of Cambridge
Ryoichi Kurose - Kyoto University
Epaminondas Mastorakos - University of Cambridge

04-16 Combustion Modeling IV
6/24/2024
4:00 PM to 5:30 PM - SG13

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Stefano Orsino -***
Chair: ***Kiran Manoharan - Honeywell***
Presentations:

Large Eddy Simulation of Turbulent Reacting Flow in a Pressurized Annular Combustor, {GT2024-126766}
Technical Paper Publication
Manu Kamin - University of Cincinnati
Nicholas Plewacki - DEVCOM - US Army Research Laboratory
Rahul Koneru - University of Maryland
Luis Bravo - DEVCOM - US Army Research Laboratory
Prashant Khare - University of Cincinnati
Russell Powers - Naval Air Warfare Center Aircraft Division
Kenji Miki - NASA John H. Glenn Research Center
Frank Ham - Cadence Design Systems
Masayoshi Senga - Naval Air Warfare Center Aircraft Division

The NexGen Burner: Analysis of Turbulent Fuel-Air Mixing, {GT2024-129399}
Technical Paper Publication
Manu Kamin - University of Cincinnati
Luis Bravo - DEVCOM - US Army Research Laboratory
Prashant Khare - University of Cincinnati

Prediction of the Flame Characteristics of an Industrial Gas Turbine Operated With CO2-Diluted Air Through an LES-Based CFD Analysis: A Comparison Between FGM and ATF, {GT2024-127404}
Technical Paper Publication
Gianmarco Lemmi - University of Florence, Department of Industrial Engineering (DIEF)
Simone Castellani - University of Florence, Department of Industrial Engineering (DIEF)
Sofia Galeotti - University of Florence, Department of Industrial Engineering (DIEF)
Alessio Picchi - University of Florence, Department of Industrial Engineering (DIEF)
Riccardo Becchi - University of Florence, Department of Industrial Engineering (DIEF)
Antonio Andreini - University of Florence, Department of Industrial Engineering (DIEF)
Giulia Babazzi - Baker Hughes
Roberto Meloni - Baker Hughes

23-12, Seals and dampers I
6/24/2024
4:00 PM to 5:30 PM - SG23/SG24

Chair: ***Steven Chatterton - Politecnico di Milano***
Chair: ***Jürg Schiffmann -***
Chair: ***Min Zhang - Praxair, Inc., a Linde Company***
Presentations:

A Wide-Bandwidth and High-Resolution Identification Method for the Dynamic Characteristics of Annular Gas Seals Using Hilbert Transform, {GT2024-126191}
Technical Paper Publication
Tianhao Wang - Institute of Turbomachinery, Xi'an Jiaotong University
Zhigang Li - Institute of Turbomachinery, Xi'an Jiaotong University
Jun Li - Institute of Turbomachinery, Xi'an Jiaotong Univ.

Characterization of Orientation Effects of Spring Energized Seals Using 2D Simulations, {GT2024-129228}
Technical Paper Publication
Stefan Roeseler - Technetics Group
Erin Volpe - Technetics
Ryan Plessinger - Technetics
Tyler Noyes - Technetics
Elaine Motyka - Technetics
Michael Shealy - Technetics
Jonathan Kweder - Technetics

Dynamic Response of a Pivot-Mounted Squeeze Film Damper: Measurements and Predictions, {GT2024-123379}
Technical Paper Publication
Marie Kasprzyk - Oak Ridge National Laboratory
Adolfo Delgado - Texas A&M University

21-04: Wet Steam
6/24/2024
4:00 PM to 5:30 PM - SG2

Chair: ***Francesca Di Mare - Bochum University***
Chair: ***Alexander White - University of Camebridge***
Presentations:

New Fiber-Optic Measurement Method for Analysis of Unsteady and Wavy Liquid Film Thickness Under High-Speed Gas Flow, {GT2024-123516}
Technical Paper Publication
Daiki Iioka - Shizuoka University
Shunsuke Mizumi - Mitsubishi Heavy Industries, Ltd.
Soichiro Tabata - Mitsubishi Heavy Industries, Ltd.
Toshiyuki Sanada - Shizuoka University
Yuki Mizushima - Shizuoka University

Development and Validation of a Numerical Multiphysics Algorithm for Wall Condensation Heat Transfer for Steam Turbines Starting Phases, {GT2024-124013}
Technical Paper Publication
Isacco Rafanelli - University of Florence
Antonio Andreini - University of Florence
Bruno Facchini - University of Florence
Tommaso Diurno - Baker Hughes, Turbomachinery and Process Solution
Stella Grazia Tomasello - Baker Hughes, Turbomachinery and Process Solution
Gabriele Girezzi - Baker Hughes, Turbomachinery and Process Solution

Relationship Between Wavy Liquid Film Dynamics and Droplet Formation From Trailing Edge, {GT2024-124848}
Technical Paper Publication
Yoshiaki Kamada - Kyushu University
Keito Murakami - Kyushu University
Zhenying Wang - Kyushu University
Chihiro Inoue - Kyushu University
Shigeki Senoo - Mitsubishi Heavy Industries, Ltd.

28-03 Blade-Tip/Casing Contact
6/24/2024
4:00 PM to 5:30 PM - SG16

Chair: ***Vsevolod Kharyton - Siemens Energy***
Chair: ***Azzedine Dadouche -***
Chair: ***Giuseppe Battiato - Politico di milano***
Presentations:

Nonlinear Normal Modes-Related Isolated Branches of Subharmonic Solutions for Forced Response Blade-Tip/Casing Contact Problems, {GT2024-122765}
Technical Paper Publication
Thibaut Vadcard - Ecole Centrale de Lyon
Fabrice Thouverez - Ecole Centrale de Lyon
Alain Batailly - Ecole Polytechnique de Montreal

Experimental Identification of Blade Tip Rub Forces at Engine Relevant Temperatures and Speeds, {GT2024-129235}
Technical Paper Publication
Robin Reifsnyder - The Ohio State University Gas Turbine Lab
Randall Mathison - The Ohio State University Gas Turbine Laboratory
Kiran D'souza - The Ohio State University

Validation of the Numerical Simulation of Rotor/Stator Interactions in Aircraft Engine Low-Pressure Compressors, {GT2024-123911}

Technical Paper Publication
Isabelle Favretti - Polytechnique Montréal
Louis Roux - Safran Aero Boosters
Alain Batailly - Polytechnique Montréal

37-07 Radial Turbomachinery Numerical Analysis
6/24/2024
4:00 PM to 5:30 PM - Pod 5-Entrance S5 & S6

Chair: ***Shakeel Nasir -***
Chair: ***Bob Mischo -***
Chair: ***Jeffrey Krise - Honeywell***
Presentations:

CFD Speedline Simulations of High-Work Radial Compressor Stages, {GT2024-128772}
Technical Paper Publication
Thorsten Hansen - ISimQ GmbH
Erik Munktell - Siemens Industry Software AB
Georg Scheuerer - ISimQ GmbH
Qingyuan Zhuang - Siemens Industry Software Netherlands
Kim Zwiener - Siemens Digital Industries Software GmbH

Unsteady Computational Fluid Dynamics Simulation of Inlet Fins in Centrifugal Compressor, {GT2024-124009}
Technical Paper Publication
Katsunori Tokieda - IHI Corporation
Takahiro Ueno - IHI Corporation
Masaru Unno - IHI Corporation
Isao Morita - IHI Corporation

Insights Into Turbocharger Centrifugal Compressor Stability Using High-Fidelity CFD and a Novel Impeller Diffusion Factor, {GT2024-123825}
Technical Paper Publication
Yiming Liu - Trinity College Dublin
Stephen Spence - Trinity College Dublin
John Horsley - Cummins Engine Components
Stuart Mann - Cummins Engine Components
Charles Stuart - Trinity College Dublin

05-03 Hydrogen-fueled gas turbines
6/24/2024
4:00 PM to 5:30 PM - SG7

Chair: ***Liang Tang - GE Research***
Chair: ***Igor Loboda -***
Chair: ***Elias Tsoutsanis - Technology Innovation Institute, UAE***
Presentations:

A Speed Control Method for Hydrogen-Fueled Turbojet Using Improved Internal Model Control, {GT2024-124875}
Technical Paper Publication
Mengni Pan - Tsinghua University
Ai He - Tsinghua University
Zhixiong Chen - AECC Hunan Aviation Powerplant Research Institute
Yuan Liu - AECC Hunan Aviation Powerplant Research Institute

Zhongzhi Hu - Tsinghua University

Operation Planning for Hydrogen Co-Combustion in Combined-Cycle Power Plants, {GT2024-129050}
Technical Paper Publication
Moritz Hübel - Modelon
Daniel Rohde - Modelon
Friedrich Gottelt - Modelon
James Harper - Electric Power Research Institute (EPRI)
Paolo Pezzini - Electric Power Research Institute (EPRI)
David R. Noble - Electric Power Research Institute (EPRI)

A Comparative Analysis of Various Machine Learning Approaches for Fault Diagnostics of Hydrogen Fueled Gas Turbines, {GT2024-129279}
Technical Paper Publication
Muhammad Baqir Hashmi - Department of Energy and Petroleum Engineering, University of Stavanger
Amare Desalegn Fentaye - School of Business, Society and Engineering, Mälardalen University
Mohammad Mansouri - Department of Energy and Petroleum Engineering, University of Stavanger
Konstantinos G. Kyprianidis - School of Business, Society and Engineering, Mälardalen University,

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19-01 Applications 1
6/24/2024
4:00 PM to 5:30 PM - SG3

Chair: ***Keun Ryu -***
Chair: ***Aaron Rimpel -***
Presentations:

Experimental Characterization of a Bladeless Air Compressor, {GT2024-123669}
Technical Paper Publication
Ravi Nath Tiwari - University of Genova
Federico Reggio - SIT Technologies Srl
Mario Luigi Ferrari - University of Genova, Italy
Ward De Paepe - University de Mons
Alberto Traverso - University of Genova, Italy

Aerodynamic Design of Refrigeration Compressor for Optimal Range and Efficiency, {GT2024-120910}
Technical Paper Publication
Sudip Dey - Copeland Corporation
Nitin Mule - Copeland Corporation

Design and Testing of a Compact, Reverse Brayton Cycle, Air (R729) Cooling Machine, {GT2024-123596}
Technical Paper Publication
Sönke Teichel - ebm-papst Mulfingen GmbH & Co. KG
Renan Emre Karaefe - ebm-papst Mulfingen GmbH & Co. KG
Ahmet Çokşen - ebm-papst Mulfingen GmbH & Co. KG

01-03 Conceptual Design and Optimization II
6/24/2024
4:00 PM to 5:30 PM - SG19

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Robert Clark - GE Aerospace***
Chair: ***Kevin Lowe - Virginia Tech***

Chair: ***Sebastian Zenkner - German Aerospace Center (DLR)***
Presentations:

Model-Driven Optimization for the Conceptual Design of Aeroengine Turbine Flow Path, {GT2024-128572}
Technical Paper Publication
Yifan Chen - Shanghai Jiao Tong University
Jinwei Chen - Shanghai Jiao Tong University
Huisheng Zhang - Shanghai Jiao Tong University

Surrey Hydrogen Aircraft Performance Evaluator (SHAPE): Viability of Liquid Hydrogen-Fueled Wing/Fuselage/Gas-Turbine Aircraft, {GT2024-127694}
Technical Paper Publication
Saurav Tiwari - University of Surrey
Michael J Pekris - University of Surrey
John Doherty - University of Surrey

09-01 Compressed Air Energy Storage
6/24/2024
4:00 PM to 5:30 PM - SG9

Chair: ***David Sanchez - University of Seville***
Chair: ***Jafar Alzaili - City, University of London***
Chair: ***Rafael González-Almenara - University of Seville***
Presentations:

Cylindrical Composite Structural Design for Underwater Compressed Air Energy Storage, {GT2024-127464}
Technical Paper Publication
Tianqi Wang - China University of Petroleum (Beijing)
Chen An - China University of Petroleum (Beijing)
Yixuan Mao - China University of Petroleum (Beijing)

A Perspective on the Process and Turbomachinery Design of Compressed Air Energy Storage Systems, {GT2024-127710}
Technical Paper Publication
Gianfranco Maffulli - Baker Hughes
Angelo Grimaldi - Baker Hughes
Andrew Mcgillis - Hydrostor
Lorenzo Succi - Baker Hughes
Przemyslaw Przybytko - Baker Hughes
Nicola Maceli - Baker Hughes
David Brown - Hydrostor
Graham Brook - iO Consulting
Scott Earle - Hydrostor

Speed Strategy on High-Pressure Compressor for the Charging Process of Advanced Adiabatic Compressed Air Energy Storage During Dynamic Shutdown, {GT2024-127833}
Technical Paper Publication
Yi Wang - Xi'an Jiaotong University
Guoliang Qin - Xi'an Jiaotong University
Cheng Jia - Xi'an Jiaotong University
Qin Cui - Xi'an Jiaotong University

03-09 Digital applications

6/24/2024
4:00 PM to 5:30 PM - SG6

Chair: ***Heena Panchasara - Central Queensland University***
Chair: ***Pietro Bartocci - crbnet***
Chair: ***Marina Braun-Unkhoff - DLR***
Chair: ***Angela Serra - Baker Hughes***
Presentations:

Machine Learning Regression of Under-Expanded Hydrogen Jets, {GT2024-128704}
Technical Paper Publication
Davide Cerbarano - Sapienza University of Rome
Lorenzo Tieghi - Sapienza University of Rome
Giovanni Delibra - Sapienza University of Rome
Stefano Minotti - Baker Hughes
Alessandro Corsini - Sapienza University of Rome

Advancing AI Modeling for Prediction of Safety Parameters for Combustion of Hydrogen/Syngas/Natural Gas Mixtures, {GT2024-129044}
Technical Paper Publication
Roda Bounaceur - CNRS
Pierre-Alexandre Glaude - CNRS
René Fournet - Université de lorraine
Baptiste Sirjean - CNRS
Pierre Montagne - GE Gas Power France
Alexandre Auvray - GE Gas Power France
Eric Impellizzeri - GE Gas Power France
Pierre Biehler - GE Gas Power France
Michel Molière - Université de Technologie de Belfort Montbéliard

Large Eddy Simulation of Ammonia-Hydrogen Non-Premixed Flames Stabilized on a Bluff Body Burner, {GT2024-125957}
Technical Paper Publication
Yu Xia - Ansys UK Ltd.
Ishan Verma - ANSYS Software Pvt. Ltd.
Sourabh Shrivastava - ANSYS Software Pvt. Ltd.
Pravin Nakod - ANSYS Software Pvt. Ltd.
David F. Fletcher - University of Sydney
Bassam Dally - King Abdullah University of Science and Technology

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35-03 Component Interactions
6/24/2024
4:00 PM to 5:30 PM - Pod 6- Entrance S5 & S6

Chair: ***A Duncan Walker -***
Chair: ***Dimitra Tsakmakidou - Rolls-Royce***
Chair: ***Markus Brettschneider - MTU Aero Engines***
Presentations:

On Intake-Compressor Interactions Within an Integrated Propulsion System, {GT2024-128168}
Technical Paper Publication
Rudolf P. M. Rademakers - University of the Bundeswehr Munich, Department of Aerospace Engineering, Institute of Jet Propulsion
Marcel Stößel - University of the Bundeswehr Munich, Department of Aerospace Engineering, Institute of Jet Propulsion

Dragan Kožulović - University of the Bundeswehr Munich, Department of Aerospace Engineering, Institute of Jet Propulsion
Reinhard Niehuis - University of the Bundeswehr Munich, Department of Aerospace Engineering, Institute of Jet Propulsion

Advanced Design of a Transition Duct for Supersonic Inlet Turbines in Rotating Detonation Engines, {GT2024-128218}
Technical Paper Publication
Noraiz Mushtaq - Politecnico di Milano
Matteo Pini - tu delft
Paolo Gaetani - Politecnico Di Milano

04-51 Combustion dynamics - Hydrogen flames II
6/24/2024
4:00 PM to 5:30 PM - SG20/SG21

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Marc Furi - Siemens***
Chair: ***Antoine Durocher - NRC Canada***
Presentations:

Investigation of Flame Response in a Swirling Micromix Hydrogen-Methane Combustor, {GT2024-127607}
Technical Paper Publication
Dewen Liu - Shanghai Jiao Tong University
Zhenzhen Feng - State Key Laboratory of Clean and EfficienTurbomachinery Power Equipment
Xiaojing Tian - National Key Laboratory of Clean and Efficient Turbine Power Equipment of China
Liangliang Xu - Shanghai Jiao tong University
Mingming Gu - Shanghai Jiao Tong University
Yang Lin - Shanghai Jiao Tong University
Xi Xia - Shanghai Jiao Tong University
Fei Qi - Shanghai Jiao Tong University

Experimental Study of the Dynamics of Lean Premixed Hydrogen Flames in a Multi Jet Combustor, {GT2024-128547}
Technical Paper Publication
Jan Paul Beuth - Laboratory for Flow Instabilities and Dynamics, Technische Universität Berlin, Germany
Johann Moritz Reumschüssel - Chair of Fluid Dynamics, Technische Universität Berlin, Germany
Jakob G. R. Von Saldern - Laboratory for Flow Instabilities and Dynamics, Technische Universität Berlin, Germany
Bernhard Cosic - MAN Energy Solutions SE
Christian Oliver Paschereit - Chair of Fluid Dynamics, Technische Universität Berlin, Germany
Kilian Oberleithner - Laboratory for Flow Instabilities and Dynamics, Technische Universität Berlin, Germany

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36-06 Robust Design and response surface methods (2)
6/24/2024
4:00 PM to 5:30 PM - Pod 2- Entrance S5 & S6

Chair: ***Marcus Meyer -***
Chair: ***Matteo Pini - TU Delft***
Chair: ***Tom Verstraete - VKI***
Presentations:

Data-Driven Aerodynamic Optimization of a 15-Stage Compressor With Tandem Outlet Guide Vanes, {GT2024-122715}
Technical Paper Publication

Yijie Liu - Beihang University
Jiang Chen - Beihang University
Yi Liu - Beihang University
Hang Xiang - Beihang University

Multistage Turbomachinery Optimization for High Temperature Heat Pumps With the Reverse Rankine Cycle, {GT2024-128083}
Technical Paper Publication
Robert Schaffrath - German Aerospace Center
Panagiotis Stathopoulos - German aerospace center
Andreas Schmitz - German aerospace center
Eberhard Nicke - German Aerospace Center

Advancing Airfoil Design: A Generative Ai and Pinns Approach, {GT2024-122682}
Technical Paper Publication
Can Unlusoy - Siemens Energy Canada Limited
Bill Maier - Siemens Energy USA
Khalil Al Handawi - Siemens Energy Canada Limited
Tittu Mathew Varghese - Siemens Energy Canada Limited
Ravichandra Srinivasan - Siemens Energy USA
Mathieu Salz - McGill University
Michael Kokkolaras - McGill University

TUESDAY, 6/25/2024

31-11 Fan & Propulsor Design
6/25/2024
8:00 AM to 10:00 AM - Pod 2- Entrance S5 & S6

Chair: ***Daniel Wilkin II - GE***
Chair: ***Michael Joly - Raytheon Technologies Research Center***
Presentations:

Exergy-Based Analysis of the NASA SDT Configuration, {GT2024-125784}
Technical Paper Publication
Jean-Christophe Boniface - ONERA
Ilias Petropoulos - ONERA
Ilyès Berhouni - ONERA

Shockwave Structures Optimization and Flow Mechanisms in Axial Supersonic Through-Flow Fan Cascades, {GT2024-128467}
Technical Paper Publication
Huitong Xu - Tsinghua University
Jiabin Li - Tsinghua University
Teng Fei - Tsinghua University
Lucheng Ji - Tsinghua University

Investigation of Flow Mechanism for Solidity in Typical Modes of Variable Pitch Tandem Cascade, {GT2024-127296}
Technical Paper Publication
Xiaoying Sheng - Institute of EngineeringThermophysics, Chinese Academy of Sciences
Qiaodan Luo - Institute of EngineeringThermophysics, Chinese Academy of Sciences
Huafeng Xu - Institute of EngineeringThermophysics, Chinese Academy of Sciences
Chengwu Yang - Institute of EngineeringThermophysics, Chinese Academy of Sciences

Xingen Lu - Institute of EngineeringThermophysics, Chinese Academy of Sciences

Aerodynamic Design and Performance Analysis of a Vaneless Counter-Rotating Fan and Compressor, {GT2024-122225}
Technical Paper Publication
Xinyu Ren - Tsinghua University
Yuxin Shen - Tsinghua University
Tao Zhang - Beijing Power Machinery Institute
Jiabin Li - Tsinghua University
Lucheng Ji - Tsinghua University

12-10 Unsteadiness in film cooling
6/25/2024
8:00 AM to 10:00 AM - SG25/SG26

Chair: ***Florent Duchaine -***
Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Phil Ligrani -***
Presentations:

Analysis of the Instantaneous Film Cooling Effectiveness on Showerhead Film Cooling Using Fast Response Pressure Sensitive Paint (Fast-PSP), {GT2024-122665}
Technical Paper Publication
Jeremy Sounik - Texas A&M Engineering Experiment Station
Lesley Wright - Texas A&M University

Characteristics of Deterministic and Stochastic Unsteadiness of Trailing Edge Cutback Film Cooling Flows, {GT2024-123002}
Technical Paper Publication
Xiao He - Imperial College London
Francesco Montomoli - Imperial College London
Vittorio Michelassi - Baker Hughes
Andrea Panizza - Baker Hughes
Leonardo Pulga - Baker Hughes

Sweeping Jet Film Cooling Over the Suction Surface of HP Turbine NGV With Forward and Reversed Hole Configurations, {GT2024-129582}
Technical Paper Publication
Hitesh Sharma - Indian Institute of Technology Kharagpur
Chetankumar Mistry - Indian Institute of Technology Kharagpur
Arnab Roy - Indian Institute of Technology Kharagpur

32-04 Low Pressure Turbines 1
6/25/2024
8:00 AM to 10:00 AM - Pod 1- Entrance S5 & S6

Chair: ***Jochen Gier -***
Chair: ***Emil Goettlich -***
Chair: ***Thomas Praisner - Pratt&Whitney***

Presentations:

A Collaborative Framework for Design and Validation of Next-Generation Transonic Low-Pressure Turbines, {GT2024-123820}
Technical Paper Publication
Bogdan Cernat - von Karman Institute for Fluid Dynamics
Alexandre Halby - von Karman Institute for Fluid Dynamics
Sergio Lavagnoli - von Karman Institute for Fluid Dynamics
Filippo Rubechini - Morfo Design
Stefano Guidolotti - Morfo Design
Ardeshir Hanifi - KTH
Mihai Mihaescu - KTH
Davide Lengani - University of Genova
Francesco Bertini - GE Avio Aero

Experimental Investigation Into the Generation Mechanisms of Additional Loss due to Incoming Wakes in Low-Pressure Turbine Cascades, {GT2024-125061}
Technical Paper Publication
Hidekazu Kodama - Iwate University
Ken-Ichi Funazaki - Iwate University

RANS Prediction of Low-Pressure Turbine Tip Shroud Flows, {GT2024-128691}
Technical Paper Publication
Fatih Uncu - Safran Aircraft Engines
Benjamin François - ONERA
Nicolas Buffaz - Safran Helicopter Engines
Sébastien Le Guyader - Safran Helicopter Engines

Sealing Flow Rate Effects on Unsteady Loss Production in a Low Pressure Turbine Stage, {GT2024-128711}
Technical Paper Publication
Dario Barsi - University of Genova
Daniele Biassoni - University of Genova
Davide Lengani - University of Genova
Daniele Simoni - University of Genova
Marina Ubaldi - University of Genova

18-03 Failure Prediction and Life Assessment I
6/25/2024
8:00 AM to 10:00 AM - SG4

Chair: ***William Day -***
Presentations:

Who Won the Race to Fracture – Torque Tube or Air Separator?, {GT2024-120903}
Technical Paper Publication
Vamadevan Gowreesan - Sulzer
Wayne Greaves - Sulzer

Applying Rapid Qualification to Fatigue Assessment of a Binder Jet Superalloy, {GT2024-128276}
Technical Paper Publication
Onome Scott-Emuakpor - Hyphen Innovations
Philip Johnson - Hyphen Innovations
Mattia Forgiarini - Azoth 3D
Tim Noronha - TURBOCAM International

An Advanced Sine-Hyperbolic Creep-Damage Model Incorporating Threshold Strength, {GT2024-129453}

Technical Paper Publication
Md Abir Hossain - The Ohio State University
Mohammad Shafinul Haque - Angelo State University
Jacob Pellicotte - The Ohio State University
Calvin M. Stewart - The Ohio State University

13-03 - Surface Effects
6/25/2024
8:00 AM to 10:00 AM - SG27/SG28

Chair: ***Jens Fridh -***
Chair: ***Robert Krewinkel -***
Chair: ***Guillermo Paniagua-Perez - Purdue University***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Jan Ostlund -***
Presentations:

Thermohydraulic Performance and Flow Structures of Diamond Pyramid Arrays, {GT2024-122539}
Technical Paper Publication
Thomas M. Corbett - The Pennsylvania State University
Karen A. Thole - The Pennsylvania State University

Numerical Analysis of Convective Heat Transfer Processes and Performance Assessment of Lattice and Triply Periodic Minimal Surface Geometries, {GT2024-129097}
Technical Paper Publication
Niccolò Casini - Ergon Research
Lorenzo Mazzei - Ergon Research
Riccardo Da Soghe - Ergon Research

TPMS Turbojet Precooler Design Methodology and Case Study, {GT2024-122645}
Technical Paper Publication
David Cerantola - Space Engine Systems
Graeme Schmidt - Space Engine Systems
Daniel Handford - Space Engine Systems
Pradeep Dass - Space Engine Systems

Effects of Lattice Orientation Angle on TPMS-Based Transpiration Cooling, {GT2024-126861}
Technical Paper Publication
Juchan Son - Mechanical Engineering, University of Ottawa
Mohsen Broumand - Aerospace Research Center, National Research Council of Canada
Yeongmin Pyo - Mechanical Engineering, University of Ottawa, Ottawa
Patrick Richer - Mechanical Engineering, University of Ottawa
Bertrand Jodoin - Mechanical Engineering, University of Ottawa
Zekai Hong - Aerospace Research Center, National Research Council of Canada

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14-01 Compressor Cavities 1
6/25/2024
8:00 AM to 10:00 AM - SG29

Chair: ***John Chew -***
Chair: ***Mike Barringer -***

Chair: ***Stephen Lynch -***
Chair: ***Carl Sangan -***
Chair: ***Lesley Wright -***
Chair: ***Peter Smout -***
Chair: ***Sebastiaan Bottenheim - Rolls-Royce***
Presentations:

Flow and Heat Transfer in Rotating Compressor Cavities With Inverted Shroud-Throughflow Temperature Differences, {GT2024-123211}
Technical Paper Publication
Mikolaj Pernak - University of Bath
Tom Nicholas - University of Bath
Mauro Carnevale - University of Bath
Gary Lock - University of Bath
Hui Tang - University of Bath
James Scobie - University of Bath

Flow and Heat Transfer in a Rotating Disc Cavity With Axial Throughflow at High Speed Conditions, {GT2024-127455}
Technical Paper Publication
Ruonan Wang - University of Surrey
John Chew - University of Surrey
Feng Gao - Beihang University
Olaf Marxen - University of Surrey

Numerical Investigation of Windage Heating in High-Pressure Compressor Shrouded Stator Cavities, {GT2024-124239}
Technical Paper Publication
Altay Damgacioglu - Chair of Turbomachinery and Flight Propulsion, Technical University of Munich
Francois Cottier - MTU Aero Engines AG
Volker Gümmer - Chair of Turbomachinery and Flight Propulsion, Technical University of Munich

Analysis of Heat Transfer Within Buoyancy Dominated Rotating Cavities of H.P Compressors, {GT2024-126369}
Technical Paper Publication
Seyed Mostafa Fazeli - University of Sussex
Vasudevan Kanjirakkad - University of Sussex
Christopher Long - University of Sussex

04-35 Pressure gain combustion II
6/25/2024
8:00 AM to 10:00 AM - SG13

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Ajay Agrawal -***
Chair: ***Kareem Ahmed - Unniversity of Central Florida***
Presentations:

On the Challenges of Integrating a Rotating Detonation Combustor With an Industrial Gas Turbine and Important Design Considerations for Row-1 Blades, {GT2024-129082}
Technical Paper Publication
Dharmik Rathod - Virginia Tech
Joseph Meadows - Virginia Tech

Performance Evaluation of Different Rotating Detonation Combustor Designs Using Simulations and Experiments, {GT2024-129112}

Technical Paper Publication
Piyush Raj - Virginia Tech
Shaon Talukdar - University of Alabama
Joseph Meadows - Virginia Tech
Ajay Agrawal - University of Alabama

Experimental Study of High-Diodicity Inlet Effects on Rotating Detonation Combustor Performance and Operability, {GT2024-128178}
Technical Paper Publication
Provence Barnouin - TU Berlin
Eric Bach - TU Berlin
Christian Oliver Paschereit - TU Berlin
Myles Bohon - TU Berlin

Comparative Analysis of Total Pressure Measurement Techniques in Rotating Detonation Combustors, {GT2024-124888}
Technical Paper Publication
Hongyi Wei - Technische Universität Berlin
Tim Kayser - Technische Universität Berlin
Eric Bach - Technische Universität Berlin
Christian Oliver Paschereit - Technische Universität Berlin
Myles D. Bohon - Technische Universität Berlin

04-36 Combustion dynamics - experiments I
6/25/2024
8:00 AM to 10:00 AM - SG12

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Antoine Renaud -***
Chair: ***Thomas Steinbacher - IFTA***
Presentations:

Suppression of Combustion Oscillations in Hydrogen-Enriched Can-Type Combustors Through Fuel Staging, {GT2024-121533}
Technical Paper Publication
Junwoo Jung - Gangneung-Wonju National University
Daesik Kim - Gangneung-Wonju National University
Yuangang Wang - Sejong University
Soonbeen Park - Sejong University
Chaehoon Sohn - Sejong University
Minkuk Kim - Korea Institute of Machinery and Materials
Jeongjae Hwang - Korea Institute of Machinery and Materials
Dowon Kang - Korea Institute of Machinery and Materials
Wonjune Lee - Korea Institute of Machinery and Materials
Hanseok Kim - Korea Institute of Machinery and Materials

Reconstruction of the Reflection Coefficient Downstream of a Flame From Dual SISO Flame Response Measurements, {GT2024-122548}
Technical Paper Publication
Hamed F. Ganji - Eindhoven university of technology
Viktor Kornilov - Eindhoven university of technology
Jeroen Van Oijen - Eindhoven university of technology
Ines Lopez Arteaga - Eindhoven university of technology

The Effect of Acoustic Boundary Conditions on the Oscillation Mode Transition of Combustion System, {GT2024-126198}
Technical Paper Publication
Yudi Lu - Shanghai Jiao Tong University
Ming Jin - Shanghai Jiao Tong University
Bing Ge - Shanghai Jiao Tong University
Shusheng Zang - Shanghai Jiao Tong University

Equivalence Ratio Driven Flame Response of an Industrial Premixed Burner: Experiments and Modeling, {GT2024-126602}
Technical Paper Publication
Tony John - GE Research
Nicholas Magina - GE Research
Fei Han - GE Research
Jan Kaufmann - Technical University of Munich
Manuel Vogel - Technical University of Munich
Thomas Sattelmayer - Technical University of Munich

34-10 Turbulence modeling methods 1
6/25/2024
8:00 AM to 10:00 AM - Pod 4- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Jason Bourgeois -***
Chair: ***Maysaa Rizk -***
Presentations:

A Data Driven Method for the Derivation of Explicit Algebraic Reynolds Stress Models Applied to the Wake Losses of Low-Pressure Turbine Cascades, {GT2024-121023}
Technical Paper Publication
Johannes Deutsch - Institute of Jet propulsion and Turbomachinery, RWTH Aachen University
Nima Fard Afshar - Institute of Jet propulsion and Turbomachinery, RWTH Aachen University
Stefan Henninger - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Peter Jeschke - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University

Framework for Machine Learning-Based Turbulence Modeling to Accurately Predict the Complex Flows in Gas Turbines, {GT2024-128443}
Technical Paper Publication
Rob Blumenthal - Ansys Inc.
Michal Siorek - Solar Turbines Incorporated
Sunil Patil - Ansys Inc.

Improved Compressor Performance Prediction Using a Vortex-Reactive Turbulence-Model Extension, {GT2024-129179}
Technical Paper Publication
Dajan Mimic - Leibniz Universitaet Hannover
Janek Mahlstedt - Leibniz Universitaet Hannover
Florian Herbst - Leibniz Universitaet Hannover (Alumnus)

36-05 Robust Design and response surface methods (1)
6/25/2024
8:00 AM to 10:00 AM - Pod 5-Entrance S5 & S6

Chair: ***Matteo Pini - TU Delft***
Chair: ***Marcus Meyer -***
Chair: ***Tom Verstraete - VKI***
Presentations:

Robust Optimization of a Compressor Blade Through Combination of an Adjoint-Based Multistart Approach and Global Gaussian Process Regression, {GT2024-121351}
Technical Paper Publication
Aryan Karimian - German Aerospace Center
Robin Schmidt - Rolls-Royce Deutschland Ltd.&Co.KG
Christian Janke - Rolls-Royce Deutschland Ltd.&Co.KG

Robust Design Optimization of a Compressor Rotor Using Recursive Cokriging Based Multi-Fidelity Uncertainty Quantification and Multi-Fidelity Optimization, {GT2024-121977}
Technical Paper Publication
Marcus Wiegand - Technische Universität Dresden, Institute of Fluid Mechanics, Chair of Turbomachinery and Flight Propulsion
Andriy Prots - Technische Universität Dresden, Institute of Fluid Mechanics, Chair of Turbomachinery and Flight Propulsion
Marcus Meyer - Rolls-Royce Deutschland Ltd & Co KG.
Robin Schmidt - Rolls-Royce Deutschland Ltd & Co KG.
Matthias Voigt - Technische Universität Dresden, Institute of Fluid Mechanics, Chair of Turbomachinery and Flight Propulsion
Ronald Mailach - Technische Universität Dresden, Institute of Fluid Mechanics, Chair of Turbomachinery and Flight Propulsion

Twofold Adaptive Design Space Reduction for Constrained Bayesian Optimization of Transonic Compressor Blades, {GT2024-121848}
Technical Paper Publication
Lisa Pretsch - Technical University of Munich
Ilya Arsenyev - MTU Aero Engines
Elena Raponi - Leiden University
Fabian Duddeck - Technical University of Munich

04-07 High Hydrogen III
6/25/2024
8:00 AM to 10:00 AM - SG20/SG21

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Lance Smith - RTX***
Chair: ***Kenji Miki - NASA Glenn***
Presentations:

Laminar Burning Speed Measurements of Hydrogen/Natural Gas Mixtures at 10 atm, {GT2024-129124}
Technical Paper Publication
Ahmed F. Safdari - University of Central Florida
Louis Yovino - University of Central Florida
Gihun Kim - University of Central Florida
Ramees K. Rahman - University of Central Florida
Subith S. Vasu - University of Central Florida

Spatial Temperature Measurements in a Swirl-Stabilized Hydrogen-Air Diffusion Flame at Elevated Pressure Using Laser-Induced Grating Spectroscopy, {GT2024-124845}
Technical Paper Publication

Oussama Chaib - University of Cambridge
Lee Weller - University of Cambridge
Anthony Giles - Cardiff University
Steve Morris - Cardiff University
Benjamin A. O. Williams - University of Oxford
Simone Hochgreb - University of Cambridge

Turbulent Burning Velocity of High Hydrogen Flames, {GT2024-121349}
Technical Paper Publication
Hari Priya Rajagopalan - Georgia Institute of Technology
Renee Cole - Georgia Institute of Technology
David Wu - Georgia Institute of Technology
Benjamin Emerson - Georgia Institute of Technology
Timothy Lieuwen - Georgia Institute of Technology

An Investigation of a Multi-Injector, Premix/Micromix Burner Burning Pure Methane to Pure Hydrogen, {GT2024-129464}
Technical Paper Publication
Antoine Durocher - McGill University
Luming Fan - National Research Council Canada
Marc Füri - Siemens Energy Canada Limited
Gilles Bourque - Siemens Energy Canada Limited
Julien Sirois - Siemens Energy Canada Limited
David May - Siemens Energy Canada Limited
Jeffrey Bergthorson - McGill University
Sean Yun - National Research Council Canada
Patrizio Vena - National Research Council Canada

22-02 Fan Aerodynamic Excitation and Inlet Distortion 2
6/25/2024
8:00 AM to 10:00 AM - SG16

Chair: ***Christoph Brandstetter -***
Chair: ***Yoon Choi - GE***
Chair: ***Sina C. Stapelfeldt -***
Presentations:

Flutter Parameter Study on a Complex Inlet Swirl Distortion Generator, {GT2024-124102}
Technical Paper Publication
Cole Hefner - Techsburg Inc.
Stephen Guillot - Techsburg Inc.
John Gillespie - Virginia Tech
Andrew Hayden - Virginia Tech
Todd Lowe - Virginia Tech
Alexandrina Untaroiu - Virginia Tech

Fan Non-Synchronous Forced Vibration Under Crosswind, {GT2024-126523}
Technical Paper Publication
Venkata y.t. Chennuru - Universidad Politécnica de Madrid
Roque Corral García - Universidad Politécnica de Madrid
Salvador Rodríguez-Blanco - Universidad Politécnica de Madrid
Mehdi Vahdati - Imperial College London
Fanzhou Zhao - Imperial College London

Parametric Study on the Duct Intake Reflection Coefficients for Fan Flutter Analyses, {GT2024-129159}
Technical Paper Publication
Jose Miguel Perez - Universidad Politécnica de Madrid

Roque Corral - Universidad Politecnica de Madrid

Conceptual Analysis on the Impact of Acoustic Liners in Fan Flutter, {GT2024-129249}
Technical Paper Publication
Javier Gonzalez-Monge - Universidad Politecnica de Madrid
Jose Miguel Perez - Universidad Politecnica de Madrid
Roque Corral - Universidad Politécnica de Madrid
Fanzhou Zhao - Imperial College of London
Mehdi Vahdati - Imperial College of London

10-01 Numerical Simulations and Fan Noise
6/25/2024
8:00 AM to 10:00 AM - SG8

Chair: ***Massimo Masi - University of Padova***
Chair: ***Zhiping Wang -***
Chair: ***Davide Cerbarano - Sapienza University of Rome - Department of Mechanical and Aerospace Engineering (DIMA)***
Presentations:

Comparison of Vortex Detection Methods on the Numerical Simulation of Tip Leakage Flow of a Low-Speed Axial Fan, {GT2024-121322}
Technical Paper Publication
Esztella Balla - Dept. of Fluid Mechanics, Fact. of Mech. Eng., Budapest University of Tech. and Economics
Kinga Andrea Kovács - Dept. of Fluid Mechanics, Fact. of Mech. Eng., Budapest University of Tech. and Economics
Bálint Lendvai - Dept. of Fluid Mechanics, Fact. of Mech. Eng., Budapest University of Tech. and Economics

Predicting Dust Erosion in a Counter-Rotating Fan, {GT2024-121816}
Technical Paper Publication
Adel Ghenaiet - Laboratory of Energy Conversion Systems, Faculty of Mechanical Engineering and Process Engineering, University of Science and Technology, Houari Boumediene

Aerodynamic Performance Improvement and Noise Control for the Multi-Blade Centrifugal Fan in Air Conditioner by Using Concave Volute Tongue, {GT2024-124441}
Technical Paper Publication
Jian Lei - xi'an jiaotong university
Guoliang Qin - xi'an jiaotong university
Qin Cui - xi'an jiaotong university

Acoustic Evaluation of Forward and Backward Swept Axial Fan Design for Automotive Applications With Identical Aerodynamic Performance, {GT2024-128775}
Technical Paper Publication
Anand Sivaramakrishnan - Hanon Systems EFP Deutschland Gmbh
Mihai Bleiziffer - Hanon Systems EFP Deutschland Gmbh
Felix Girmscheid - Hanon Systems Deutschland GmbH

21-05: Mechanical Integrity
6/25/2024
8:00 AM to 10:00 AM - SG2

Chair: ***Christian Kontermann -***
Chair: ***Magdalena Speicher - Kempten University of Applied Sciences***

Presentations:

Creep-Fatigue Life Assessment Technique for Steam Turbine Rotors: An Efficient Continuum Damage Mechanics Based Approach, {GT2024-126297}
Technical Paper Publication
Suvadeep Sen - Siemens Ltd.
Henning Almstedt - Siemens Energy Global GmbH & Co. KG

Fatigue Failure of Steam Turbine Discs – A Centenary Tribute to Wilfred Campbell, {GT2024-120904}
Technical Paper Publication
Vamadevan Gowreesan - Sulzer
Kirill Grebinnyk - Sulzer
Mahesh Pemmasani - Sulzer

Steam Whirl Detection and Correction in 135 MW Steam Turbine, {GT2024-128518}
Technical Paper Publication
Roengchai Chumai - Machinosis Co., Ltd.
Pisut Lertsongkram - Machinosis Co., Ltd.
Nuntaphong Koondilogpiboon - Machinosis Co., Ltd.

37-04 Radial Turbomachinery Performance
6/25/2024
8:00 AM to 10:00 AM - Pod 6- Entrance S5 & S6

Chair: ***Rodrigo Rodriguez Erdmenger - GE Aerospace***
Chair: ***Bob Mischo -***
Chair: ***Jorge Carretero-Benignos - Airbus***
Presentations:

Reassessment of the Conventional: Numerical Validation of a 1D Model for the Prediction of Volute Losses, {GT2024-121765}
Technical Paper Publication
Thomas Ceyrowsky - MAN Energy Solutions SE
André Hildebrandt - MAN Energy Solutions SE
Martin Heinrich - TU Bergakademie Freiberg
Rüdiger Schwarze - TU Bergakademie Freiberg

Impact of the Blade Fillet Radius on the Aerodynamic Performance of an Unshrouded Centrifugal Compressor, {GT2024-122349}
Technical Paper Publication
Duc Huy Marco Hoang - Fraunhofer Umsicht
Arnaud Châtel - von Karman Institute for Fluid Dynamics
Tom Verstraete - von Karman Institute for Fluid Dynamics

Aerodynamic Design Optimization of Centrifugal Compressor Blade Using Parameterized Free-Form Deformation, {GT2024-125778}
Technical Paper Publication
Dongqiang Xu - Harbin Institute of Technology
Jianyang Yu - Harbin Institute of Technology
Jinsong Shen - Harbin Institute of Technology
Ning Li - Harbin Institute of Technology
Yanping Song - Harbin Institute of Technology
Xinlong Yang - Harbin Institute of Technology

27-05 Non-Linear Rotordynamics
6/25/2024
8:00 AM to 10:00 AM - SG23/SG24

Chair: ***Theodore Brockett -***
Chair: ***Francesco D'ALESSANDRO - SAFRAN AIRCRAFT ENGINES***
Chair: ***Lorenzo Naldi -***
Chair: ***Alice Innocenti - Mercedes AMG High Performance Powertrains***
Chair: ***Edoardo Gheller - Politecnico di Milano, Department of Mechanical Engineering***
Presentations:

Application of Nonlinear Frequency Response Analysis for Windmilling, {GT2024-122018}
Technical Paper Publication
Devesh Kumar - Boeing
Don Powell - The Boeing COmpany
David Carlson - CTS TECHNICAL SERVICES INC
J S Kumar - Hexagon MI
Jianming Cao - Hexagon MI

Dynamic Prediction of Elastic-Supported Rotor With Friction Damper Based on 3D Contact Model, {GT2024-125492}
Technical Paper Publication
Yu Fan - Beihang Univ
Shengshuo Wang - Beihang Univ
Yaguang WU - Beihang University
Shanzi Zhang - Shanghai Electric Gas Turbine, Co., Ltd.
Yiwen Shen - Shanghai Electric Gas Turbine, Co., Ltd.
Mingmin Chen - Shanghai Electric Gas Turbine, Co., Ltd.

The Safety Design Method for the Rotor System With Fan Blade Off, {GT2024-126479}
Technical Paper Publication
Zhenyao Zhao - Beihang University
Dayi Zhang - Beihang University
Cheng Yang - Byd Auto Industry Company Limited
Qicheng Zhang - Beihang University

Case Study of User Defined Element Integration in Rotor Dynamics Software, {GT2024-121480}
Technical Paper Publication
Parag Mathuria - Pratt & Whitney
Gregory Savela - Pratt and Whitney

05-04 Fault Detection, Optimization & Uncertainty
6/25/2024
8:00 AM to 10:00 AM - SG7

Chair: ***Craig Davison - National Research Council, Canada***
Chair: ***Igor Loboda -***
Presentations:

Polynomial Chaos Expansion-Based Uncertainty Model for Fast Assessment of Gas Turbine Aero-Engines Thrust Regulation: A Sparse Regression Approach, {GT2024-121246}
Technical Paper Publication
Shijia Li - Research Institute of Aero-Engines, Beihang University
Zhiyuan Wei - Research Institute of Aero-Engines, Beihang University
Shuguang Zhang - Beihang University
Zhaohui Cen - Propulsion and Space Research Center, Technology Innovation Institute

Elias Tsoutsanis - Propulsion and Space Research Center, Technology Innovation Institute

Fault Detection on Short-Haul or Highly Dynamic Flights Using Transient Flight Segments, {GT2024-124026}
Technical Paper Publication
Tihomir Varchev - Institute of Aircraft Propulsion Systems (ILA), University of Stuttgart
Jürgen Mathes - MTU Aero Engines AG
Christian Koch - Institute of Aircraft Propulsion Systems (ILA), University of Stuttgart
Stephan Staudacher - Institute of Aircraft Propulsion Systems (ILA), University of Stuttgart

A Parallel Online Performance Optimization Method for ATR Engines Based on Ensemble Neural Network, {GT2024-127289}
Technical Paper Publication
WEIDONG CAI - Institute of Engineering Thermophysics, National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine; Chinese Academy of Sciences; School of aeronautics and astronautics at University of Chinese Academy of Sciences
Wei Zhao - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine; School of aeronautics and astronautics at University of Chinese Academy of Sciences
Binbin Liu - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine
Xuesen Yang - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine
Weiwei Luo - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine
Qingjun Zhao - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine; School of aeronautics and astronautics at University of Chinese Academy of Sciences; Beijing Key Laboratory of Distributed Combined Cooling Heating and Power System

Stability and Robustness Analysis and Optimization for Gain-Scheduled Control of Aero-Engines, {GT2024-127368}
Technical Paper Publication
Jincen Jiang - Tsinghua University
Jiali Yang - Tsinghua University
Xiting Wang - Tsinghua University
Xiao Yang - Tsinghua University
Zhongzhi Hu - Tsinghua University

33-03 Modeling deposition and erosion
6/25/2024
8:00 AM to 10:00 AM - Pod 7- Entrance S5 & S6

Chair: ***Sergio Lavagnoli - von Karman Institute for Fluid Dynamics***
Chair: ***Jeffrey Bons - The Ohio State University***
Chair: ***Robin Prenter - Pratt Whitney***
Chair: ***Ryan Lundgreen - Pratt Whitney***
Presentations:

A Roughness Prediction Method by Particle Deposition and its Effect on Flow and Heat Transfer in High-Pressure Turbine Cascade, {GT2024-128585}
Technical Paper Publication
Zhenfei Wang - Xi'an Jiaotong University
Zhiheng Wang - Xi'an Jiaotong University
Guang Xi - Xi'an Jiaotong University

Comparison of Ash Deposition Models in Gas Turbine Blade Rows for Alternative Solid Fuels With Low Ash Melting Temperatures, {GT2024-123617}

Technical Paper Publication
Luis Wunder - Institute of Process Engineering and Environmental Technology
Daniel Bernhardt - Institute of Process Engineering and Environmental Technology
Michael Beckmann - Institute of Process Engineering and Environmental Technology

Calibration and Validation of a Novel Particle Rebound and Deposition Model, {GT2024-129243}
Technical Paper Publication
Leiyong Jiang - National Research Council
Prakash Patnaik - Aerospace Research Center, National Research Council Canada
Masaya Suzuki - Japan Aerospace Exploration Agency

Modeling Stochastical Particle Rebound Based on High Velocity Experiments, {GT2024-124018}
Technical Paper Publication
Jan Hartmann - University of Stuttgart
Christian Koch - Institute of Aircraft Propulsion Systems
Stephan Staudacher - Institute of Aircraft Propulsion Systems

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19-04 Fuel Cell & Aircraft Powertrains / 19-06 Combustors
6/25/2024
8:00 AM to 10:00 AM - SG3

Chair: ***Kostandin Gjika -***
Chair: ***Aaron Rimpel -***
Presentations:

An Optimal Design of Aircraft Hybrid Powertrain Based on a Coupled Method, {GT2024-127050}
Technical Paper Publication
Xuan Kai Qiang - Tsinghua University
Yuping Qian - Tsinghua University
Weifeng Li - Tsinghua University
Hongsheng Jiang - Tsinghua University
Weilin Zhuge - Tsinghua University
Yangjun Zhang - Tsinghua University

Design, Analysis, and Testing of an Additively Manufactured Catalytic Combustor for a Micro-Wave Rotor Turbine, {GT2024-125961}
Technical Paper Publication
Stefan Tüchler - University of Bath
Adamos Adamou - University of Bath
Pejman Akbari - California State Polytechnic University, Pomona
Colin Copeland - Simon Fraser University

Emissions and Flame Stability Assessment of Hydrogen Addition and Air Dilution in a Micro Gas Turbine Combustor Using 0D/1D Modeling by Chemical Reactor Network, {GT2024-129177}
Technical Paper Publication
Farshid Y. Farrokhi - ULB and UMONS
Alessandro Piscopo - ULB and UMONS
Alessio Pappa - UMONS
Alessanro Parente - ULB
Ward De Paepe - UMONS

01-10 Modelling, Simulation and Validation II
6/25/2024
8:00 AM to 10:00 AM - SG17/SG18

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Kevin Lowe - Virginia Tech***
Chair: ***Curtis Vedder - Honeywell***
Chair: ***Keith Boyer - Practical Aero***
Presentations:

Assessing the Environmental Impact of Aircraft / Engine Integration With Respect to Contrails, {GT2024-124447}
Technical Paper Publication
Joseph Ramsay - Rolls Royce plc
Indi Tristanto - Rolls Royce plc
Shahrokh Shahpar - Rolls Royce plc
Alistair John - University of Sheffield

Research on Calculation Method of Variable Specific Heat Performance of Wide-Speed Range Aeroengine, {GT2024-122932}
Technical Paper Publication
Huipeng Du - Beihang University
Chuankai Liu - Beihang University

HFTsim: A Component Library for High-Frequency Gas Turbine Engine Performance Simulations, {GT2024-124100}
Technical Paper Publication
Emrah Güllü - TUSAŞ Engine Industries, Inc.
Gökhan Aran - TUSAŞ Engine Industries, Inc.

Simulation Validation of a Coupled Blade-Shaft System Including Non-Linearity and Gravity Effects, {GT2024-125781}
Technical Paper Publication
Iker Exposito - Industria de Turbopropulsores S.A.U. (ITP Aero)
Angel Martinez Aja - Industria de Turbopropulsores S.A.U. (ITP Aero)
Matthew Price - Rolls-Royce plc.
Andrew Rix - Rolls-Royce plc.
Christoph Schwingshackl - Imperial College London

01-08 Inlets, Nozzles, Mixers and Nacelles II
6/25/2024
8:00 AM to 10:00 AM - SG19

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Charlene X. Hu - Collins***
Chair: ***Kevin Lowe - Virginia Tech***
Chair: ***Christina Salpingidou - Accelleron industries***
Presentations:

Cavity Impact on the Base Flow Unsteadiness for a High-Speed Exhaust System, {GT2024-126486}
Technical Paper Publication
Spyros Tsentis - Cranfield University
Ioannis Goulos - Cranfield University
Simon Prince - Cranfield University
Vassilios Pachidis - Cranfield University
Vladeta Zmijanovic - Reaction Engines Ltd.

Fluidic Thrust Vectoring on an Altitude-Adaptive Double-Divergent Nozzle Using a Bypass Passage, {GT2024-128990}
Technical Paper Publication
Arnab Kumar Das - Indian Institute of Technolgy Guwahati
Tapan K. Mankodi - Indian Institute of Technology Guwahati

Ujjwal K. Saha - Indian Institute of Technology Guwahati

Three-Dimensional Fluid Topology Optimization for Intakes and Exhausts Flow Uniformity, {GT2024-129156}
Technical Paper Publication
Stefano Furino - ToffeeAM ltd
Alessandro Canova - ToffeeAM ltd
Marco Pietropaoli - ToffeeAM ltd

06-11 Innovations in power cycles
6/25/2024
8:00 AM to 10:00 AM - SG1

Chair: ***Rafael Eduardo Guedez Mata - KTH Stockholm***
Chair: ***Ladislav Vesely - University of Central Florida***
Presentations:

Effect of Ceramic Matrix Composites on the Thermal Efficiency of a Power Generation Turbine, {GT2024-125969}
Technical Paper Publication
Ashrit Tayade - The Pennsylvania State University
Stephen Lynch - The Pennsylvania State University

Comprehensive Analysis of Adiabatic Compressed Air Energy Storage and Gas Turbine Hybrid System With Thermal Integrations, {GT2024-126567}
Technical Paper Publication
Hyerim Kim - Korea Institute of Science and Technology
Tong Seop Kim - Inha University

Fusion Energy and Future Fusion Power Plants, {GT2024-126730}
Technical Paper Publication
Jack Acres - United Kingdom Atomic Energy Authority
Chris Clements - Tokamak Energy

Impact of Off-Design Performance of Turbines on Organic-Rankine Cycle Simulations for Solar-Power Applications, {GT2024-127198}
Technical Paper Publication
Erdal Yildirim - FH Münster
Stefan Aus Der Wiesche - FH Münster
Mehmet Azmi Aktacir - Harran University

30-09 Systems 1
6/25/2024
8:00 AM to 10:00 AM - SG11

Chair: ***Marco Astolfi - Politecnico di Milano***
Chair: ***Jeffrey Moore -***
Presentations:

CO2-Based Power Cycles: What Effect Does Additive Molecular Complexity Have on the Cycle Layout?, {GT2024-128133}
Technical Paper Publication
Omar Aqel - City, University of London
Martin White - University of Sussex
Abdulnaser Sayma - City University of London

Transient Thermo-Structural Analysis of a Throttle Valve Operated With sCO2, {GT2024-129030}
Technical Paper Publication
Cosimo Bianchini - Ergon Research
Davide Bertini - Ergon Research
Simone Sandrin - Ergon Research
Vanessa Mariotti - Baker Hughes
Nicola Maceli - Baker Hughes
Lorenzo Arcangeli - Baker Hughes

Dynamic Performance and Control Analysis of a Supercritical CO2 Recuperated Cycle, {GT2024-129162}
Technical Paper Publication
Swatara Tucker - University of Genoa
Simone Maccarini - University of Genoa
Luca Mantelli - University of Genoa
Alberto Traverso - University of Genoa

Design and Simulation of a Blowdown Facility for Supercritical Carbon Dioxide, {GT2024-129415}
Technical Paper Publication
Mohsen Ghavami - City, University of London
Martin White - University of Sussex
Hicham Chibli - City, University of London
Abdulnaser Sayma - City, University of London

26-01 Probabilistic and Machine Learning Methods Development and Applications
6/25/2024
8:00 AM to 10:00 AM - SG15

Chair: ***Liping Wang -***
Chair: ***Jeffrey Brown - AFRL***
Chair: ***Ricardo Paiva - Rolls-Royce***
Presentations:

Industrial Applications of Transfer Learning Methods for Aircraft Propulsion Systems, {GT2024-125838}
Technical Paper Publication
Ryan Jacobs - GE Aerospace Research
Sandipp Krishnan - GE Aerospace Research
Anindya Bhaduri - GE Aerospace Research
Lele Luan - GE Aerospace Research
Piyush Pandita - GE Aerospace Research
Sayan Ghosh - GE Aerospace Research
Liping Wang - GE Aerospace Research

Bayesian Inference for the Calibration of Progressive Damage Model of Dovetail Specimens From Laminated Composite Fan Blade, {GT2024-121684}
Technical Paper Publication
Xu Tang - School of Mechanical Engineering, Shanghai Jiao Tong University
Yong Chen - a) School of Mechanical Engineering, Shanghai Jiao Tong University; b) Engineering Research Center of Gas Turbine and Civil Aero Engine

A Hybrid Surrogate Modeling Approach for Data Reduction and Design Space Exploration of Turbine Blades, {GT2024-129046}
Technical Paper Publication
Sazeed Sufian Ali - Siemens Energy AG
Vikas Shivprasad Yadav - Chair of Data Analysis and Modeling of Turbulent Flows, TU Berlin, Berlin, Germany

Behnam Nouri - Siemens Energy AG
Abdulla Ghani - Chair of Data Analysis and Modeling of Turbulent Flows, TU Berlin, Berlin, Germany

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09-03 Various topics in energy storage
6/25/2024
8:00 AM to 10:00 AM - SG9

Chair: ***David Sanchez - University of Seville***
Chair: ***Silvia Trevisan - Royal Institute of Technology Stockholm***
Presentations:

Analysis of Pumped Hydro Storage Using Mines As Hydro Reservoirs, {GT2024-121988}
Technical Paper Publication
Giulia Anna Maria Castorino - Università degli Studi di Ferrara
Erik Dahlquist - Mälardalens Universitet
Konstantinos Kyprianidis - Mälardalens Universitet
Enzo Losi - Università degli Studi di Ferrara
Lucrezia Manservigi - Università degli Studi di Ferrara
Michele Pinelli - Università degli Studi di Ferrara
Avinash Renuke - Mälardalens Universitet
Pier Ruggero Spina - Università degli Studi di Ferrara
Mauro Venturini - Università degli Studi di Ferrara

Optimisation of Geometric and Operational Conditions of a Flywheel Energy Storage System to Minimise Standby Losses, {GT2024-128186}
Technical Paper Publication
Mahmoud Eltaweel - University of Hertfordshire
Mohammad Reza Herfatmanesh - University of Hertfordshire

Cooling System Topology of High-Endurance Dual Stack Proton Exchange Membrane Fuel Cell System for Heavy Duty Trucks, {GT2024-128557}
Technical Paper Publication
Huu Linh Nguyen - Chungnam National University
Sangseok Yu - Chungnam National University

Transfer Functions for the Inverse Design of Turbomachinery for Thermal Power Storage, {GT2024-123272}
Technical Paper Publication
Steffen Folkers - Universität Duisburg-Essen
Sebastian Schuster - Universität Duisburg-Essen
Dieter Brillert - Universität Duisburg-Essen

03-08 Sustainable Aviation Fuels
6/25/2024
8:00 AM to 10:00 AM - SG6

Chair: ***Marina Braun-Unkhoff - DLR***
Chair: ***Pietro Bartocci - crbnet***
Chair: ***Angela Serra - Baker Hughes***
Presentations:

Further Studies in Hydrogen Micromix Combustor Technologies for Aircraft Applications, {GT2024-122463}
Technical Paper Publication
Ainslie French - CIRA (Centro Italiano di Ricerche Aerospaziali)

Giuseppe Mingione - CIRA (Centro Italiano di Ricerche Aerospaziali)
Antonio Schettino - CIRA (Centro Italiano di Ricerche Aerospaziali)
Luigi Cutrone - CIRA (Centro Italiano di Ricerche Aerospaziali)
Pietro Roncioni - CIRA (Centro Italiano di Ricerche Aerospaziali)
Pier Luigi Vitagliano - CIRA (Centro Italiano di Ricerche Aerospaziali)

Emissions Comparison of 100% SAF With Bio-Aromatics and Conventional (Fossil) Jet Fuel, {GT2024-124002}
Technical Paper Publication
Jean-Baptiste Jarin - University of Pau (UPPA), Energy Environment Solutions (EES) Laboratory
Jean-Louis Champion-Réaud - SAFRAN TECH
Reetu Sallinen - Neste Corporation
Edgar Steenwinkel - Virent Inc

Gaseous and Particulate Emissions of an Allison 250-C20B Turboshaft Engine Running on HEFA-SPK and its Jet A-1 Blends, {GT2024-126719}
Technical Paper Publication
Alexander Rabl - Technical University of Munich - Chair of Turbomachinery and Flight Propulsion
Marius Rohkamp - University of the Bundeswehr Munich - Institute for Aeronautical Engineering
Mohammad Reza Saraji-Bozorgzad - University of the Bundeswehr Munich - Institute for Chemical and Environmental Engineering
Christian Helcig - Technical University of Munich - Chair of Turbomachinery and Flight Propulsion
Reetu Sallinen - Neste Corporation, Innovation
Jesse Vilja - Neste Corporation, Innovation
Jan Bendl - University of the Bundeswehr Munich - Institute for Chemical and Environmental Engineering
Thomas Adam - University of the Bundeswehr Munich - Institute for Chemical and Environmental Engineering
Andreas Hupfer - University of the Bundeswehr Munich - Institute for Aeronautical Engineering
Volker Gümmer - Technical University of Munich - Chair of Turbomachinery and Flight Propulsion

Integrated Performance Assessment and Decarbonising Potential for Aircraft Retrofitted With Sustainable Aviation Fuels, {GT2024-128858}
Technical Paper Publication
Pavlos Rompokos - Cranfield University
Sarath Sasi - Cranfield University
Christos Mourouzidis - Cranfield University
Ioannis Roumeliotis - Cranfield University
Vassilios Pachidis - Cranfield University
Michelle Akure - BAE Systems PLC
Hannah Swindell - BAE Systems PLC

31-09 Endwall, Seal & Leakage Flows
6/25/2024
1:30 PM to 3:30 PM - Pod 1- Entrance S5 & S6

Chair: ***Samuel Grimshaw -***
Chair: ***Ryosuke Seki -***
Presentations:

The Aerodynamic Interaction of Seal Leakage and Mainstream Flows in a Compressor Cascade With Non-Axisymmetric Endwall, {GT2024-122562}
Technical Paper Publication
Jian Li - Shanghai Jiao Tong University
Xiaoqing Qiang - Shanghai Jiao Tong University

Optimization Design of Variable Fillet for Different Boundary Thicknesses in a Highly Loaded Compressor Cascade, {GT2024-126420}
Technical Paper Publication
Gangduo Zhang - School of Aeronautics and Astronautics, Shanghai Jiao Tong University

Mingmin Zhu - School of Aeronautics and Astronautics, Shanghai Jiao Tong University
Runzhu Shao - School of Aeronautics and Astronautics, Shanghai Jiao Tong University
Xiaoqing Qiang - School of Aeronautics and Astronautics, Shanghai Jiao Tong University
Jinfang Teng - School of Aeronautics and Astronautics, Shanghai Jiao Tong University

Effect of Variable Stator Vanes With Penny Cavities on the Performance and Secondary Flow of a Single-Stage Axial Compressor, {GT2024-128277}
Technical Paper Publication
ShuaiTong chen - Harbin Institute of Technology
Shaowen Chen - Herbin Institute of Technology
Yimin Zhang - Harbin Institute of Technology
Pengcheng Yang - Harbin Institute of Technology

31-15 Turbulence & Roughness Effects
6/25/2024
1:30 PM to 3:30 PM - Pod 2- Entrance S5 & S6

Chair: ***Eberhard Nicke - DLR***
Chair: ***Michael Borghi -***
Presentations:

Turbulence Generation Mechanisms in Compressor Boundary Layers, {GT2024-128738}
Technical Paper Publication
Matteo Dellacasagrande - University of Genova
Pawel J. Przytarski - University of Melbourne

Numerical Surface Roughness Influence on the Aerodamping of an Axial Transonic Compressor at Nominal Speed and Part-Speed, {GT2024-125215}
Technical Paper Publication
Carlos Tavera Guerrero - KTH Royal Institute of Technology
Mauricio Gutierrez Salas - KTH Royal Institute of Technology
Nenad Glodic - Royal Institute of Technology
Srikanth Deshpande - GKN Aerospace Sweden AB

Numerical and Experimental Study on Flow Loss Reduction Effect of Micro-Textured Surface on Compressor Cascade, {GT2024-123940}
Technical Paper Publication
Liyue Wang - Fudan University
Cong Wang - Fudan University
Gang Sun - Fudan University
Jinzhang Feng - Fudan University

Unsteady Pressure Behavior on Blade Surface Induced by Wake-Blade Interaction in an Axial Compressor Stage, {GT2024-127731}
Technical Paper Publication
Xuedong Zheng - Tsinghua University
Baotong Wang - Tsinghua University
Jiaan Li - Tsinghua University
Chuanxiang Yan - Tsinghua University
Xinqian Zheng - Tsinghua University

12-11 Film cooling computational studies (I)
6/25/2024
1:30 PM to 3:30 PM - SG25/SG26

Chair: ***Gustavo Ledezma -***
Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Alexander Wildgoose - GE Aerospace***
Presentations:

Modelling the Film Cooling of a Modern High-Pressure Turbine Nozzle Guide Vane in 3D CFD, {GT2024-126684}
Technical Paper Publication
Michael Müller - Deutsches Zentrum für Luft- und Raumfahrt (DLR)
Robin Schöffler - Deutsches Zentrum für Luft- und Raumfahrt (DLR)
Clemens Grunwitz - Deutsches Zentrum für Luft- und Raumfahrt (DLR)
Christian Morsbach - Deutsches Zentrum für Luft- und Raumfahrt (DLR)

Data-Driven Turbulence Modeling for Film Cooling Heat Transport, Part I: Turbulent Heat Transport Property at Wide Flow Conditions, {GT2024-125660}
Technical Paper Publication
Zhen Zhang - Tsinghua University
Kexin Hu - Tsinghua University
Xinrong Su - Tsinghua University
Xin Yuan - Tsinghua University

Data-Driven Turbulence Modeling for Film Cooling Heat Transport, Part II: Modeling and Evaluation, {GT2024-125854}
Technical Paper Publication
Zhen Zhang - Tsinghua University
Weiran Zhang - University of Shanghai for Science and Technology
Xinrong Su - Tsinghua University
Xin Yuan - Tsinghua University

Numerical Investigation on a Baseline Shaped Film Cooling Hole: One- and Two-Dimensional Cooling Performance, {GT2024-123117}
Technical Paper Publication
Yejia Jin - Tsinghua University
Xuezhi Dong - Tsinghua University
Wenchao Sun - Tsinghua University
Chunqing Tan - Tsinghua University

15-02 Impingement Cooling II
6/25/2024
1:30 PM to 3:30 PM - SG29

Chair: ***Shailendra Naik -***
Chair: ***Hongzhou Xu -***
Chair: ***Ardeshir Riahi -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Dong-Ho Rhee -***
Presentations:

Impingement Flow and Heat Transfer With Fractal Grids, {GT2024-129520}
Technical Paper Publication
Chen Tang - Illinois Institute of Technology

Sumanta Acharya - Illinois Institute of Technology

Experimental and Numerical Investigation on Heat Transfer and Flow Characteristics of Array Jet Impingement Cooling With Film Extraction at the Turbine Shroud, {GT2024-126331}
Technical Paper Publication
Guodong Li - School of Power and Energy, Northwestern Polytechnical University
Tao Guo - School of Power and Energy, Northwestern Polytechnical University
Fei Zeng - AECC Hunan Aviation Powerplant Research Institute
Cunliang Liu - School of Power and Energy, Northwestern Polytechnical University
Jiayu Li - School of Power and Energy, Northwestern Polytechnical University
Changwei Li - School of Power and Energy, Northwestern Polytechnical University
Shanjie Liu - School of Power and Energy, Northwestern Polytechnical University

Heat Transfer Evaluation on Turbine Vane With Corrugated Wall Impingement Structure Using Infrared Camera, {GT2024-122499}
Technical Paper Publication
Ryunosuke Okamine - Mitsubishi Heavy Industries, Ltd.
Ryuta Ito - Mitsubishi Heavy Industries, Ltd.
Satoshi Mizukami - Mitsubishi Heavy Industries, Ltd.
Atsuya Sakata - Mitsubishi Heavy Industries, Ltd.
Satoshi Hada - Mitsubishi Heavy Industries, Ltd.

Impinging Jet Heat Transfer of Liquid Carbon Dioxide at Constant Enthalpy, {GT2024-128470}
Technical Paper Publication
Seong-Hyeok Park - Yonsei University
Seon Ho Kim - Yonsei University
Wei-Ting Hsu - University of Tennessee
Hee Seung Park - Yonsei University
Hyung-Hee Cho - Yonsei University

32-07 CFD Simulation & Validation
6/25/2024
1:30 PM to 3:30 PM - Pod 4- Entrance S5 & S6

Chair: ***Giacomo Persico - Politecnico di Milano***
Chair: ***Emil Goettlich -***
Chair: ***Markus Brettschneider - MTU Aero Engines***
Presentations:

CFD Meshing and Simulation Best Practices for a Turbine Stage With Squealer Tips, Trailing-Edge Cooling and End-Wall Cooling Injection, {GT2024-124825}
Technical Paper Publication
Thorsten Hansen - ISimQ GmbH
Erik Munktell - Siemens Industry Software AB
Georg Scheuerer - ISimQ GmbH
Qingyuan Zhuang - Siemens Industry Software Netherlands
Kim Zwiener - Siemens Digital Industries Software GmbH

Validation of Transition Prediction of Baseline and High-Lift Airfoils in a Low Speed Cascade, {GT2024-125253}
Technical Paper Publication
Mary K. Jennerjohn Christianer - Honeywell
Bao Q. Nguyen - Honeywell
Daniel Rogers - Honeywell
Dietmar Giebert - Honeywell
Hakan Aksoy - Honeywell
Christopher R. Marks - AFRL/RQTT
Nathan J. Fletcher - AFRL/RQTT

John P. Clark - AFRL/RQTT

Prediction Method of Off-Design Aerodynamic Parameter Radial Distributions Between Blade Rows in a Multi-Stage Turbine Based on Stage Similarity Characteristics, {GT2024-126051}
Technical Paper Publication

Xinggao Wang - Institute of Engineering Thermophysics, Chinese Academy of Sciences; Key Laboratory of Light-duty Gas-turbine, Chinese Academy of Science; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences
Wei Zhao - Institute of Engineering Thermophysics, Chinese Academy of Sciences; Key Laboratory of Light-duty Gas-turbine, Chinese Academy of Science; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences
Xiuming Sui - Institute of Engineering Thermophysics, Chinese Academy of Sciences; Key Laboratory of Light-duty Gas-turbine, Chinese Academy of Science; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences
Jian Pu - Institute of Engineering Thermophysics, Chinese Academy of Sciences; Key Laboratory of Light-duty Gas-turbine, Chinese Academy of Science
Qingjun Zhao - Institute of Engineering Thermophysics, Chinese Academy of Sciences; Key Laboratory of Light-duty Gas-turbine, Chinese Academy of Science; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences; Beijing Key Laboratory of Distributed Combined Cooling Heating and Power System, Institute of Engineering Thermophysics, Chinese Academy of Sciences
Jianzhong Xu - Institute of Engineering Thermophysics, Chinese Academy of Sciences; Key Laboratory of Light-duty Gas-turbine, Chinese Academy of Science; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences

Impact of Steady-State and Mixing Plane Assumptions: An Application to an Industrial Two-Stage High-Pressure Turbine, {GT2024-129052}
Technical Paper Publication

Lorenzo Mazzei - Ergon Research
Niccolò Casini - Ergon Research
Riccardo Da Soghe - Ergon Research
Vittorio Michelassi - Baker Hughes
Alessandro Ciani - Baker Hughes
Tomasz Jurek - Baker Hughes
Luca Andrei - Baker Hughes

25-03 Component Life and Failure Prediction
6/25/2024
1:30 PM to 3:30 PM - SG19

Chair: ***Ramesh Gambheera - Blue Origin***
Chair: ***Karl Michael Kraemer -***
Chair: ***Sevket Ertekin - TUSAS ENGINE INDUSTRIES***
Presentations:

Modelling of Casing Containment in an Overspeeding Turbine Stage, {GT2024-129242}
Technical Paper Publication

Ibrahim Eryilmaz - Tusas Engine Industries (TEI)

A Practical Failure Approach of Burst Assessment of Aero Engine Disc, {GT2024-121300}
Technical Paper Publication

Okan Deniz YILMAZ - TRMOTOR Power Systems
Cihan Savaş - TRMOTOR Power Systems
Emre Baldan - TUSAS Engine Industries

Workflow for Fast and Efficient Forced Response Analysis of Turbomachinery, {GT2024-127785}
Technical Paper Publication

Sunil Patil - Ansys Inc

Laurent Sabatier - Ansys
Andrew Madden - Ansys Inc
Jeff Bronosn - Ansys
Laith Zori - Ansys Inc

18-04 Failure Prediction & Life Assessment II
6/25/2024
1:30 PM to 3:30 PM - SG4

Chair: ***Onome Scott-Emuakpor -***
Presentations:

Temperature Margin Calculation During Finite Element Creep Simulations, {GT2024-121776}
Technical Paper Publication
William Day - PSM
Nathan O'nora - Power Systems Mfg., LLC
Ali Gordon - University of Central Florida

Influence of Carbon on Structure and Stress-Rupture Properties of LW4280W and LW4280LCT High Gamma Prime Nickel Based Superalloys for a Tip Repair of Turbine Blades, {GT2024-122143}
Technical Paper Publication
Alexandre Gontcharov - Liburdie Turbine Services Inc
Paul Lowden - Liburdi Turbine Services
Ashutosh Jena - McGill University
Mathieu Brochu - McGill University

Creep Lifetime Prediction of Alloy 617 Using Black Box Machine Learning Approach, {GT2024-123727}
Technical Paper Publication
Md Abir Hossain - The Ohio State University
Calvin M. Stewart - The Ohio State University

Assessment of the Wilshire-Cano-Stewart (WCS) Model Using Strain Energy Density Dissipation (SEDD), {GT2024-127730}
Technical Paper Publication
Jacob Pellicotte - The Ohio State University
Md Abir Hossain - The Ohio State University
Jaime Cano - X-Energy
Calvin Stewart - The Ohio State University

13-06 - Internal and External Flows
6/25/2024
1:30 PM to 3:30 PM - SG27/SG28

Chair: ***Matthew Bloxham -***
Chair: ***Robert Krewinkel -***
Chair: ***Guillermo Paniagua-Perez - Purdue University***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***John P. Clark -***
Presentations:

Scale Cooling -- A Novel Fractal Cooling Structure for Turbine Vanes, {GT2024-124040}
Technical Paper Publication

Zhongran Chi - Shanghai Jiao Tong University
Longfei Wang - Nanjing University of Aeronautics and Astronautics

Investigation on Flow Field Characteristic in a Double-Wall Configuration Using MRV and CFD, {GT2024-124456}
Technical Paper Publication
Jingtian Duan - Xi'an Jiaotong University
Ke Zhang - Xi'an Jiaotong University
Zirui Wang - Xi'an Jiaotong University
Ruoyu Chen - Xi'an Jiaotong University
Yibo Yang - Xi'an Jiaotong University
Jiang Lei - Xi'an Jiaotong University
Junmei Wu - Xi'an Jiaotong University

Aerothermal Performance of Slashface Leakage With Double Surface Angle Under Realistic Swirling Inflow, {GT2024-124933}
Technical Paper Publication
Zhiyu Li - Institute of Turbomachinery, Xi'an Jiaotong University
Kaiyuan Zhang - Institute of Turbomachinery, Xi'an Jiaotong University
Zhigang Li - Institute of Turbomachinery, Xi'an Jiaotong University
Jun Li - Institute of Turbomachinery, Xi'an Jiaotong University

Effect of Film Hole Configuration on the Impingement-Film Composite Cooling Performance of a Simulated Turbine Blade Leading Edge, {GT2024-126204}
Technical Paper Publication
Xinnan Chen - Institute of Turbomachinery, Xi'an Jiaotong University
Bo Bai - Institute of Turbomachinery, Xi'an Jiaotong University
Zhigang Li - Institute of Turbomachinery, Xi'an Jiaotong University
Jun Li - Institute of Turbomachinery, Xi'an Jiaotong Univ.

04-37: Combustion dynamics - experiments II
6/25/2024
1:30 PM to 3:30 PM - SG12

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Thomas Steinbacher - IFTA***
Chair: ***Thomas Ludwig Kaiser - TU Berlin***
Presentations:

Experimental and Numerical Study of Thermoacoustic Instability Characteristics and Mechanisms of Swirling Flame With Outer Flame, {GT2024-123297}
Technical Paper Publication
Yuanhong Qi - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine, Chinese Academy of Sciences; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences;
Bin Hu - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine, Chinese Academy of Sciences; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences;
Qiang Shi - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine, Chinese Academy of Sciences
Sanqun Ren - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine, Chinese Academy of Sciences;
Wei Zhao - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine, Chinese Academy of Sciences; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences

Qingjun Zhao - Institute of Engineering Thermophysics, Chinese Academy of Sciences; National Key Laboratory of Science and Technology on Advanced Light-duty Gas-turbine, Chinese Academy of Sciences; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences; Beijing Key Laboratory of Distributed Combined Cooling Heating and Power System

Experimental Investigation on the Effect of Inlet Temperature on Thermoacoustic Oscillation in a Centrally-Staged Combustor, {GT2024-125993}
Technical Paper Publication

Jinglong Ma - Beihang University
Xiao Han - Beihang University
Zhipeng Yang - Beihang University
Xin Hui - Beihang University

Combustion Instability Detection Based on Multi-Signal Information Fusion for an Industrial Gas Turbine Combustor, {GT2024-127757}
Technical Paper Publication

Yanni Fu - Zhejiang University
Yuming Zhang - Zhejiang Rancon Turbine Machinery Co., LTD
Peng Zang - Zhejiang Rancon Turbine Machinery Co., LTD
Yongfeng Sui - Zhejiang Rancon Turbine Machinery Co., LTD
Yao Zheng - Zhejiang University
Yifan Xia - Zhejiang University

Experimental Investigation on Combustion Instabilities in a Lean Premixed Bluff Body Combustor Producing Acoustically Long Flame, {GT2024-129231}
Technical Paper Publication

Melvin Ikwubuo - University of Cincinnati
Jong Guen Lee - University of Cincinnati

04-28 Emissions hydrogen/ammonia I
6/25/2024
1:30 PM to 3:30 PM - SG20/SG21

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Zekai Hong - NRC Canada***
Presentations:

Rich Ammonia Flame Shapes and No Relaxation: Facility Development and Characterization, {GT2024-122369}
Technical Paper Publication

Renee Cole - Georgia Institute of Technology
Srujan Gubbi - Georgia Institute of Technology
David Wu - Georgia Institute of Technology
Benjamin Emerson - Georgia Institute of Technology
David Noble - EPRI
Robert Steele - EPRI
Wenting Sun - Georgia Institute of Technology
Tim Lieuwen - Georgia Institute of Technology

Performance of Ammonia/Methane Combustion in an RQL Combustor, {GT2024-123845}
Technical Paper Publication

Jihao Sun - Harbin Engineering University
Dr. Ningbo Zhao - Harbin Engineering University
Shaowen Luo - Harbin Engineering University
Hongtao Zheng - Harbin Engineering University

Investigation of NOx and Ammonia Slip in an Ammonia and Hydrogen Powered Aviation Gas Turbine Using Chemical Reactor Network Modelling, {GT2024-122543}
Technical Paper Publication
Priyankar Garai - University of Central Florida
Shahzad Bobi - University of Central Florida
Ramees K. Rahman - University of Central Florida
David Zamora - University of Central Florida
Marzuqa Ahmed - University of Central Florida
Justin Urso - University of Central Florida
Subith Vasu - University of Central Florida

A Parametric Study on NOx Emissions From Ammonia Containing Product Gas in Rich Quench Lean Combustion, {GT2024-123900}
Technical Paper Publication
Ahmed Raslan - McGill University
Silin Yang - McGill University
Antoine Durocher - National Research Council
Felix Güthe - Phoenix Biopower
Jeff Bergthorson - McGill University

34-02 Fan design methods 1
6/25/2024
1:30 PM to 3:30 PM - Pod 7- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Michael Barton -***
Chair: ***Hien Phan -***
Presentations:

Assessment of a BLI-Tolerant Aft-Fan at Design and Near Stall Conditions - From Preliminary to Detailed Aerodynamic Design, {GT2024-121707}
Technical Paper Publication
Maximilian Mennicken - German Aerospace Center (DLR)
Rainer Schnell - German Aerospace Center (DLR)
Dragan Kožulović - University of the Bundeswehr Munich

Inverse Design of Compressor/Fan Blade Profiles Based on Conditional Invertible Neural Networks, {GT2024-127334}
Technical Paper Publication
Xinkai Jia - Northwestern Polytechnical University
Xiuquan Huang - Northwestern Polytechnical University
Shouyong Jiang - Central South University
Dingxi Wang - Northwestern Polytechnical University
Christian Maria Firrone - Politecnico di Torino

04-09 Combustion Experiments
6/25/2024
1:30 PM to 3:30 PM - SG13

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Patrizio Vena -***

Chair: ***Andrea Ciani - Ansaldo Energia***
Presentations:

Schlieren Image Velocimetry and Modal Decomposition Study of Preheated Isothermal Flow From a Generic Multi-Swirl Burner, {GT2024-127060}
Technical Paper Publication
Neha Vishnoi - Indian Institute of Technology Ropar
Aditya Saurabh - Indian Institute of Technology Kanpur
Lipika Kabiraj - Indian Institute of Technology Ropar

Numerical Simulation and Experimental Study of a Full-Scale Mild Combustion Chamber, {GT2024-128618}
Technical Paper Publication
Yan Xiong - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics (IET), Chinese Academy of Sciences (CAS) ; University of Chinese Academy of Sciences ; Jiangsu Zhongke Research Center for Clean Energy and Power
Yali Ben - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Ningjing Yang - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics (IET), Chinese Academy of Sciences (CAS) ; University of Chinese Academy of Sciences
Zhigang Liu - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics, Chinese Academy of Sciences; Jiangsu Zhongke Research Center for Clean Energy and Power
Zhedian Zhang - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics (IET), Chinese Academy of Sciences (CAS); University of Chinese Academy of Sciences; Jiangsu Zhongke Research Center for Clean Energy and Power
Weiwei Shao - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics (IET), Chinese Academy of Sciences (CAS); University of Chinese Academy of Sciences; Jiangsu Zhongke Research Center for Clean Energy and Power
Xiang Xu - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics (IET), Chinese Academy of Sciences (CAS) ; University of Chinese Academy of Sciences ; Jiangsu Zhongke Research Center for Clean Energy and Power

Evaluation of Current and Future Aviation Fuels at High-Pressure RQL-Type Combustor Conditions, {GT2024-128796}
Technical Paper Publication
Peter Griebel - German Aerospace Center (DLR)
Fabian Hampp - University of Stuttgart
Rainer Lückerath - German Aerospace Center (DLR)
Oliver Lammel - German Aerospace Center (DLR)
Tobias Grein - German Aerospace Center (DLR)
Reetu Sallinen - Neste Corporation, Technology Center
Jesse Vilja - Neste Corporation, Technology Center
Kati Sandberg - Neste Corporation, Technology Center

Metal Fuel Combustion Tests Using NRCan's 0.3 MWth Vertical Combustor Research Facility, {GT2024-127741}
Technical Paper Publication
Margarita Ilinich - Natural Resources Canada
Kourosh Zanganeh - Natural Resources Canada
Ahmed Shafeen - Natural Resources Canada
Katrin Staneva - Natural Resources Canada

23-08, Tilting Pad Bearings
6/25/2024
1:30 PM to 3:30 PM - SG16

Chair: ***Bonjin Koo -***
Chair: ***Jürg Schiffmann -***
Chair: ***Marie Kasprzyk - Oak Ridge National Lab***
Presentations:

The Impact of Pad Elasticity on Frequency-Dependent Linear Dynamic Coefficients of Tilting-Pad Journal Bearings, {GT2024-126246}
Technical Paper Publication
Daniel Vetter - Institute of Tribology and Energy Conversion Machinery, Clausthal University of Technology
Philipp Zemella - Institute of Tribology and Energy Conversion Machinery, Clausthal University of Technology
Thomas Hagemann - Institute of Tribology and Energy Conversion Machinery, Clausthal University of Technology
Hubert Schwarze - Institute of Tribology and Energy Conversion Machinery, Clausthal University of Technology

CFD Modelling and Experimental Validation of Temperature Profile at Pad Leading Edge of Tilting Pad Journal Bearings, {GT2024-128675}
Technical Paper Publication
Andrea Riva - Politecnico di Milano
Edoardo Gheller - Politecnico di Milano
Steven Chatterton - Politecnico di Milano
Paolo Emilio Lino Maria Pennacchi - Politecnico di Milano

Dynamic Characterization of a Low Drag Power Loss Tilting Pad Journal Bearing, {GT2024-129170}
Technical Paper Publication
Roarke Bradley - Texas A&M Turbomachinery Laboratory
Adolfo Delgado - Texas A&M Turbomachinery Laboratory
Luis San Andrés - Texas A&M Turbomachinery Laboratory

Laser Powder Bed Fusion Manufactured Hydrostatic Journal Bearings for Turbomachinery: Design and Measurements of Static Load Testing With Air, Water, and Liquid Nitrogen, {GT2024-129557}
Technical Paper Publication
Chaeyeon Baek - Hanyang University
Hyunsung Jung - Hanyang University
Junwon Heo - Hanyang University
Kyuman Kim - Hanyang University
Keun Ryu - Hanyang University

21-06: Labyrinth and Damper Seals
6/25/2024
1:30 PM to 3:30 PM - SG2

Chair: ***Michal Hoznedl -***
Chair: ***Soichiro Tabata -***
Presentations:

Experimental and Analytical Investigation of Labyrinth Seal Packing Ring Behavior in Contact With a Whirling Rotor, {GT2024-122313}
Technical Paper Publication
Tomohiko Tsukuda - Toshiba Energy Systems & Solutions Corporation
Yoshifumi Iwasaki - Toshiba Energy Systems & Solutions Corporation
Shogo Iwai - Toshiba Energy Systems & Solutions Corporation
Tsuguhisa Tashima - Toshiba Energy Systems & Solutions Corporation

Assessment of Rotordynamic Characteristics for the Fully-Partitioned Pocket Damper Seal in a 150MW Steam Turbine, {GT2024-127379}
Technical Paper Publication
Weijun Zhao - Dongfang Turbine CO.,LTD.
Wei Sun - Dongfang Turbine CO.,LTD.
Zepei Li - Dongfang Turbine CO.,LTD.
Zihan Zhang - Xi'an Jiaotong University

ZHIGANG LI - Xi'an Jiaotong University

Assessment of Rotordynamic Characteristics for the Hole-Pattern Damper Seal in a 150MW Steam Turbine, {GT2024-127426}
Technical Paper Publication
Weijun Zhao - Dongfang Turbine CO.,LTD.
Biao Huang - Dongfang Turbine CO.,LTD.
Chunbo Zheng - Dongfang Turbine CO.,LTD.
Zihan Zhang - Xi'an Jiaotong University
Zhigang Li - Xi'an Jiaotong University

24-01 Additive Manufacturing - Session 1
6/25/2024
1:30 PM to 3:30 PM - SG15

Chair: ***Partha Das -***
Chair: ***Onome Scott-Emuakpor -***
Chair: ***Ibrahim A. Sever - Rolls Royce***
Presentations:

Effect of Heat Treatment and Multiple Passes Through Resonance on Damping and Vibration Frequencies of Additively Manufactured Structure With Inherent Damping, {GT2024-122766}
Technical Paper Publication
Grzegorz Moneta - Lukasiewicz Research Network – Institute of Aviation,
Slawomir Cieslak - Lukasiewicz Research Network – Institute of Aviation
Wojciech Wdowinski - Lukasiewicz Research Network – Institute of Aviation
Maciej Malicki - Lukasiewicz Research Network – Institute of Aviation
Sebastian Szalkowski - Lukasiewicz Research Network – Institute of Aviation
Michal Fedasz - Lukasiewicz Research Network – Institute of Aviation
Sebastian Piecka - Lukasiewicz Research Network – Institute of Aviation
Konrad Raczko - Lukasiewicz Research Network – Institute of Aviation
Jakub Pilczynski - Lukasiewicz Research Network – Institute of Aviation

Mechanical Performance and Material Characterization of Fused Filament Fabricated ABD 900 Superalloy, {GT2024-121425}
Technical Paper Publication
Sanna Siddiqui - Florida Polytechnic University
Dustin Fandetti - Florida Polytechnic University
Onome Scott-Emuakpor - Hyphen Innovations

Numerical Analysis of a Nozzle Guided Vane Filled With Lattice Structures, {GT2024-124246}
Technical Paper Publication
Ivan Senegaglia - University of Pisa
Tommaso Grossi - University of Pisa
Giuseppe Macoretta - University of Pisa
Bernardo Disma Monelli - University of Pisa
Andrea Fardelli - Baker Hughes
Girolamo Tripoli - Baker Hughes
Paolo Del Turco - Baker Hughes
Simone Colantoni - Baker Hughes

Development of an Additively Manufactured Stationary Diffusion System for a Research Aeroengine Centrifugal Compressor, {GT2024-125236}
Technical Paper Publication
Jack Clement - Purdue University
Adam Coon - Purdue University
Nicole Key - Purdue University

37-05 Radial Turbomachinery Design
6/25/2024
1:30 PM to 3:30 PM - Pod 6- Entrance S5 & S6

Chair: ***Michele Marconcini -***
Chair: ***Bob Mischo -***
Chair: ***Martina Ricci - Baker Hughes***
Presentations:

Design of a Centrifugal Compressor Family for High Temperature Heat Pump Applications Using Water (R-718) As Refrigerant, {GT2024-123835}
Technical Paper Publication
Simone Parisi - Technical University of Denmark
Mogens Weel - Weel & Sandvig Energi og Procesinnovation ApS
Fredrik Haglind - Technical University of Denmark
Brian Elmegaard - Technical University of Denmark

Centrifugal Compressor Design Parameters Assessment for Hydrogen Compression, {GT2024-125811}
Technical Paper Publication
Andrei Aleksandrov - LUT University
Ahti Jaatinen-Värri - LUT University
Antti Uusitalo - LUT University
Teemu Turunen-Saaresti - LUT University

Adaptation of Air Centrifugal Compressor Stages for Hydrogen-Based Economy: Impact on the Design Point and its Corresponding Flow Coefficient, {GT2024-127981}
Technical Paper Publication
Norman Kienzle - Fraunhofer Insitute UMSICHT
Mushfiq Al Arafa - Fraunhofer UMSICHT
Francesca Di Mare - Ruhr-Universität Bochum
Marcus Budt - Fraunhofer UMSICHT

The Design of High Temperature Heat Pump Compressor Using the Inverse Design Method, {GT2024-129065}
Technical Paper Publication
Luying Zhang - Advanced Design Technology Ltd
Jiangnan Zhang - Advanced Design Technology
Mehrdad Zangeneh - University College London

28-04 Damping Technologies / Dry Friction
6/25/2024
1:30 PM to 3:30 PM - SG23/SG24

Chair: ***Kiran D'souza -***
Chair: ***Azzedine Dadouche -***
Chair: ***CHIARA GASTALDI -***
Chair: ***S. Mehrdad Pourkiaee -***
Presentations:

Impact-Enhanced Resonant Vibration Absorber for Turbomachinery Blisks, {GT2024-123365}
Technical Paper Publication
Mihai Cimpuieru - University of Michigan
Alexander Kripfgans - University Of Michigan

Sean Kelly - University of Michigan
Bogdan Epureanu - University of Michigan

Experimental Investigation of Randomly Oriented Wire Mesh Damper Performance, {GT2024-124095}
Technical Paper Publication
Seth Pietrowski - University of Central Florida
Bryce Villanueva - University of Central Florida
Jeffrey Kauffman - University of Central Florida

How Frictional Heat Affects the Performance of Underplatform Dampers: Interface Temperature and Dynamic Behaviors, {GT2024-126806}
Technical Paper Publication
Qian Gao - Beihang University
Yu Fan - Beihang University
Stefano Zucca - Politecnico di Torino
Yaguang Wu - Beihang University
Lin Li - Beihang University

Frictional Damper Experiences for Reliable, Flexible GTCC Operations, {GT2024-128646}
Technical Paper Publication
Rishabh Shrivastava - Siemens
Andreas Kayser - Siemens Energy
Christian Siewert - Siemens Energy
Raoul Costamagna - Siemens Energy
Johannes Tusche - Siemens Energy
Jaroslaw Szwedowicz - Siemens Energy

08-09. Energy Transition
6/25/2024
1:30 PM to 3:30 PM - SG8

Chair: ***Benjamin Emerson -***
Chair: ***Jeffrey Benoit - PSM - a Hanwha Company***
Chair: ***Seth Lawson - DOE***
Presentations:

Techno-Economic Assessment of Hydrogen-Natural Gas Blends for Open Cycle Gas Turbines, {GT2024-128068}
Technical Paper Publication
Thuso Booth Mogorosi - University of Galway, Ireland
Rory f.d. Monaghan - University of Galway

The EPA Proposed Greenhouse Gas Standards: A Gas Turbine Fleet Impact Analysis, {GT2024-128161}
Technical Paper Publication
Christopher Perullo - Turbine Logic
James Harper - EPRI
Michael Caravaggio - EPRI
David Noble - EPRI
Benjamin Emerson - Georgia Institute of Technology
Tim Lieuwen - Georgia Institute of Technology

Economic Modeling of Renewable Integration and the Application of Energy Storage to the ERCOT Energy Grid, {GT2024-124292}
Technical Paper Publication
Fernando Karg Bulnes - Southwest Research Institute
Doug Hofer - Southwest Research Institute
Natalie Smith - Southwest Research Institute

Josh Schmitt - Southwest Research Institute
Owen Pryor - Southwest Research Institute
George Khawly - Southwest Research Institute
Aaron Mcclung - GE Global Research

Extended Testing of the Auto-Ignition Characteristics of Hydrogen-Natural Gas Mixtures for the Safety of Power Plants, {GT2024-129504}
Technical Paper Publication
Christopher Loving - University of Central Florida
Garrett Mastantuono - University of Central Florida
Subith Vasu - University of Central Florida
Scott Cloyd - Mitsubishi Power Americas Inc.
Travis Pigon - Mitsubishi Power Americas Inc.
Angel Hernandez - Mitsubishi Power Americas Inc.
Gihun Kim - University of Central Florida
Ramees Khaleel - University of Central Florida

05-10 Instrumentation I: Blade tip timing
6/25/2024
1:30 PM to 3:30 PM - SG7

Chair: ***Tamara Guimaraes Bucalo - Penn State - University***
Chair: ***Igor Loboda -***
Chair: ***Min Zhang - Praxair, Inc., a Linde Company***
Presentations:

Vibrational Response Analysis of Rotating Mistuned Bladed-Disk Using a Deconvolution Method Based on Blade Tip Timing, {GT2024-127085}
Technical Paper Publication
Zhicheng Xiao - Shanghai Jiao Tong University
Jiaguangyi Xiao - AECC Commercial Aircraft Engine
Yiming Meng - Shanghai Jiao Tong University
Shang Wang - Shanghai Jiao Tong University
Pengfei Chai - Shanghai Jiao Tong University
Hua Ouyang - Shanghai Jiao Tong University

Practical Application of ARMA Model Method for Blade Tip Timing, {GT2024-128506}
Technical Paper Publication
Pengfei Chai - Shanghai Jiao Tong University
Shang Wang - Shanghai Jiao Tong University
Yiming Meng - Shanghai Jiao Tong University
Yong Chen - Shanghai Jiao Tong University
Jie Tian - Shanghai Jiao Tong University
Hua Ouyang - Shanghai Jiao Tong University

A Keyphasor-Free Traveling Waves Analysis Method Based on Blade Tip Timing and Experimental Validation, {GT2024-129196}
Technical Paper Publication
Yiming Meng - Shanghai Jiao Tong University
Zhicheng Xiao - Shanghai Jiao Tong University
Pengfei Chai - Shanghai Jiao Tong University
Shang Wang - Shanghai Jiao Tong University
Xiaocheng Zhu - Shanghai Jiao Tong University
Hua Ouyang - Shanghai Jiao Tong university

19-07 Heat Transfer & Thermal Behavior
6/25/2024
1:30 PM to 3:30 PM - SG3

Chair: ***Francesco Balduzzi -***
Chair: ***Aaron Rimpel -***
Presentations:

Cooling System of a High-Pressure Centrifugal Compressor: Development and Impact on Wheel Temperatures, {GT2024-121464}
Technical Paper Publication
Stefan Weihard - MAN Energy Solutions SE
Tobias Willeke - MAN Engery Solutions SE
Lukáš Božek - PBS Turbo s.r.o.
Vladimír Hort - PBS Turbo s.r.o.
Stefan Münch - MAN Energy Solutions SE
Sebastian Spengler - MAN Energy Solutions SE
Thomas Winter - MAN Energy Solutions SE

Mapping Maximum Exposure Temperatures on Automotive Turbocharger Wheels Using Thermal History Coatings, {GT2024-122285}
Technical Paper Publication
Jim Hickey - Sensor Coating Systems
David Peral - Sensor Coating Systems
Jan Vacula - Garrett Motion
Martin Babák - Garrett Motion
Silvia Araguas Rodriguez - Sensor Coating Systems
Solon Karagiannopoulos - Sensor Coating Systems
Jörg Feist - Sensor Coating Systems

Mapping Temperatures on Turbocharger Bearing Cartridge Assemblies Using Thermal History Paints, {GT2024-126715}
Technical Paper Publication
Jim Hickey - Sensor Coating Systems
Nestor Kaspschik - IHI Charging Systems International GmbH
Eva Albrecht - Sensor Coating Systems
Christian Fischer - NMB - Minebea
Oliver Wendel - NMB - Minebea GmbH
Martin Rode - IHI Charging Systems International GmbH
Silvia Araguas Rodriguez - Sensor Coating Systems
Solon Karagiannopoulos - Sensor Coating Systems
Jörg Feist - Sensor Coating Systems

Experimental and Numerical Investigation of Heat Transfer in a Turbocharger Turbine in Consideration of a Diabatic Heat Shield, {GT2024-125824}
Technical Paper Publication
Thomas-Sebastian Gier - RWTH Aachen University - Institute of Power Plant Technology, Steam and Gas Turbines
Piotr Luczynski - McKinsey & Company Polska
Manfred Wirsum - RWTH Aachen University - Institute of Power Plant Technology, Steam and Gas Turbines

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06-10 Cycles for heat production and storage
6/25/2024
1:30 PM to 3:30 PM - SG1

Chair: ***Panagiotis Stathopoulos - Deutsches Zentrum für Luft- und Raumfahrt (DLR)***
Chair: ***Ioannis Roumeliotis - Cranfield University***
Chair: ***Ward De Paepe - UMONS***
Chair: ***Alessandro Sorce - University of Genoa***
Presentations:

Centrifugal Compressor Surge in Closed Loop Systems: Initial Modelling and Comparison With Experiments, {GT2024-122800}
Technical Paper Publication
Sreenath Purushothaman - University of Genova
Federico Reggio - University of Genova
Alberto Traverso - University of Genova
Carlo Alberto Niccolini Marmont Du Haut Champ - University of Genova
Paolo Silvestri - University of Genova
Chaitanya Halbe - Carrier Corporation

1D Modelling of a Water-Steam Ejector as a Compression Step in High-Temperature Heat Pumps, {GT2024-124983}
Technical Paper Publication
Omar Abu Khass - German Aerospace Center, Institute for Low-Carbon Industrial Processes
Anh Phong Tran - German Aerospace Center, Institute for Low-Carbon Industrial Processes
Steffen Klöppel - German Aerospace Center, Institute for Low-Carbon Industrial Processes
Panagiotis Stathopoulos - German Aerospace Center, Institute for Low-Carbon Industrial Processes
Eberhard Nicke - German Aerospace Center, Institute for Low-Carbon Industrial Processes

Compressor Surge Identification in Innovative Heat-Pump Systems Equipped by Vaned Diffuser Centrifugal Compressor, {GT2024-125074}
Technical Paper Publication
Carlo Alberto Niccolini Marmont Du Haut Champ - University of Genoa
Paolo Silvestri - University of Genoa
Federico Reggio - University of Genoa
Alberto Traverso - University of Genoa
Vishnu Sishtla - Carrier Corporation

A Systematic Approach to Evaluate the Thermo-Economic Potential of Rankine-Based Carnot Batteries for Industrial Decarbonization, {GT2024-127461}
Technical Paper Publication
Miriam Benvenuto - University of Birmingham; Università degli studi di Genova
Stefano Barberis - Università degli studi di Genova
Alberto Traverso - Thermochemical Power Group, Università degli studi di Genova, Italy
Adriano Sciacovelli - University of Birmingham

30-10 Systems 2
6/25/2024
1:30 PM to 3:30 PM - SG11

Chair: ***Nathan Weiland - National Energy Technology Laboratory***
Chair: ***Ladislav Vesely -***
Chair: ***Timothy Allison - SWRI***
Presentations:

The sCO2 Facility CARBOSOLA: Design, Purpose and Use for Investigating Geological Energy Storage Cycles, {GT2024-122133}
Technical Paper Publication
Sebastian Unger - Helmholtz-Zentrum Dresden-Rossendorf (HZDR)
Stefan Fogel - Helmholtz-Zentrum Dresden-Rossendorf (HZDR)
Peter Schütz - Helmholtz-Zentrum Dresden-Rossendorf (HZDR)

Ricardo Chacartegui Ramirez - Universidad de Sevilla
Andres Carro - Universidad de Sevilla
Julio Carneiro - Converge! Lda
Uwe Hampel - Helmholtz-Zentrum Dresden-Rossendorf (HZDR), Dresden University of Technology

Thermodynamic Analysis and Optimization of a Supercritical CO2 Power Cycle Driven by a SOFC-GT Hybrid System, {GT2024-124281}
Technical Paper Publication
Runqing Cao - Southeast University
Youna Wang - Southeast University
Zhongliang Wu - Southeast University
Wenhe Liu - Southeast University
Yue Cao - Southeast University

Optimal Part-Load Performance of Supercritical Carbon Dioxide Brayton Cycles During Inventory Control, {GT2024-127526}
Technical Paper Publication
Shrey Gupta - Indian Institute of Science, Bangalore
Pramod Kumar - Indian Institute of Science Bangalore

STEP 10 MWe sCO2 Turbine Commissioning, {GT2024-129200}
Technical Paper Publication
Jeffrey Moore - Southwest Research Institute (SwRI)
John Klaerner - Southwest Research Institute
Jonathan Wade - Southwest Research Institute
Jason Mortzheim - General Electric Vernova
Giridhar Jothiprasad - General Electric Aerospace

09-04 Pumped Thermal Energy Storage
6/25/2024
1:30 PM to 3:30 PM - SG9

Chair: ***David Sanchez - University of Seville***
Chair: ***Timothy Allison - SWRI***
Chair: ***Marco Astolfi - Politecnico di Milano***
Presentations:

Design-Point Techno-Economics of Brayton Cycle PTES for Combined Heat and Power, {GT2024-128039}
Technical Paper Publication
Ty Neises - National Renewable Energy Laboratory (NREL)
Joshua Mctigue - National Renewable Energy Laboratory (NREL)

Techno-Economic Comparative Assessment of High Temperature Heat Pump Architectures for Industrial Pumped Thermal Energy Storage, {GT2024-128910}
Technical Paper Publication
Silvia Trevisan - KTH Royal Institute of Technology
Bjarke Buchbjerg - KYOTO Group AS
Arne Höeg - ENERIN AS
Rafael Guedez - KTH Royal Institute of Technology

A Novel Thermally Integrated CO2-Carnot Battery Utilizing Cold Thermal Storage, {GT2024-129102}
Technical Paper Publication
Syed Safeer Mehdi Shamsi - Università degli Studi di Genova
Stefano Barberis - Università degli Studi di Genova
Andrea Burlando - Università degli Studi di Genova
Simone Maccarini - Università degli Studi di Genova

Alberto Traverso - Università degli Studi di Genova

Thermal Load Control in High-Temperature Heat Pumps: A Comparative Study, {GT2024-129355}
Technical Paper Publication
Matteo Pettinari - University of Pisa
Guido Francesco Frate - University of Pisa
Lorenzo Ferrari - University of Pisa – DESTEC
Fatma Cansu Yücel - German Aerospace Center (DLR), Institute of Low-Carbon Industrial Processes
A. Phong Tran - German Aerospace Center (DLR), Institute of Low-Carbon Industrial Processes
Panagiotis Stathopoulos - German Aerospace Center (DLR), Institute of Low-Carbon Industrial Processes
Konstantinos Kyprianidis - Mälardalen University

03-11 Energy Transition
6/25/2024
1:30 PM to 3:30 PM - SG6

Chair: ***Bhupendra Khandelwal - University of Alabama***
Chair: ***Pietro Bartocci - crbnet***
Chair: ***Marina Braun-Unkhoff - DLR***
Chair: ***Angela Serra - Baker Hughes***
Presentations:

A Fitting Process for the Optimal Modelling of an Anion Exchange Membrane (AEM) Electrolyser, {GT2024-124809}
Technical Paper Publication
Francesca Mennilli - Università Politecnica Delle Marche, Ancona
Lingkang Jin - Università Politecnica Delle Marche
Mosè Rossi - Università Politecnica Delle Marche
Gabriele Comodi - Università Politecnica Delle Marche

Wave Reformer Channel Shape Design for Enhanced Hydrogen Pyrolysis, {GT2024-126877}
Technical Paper Publication
Ghislain Madiot - Simon Fraser University
Stefan Tüchler - New Wave Hydrogen Inc
Pejman Akbari - California State Polytechnic University, Pomona
Colin D. Copeland - Simon Fraser University

The Effect of FELTMETALTM Porous Transport Layer Structure on Performance of Anion Exchange Membrane Water Electrolyzers, {GT2024-129232}
Technical Paper Publication
Elaine Motyka - Technetics Group
Erin Volpe - Technetics Group
Stefan Roeseler - Technetics Group
Ryan Plessinger - Technetics Group
Tyler Noyes - Technetics Group
Chenyu Li - Georgia Institute of Technology
Habin Park - Georgia Institute of Technology
Paul Kohl - Georgia Institute of Technology
William Mustain - University of South Carolina
Jonathan Kweder - Technetics Group

Innovative H2-O2 Burner Utilizing Water-Cooled Combustion for Superheated Steam Generation, {GT2024-123189}
Technical Paper Publication
Dennis Sanders - Institute of Sustainable Energy Supply, Jade University of Applied Sciences
Lars Eichhorn - Institute of Technical Combustion, Leibniz University Hannover
Niklas Siwczak - Institute of Power Plant Engineering and Heat Transfer, Leibniz University Hannover
Roland Scharf - Institute of Power Plant Engineering and Heat Transfer, Leibniz University Hannover

Friedrich Dinkelacker - Institute of Technical Combustion, Leibniz University Hannover
Karsten Oehlert - Institute of Sustainable Energy Supply, Jade University of Applied Sciences

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34-08 LES Solvers and applications 2
6/25/2024
1:30 PM to 3:30 PM - Pod 5-Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***gorazd medic -***
Chair: ***Koen Hillewaert -***
Presentations:

DNS of Turbine Vanes Subjected to Inlet Temperature Variations and Robust Quantification of Aerothermal Flow Irreversibilities, {GT2024-126865}
Technical Paper Publication
Massimiliano Nardini - University of Melbourne
Melissa Kozul - University of Melbourne
Richard Sandberg - University of Melbourne

GPU-Accelerated Full-Wheel Large-Eddy Simulations of a Transonic Fan Stage, {GT2024-128238}
Technical Paper Publication
Kan Wang - Cadence Design Systems Inc
Sanjeeb Bose - Cadence Design Systems Inc
Christopher Ivey - Cadence Design Systems Inc

Large-Eddy Simulations of a High-Speed Low-Pressure Turbine Cascade With Purge Flow, {GT2024-122101}
Technical Paper Publication
David W. Perkins - CERFACS
Florent Duchaine - CERFACS

Large Eddy Simulations of a High-Speed Low-Pressure Turbine Cascade at Subsonic and Transonic Mach Numbers, {GT2024-127182}
Technical Paper Publication
Patrick TENE HEDJE - University of Mons (UMONS), Faculty of Engineering
Laurent Bricteux - University of Mons (UMONS), Faculty of Engineering
Yacine Bechane - INSA,University of Rouen
Sergio Lavagnoli - von Karman Institute for Fluid Dynamics

31-10 Wet Compression
6/25/2024
4:00 PM to 5:30 PM - Pod 4- Entrance S5 & S6

Chair: ***Christian Aalburg - GE***
Chair: ***Lisa Brilliant - RTX/Pratt & Whitney***
Chair: ***Simon Evans - Pratt & Whitney***
Presentations:

Efficiency Gains in a Water-Enhanced Turbofan Compressor – A CFD Study, {GT2024-129300}
Technical Paper Publication
Natan Zawadzki - University of Oxford
Artur Szymański - Cranfield University
Uyioghosa Igie - Cranfield University

Effect of Water Injection on Turbofan Engine Compressor Operation and Aerodynamics, {GT2024-125908}
Technical Paper Publication
Natan Zawadzki - University of Oxford
Artur Szymański - Cranfield University
Uyioghosa Igie - Cranfield University

Numerical Investigation on the Influence of Wet Compression Aerodynamic Performance of Multi-Stage Transonic Compressor, {GT2024-124213}
Technical Paper Publication
Zihuan Zhu - Shanghai Jiao Tong University
Lele Ming - Shanghai Jiao Tong University
Xinze Zhang - Shanghai Jiao Tong University
Yadong Wu - Shanghai Jiao Tong University
Hua Ouyang - Shanghai Jiao Tong University

15-01 Impingement Cooling I
6/25/2024
4:00 PM to 5:30 PM - SG29

Chair: ***Prashant Singh -***
Chair: ***Hongzhou Xu -***
Chair: ***Ardeshir Riahi -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Robin Brakmann - German Aerospace Center***
Presentations:

Numerical Study on Effects of Different Corrugated Height and Initial Crossflow on Impingement Jet Heat Transfer, {GT2024-121343}
Technical Paper Publication
Masayoshi Hatta - Mitsubishi Heavy Industries, Ltd.
Thomas Merritt-Webster - University of Oxford
Budimir Rosic - University of Oxford

Investigating the Unsteady Dynamics of a Multi-Jet Impingement Cooling Flow Using Large Eddy Simulation, {GT2024-122465}
Technical Paper Publication
Christian Morsbach - German Aerospace Center (DLR) - Institute of Propulsion Technology
Marcel Matha - German Aerospace Center (DLR) - Institute of Propulsion Technology
Robin G. Brakmann - German Aerospace Center (DLR) - Institute of Propulsion Technology
Sadiya Tabassum - German Aerospace Center (DLR) - Institute of Test and Simulation for Gas Turbines
Michael Bergmann - German Aerospace Center (DLR) - Institute of Propulsion Technology
Michael Schroll - German Aerospace Center (DLR) - Institute of Propulsion Technology
Christian Willert - German Aerospace Center (DLR) - Institute of Propulsion Technology
Edmund Kügeler - German Aerospace Center (DLR) - Institute of Propulsion Technology

Numerical Analysis of Jet Impingement Heat Transfer for Gas Turbine Rotor Blades, {GT2024-123990}
Technical Paper Publication
Filippo PAGNONI - Safran Aircraft Engines
Damien Archambaud - Safran Aircraft Engines
Ignacio Gonzalez-Martino - Dassault Systemes SE
Benoit Bonnal - Dassault Systèmes SE

32-06 High Pressure Turbines 1
6/25/2024
4:00 PM to 5:30 PM - Pod 1- Entrance S5 & S6

Chair: ***Sergio Lavagnoli - von Karman Institute for Fluid Dynamics***
Chair: ***Emil Goettlich -***
Chair: ***Cis De Maesschalck -***
Presentations:

Adjoint Optimization of Non-Axisymmetric Endwall Contours to Reduce Losses in a High-Pressure Turbine, {GT2024-129375}
Technical Paper Publication
Austin Hendrickson - The Ohio State University
Spencer Sperling - Honeywell Aerospace
Bao Nguyen - Honeywell Aerospace
Richard Celestina - Honeywell Aerospace
Jong Liu - Honeywell Aerospace
Hakan Aksoy - Honeywell Aerospace
Jeremy Nickol - Honeywell Aerospace
Randall Mathison - The Ohio State University

Investigation of Endwall Secondary Flows in a Low Aspect Ratio Transonic Turbine, Part I: Passage Normal Shock, {GT2024-125280}
Technical Paper Publication
Mary K. Jennerjohn Christianer - Honeywell
Mark Mcquilling - Saint Louis University
Craig Mckeever - Honeywell

Investigation of Endwall Secondary Flows in a Low Aspect Ratio Transonic Turbine, Part II: Passage Oblique Shock, {GT2024-125281}
Technical Paper Publication
Mary K. Jennerjohn Christianer - Honeywell
Mark Mcquilling - Saint Louis University
Craig W. Mckeever - Honeywell

11-02 Numerical investigations of effusion cooling
6/25/2024
4:00 PM to 5:30 PM - SG27/SG28

Chair: ***Antonio Andreini - University of Florence***
Chair: ***Cosimo Bianchini -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Florent Duchaine -***
Chair: ***Tommaso Bacci -***
Presentations:

Numerical and Experimental Investigation of the Inclination Angle Effect on the Cooling Effectiveness in a Liquid Fueled Can Type Combustor, {GT2024-126488}
Technical Paper Publication
Gamze Gulenc - Tusas Engine Industries
Hamdullah Ozogul - Tusas Engine Industries

Effects of Curvature and Compound Angle on Cooling Performance and Flow Characteristics for a Combustor Liner With Tangential Effusion Cooling Configuration, {GT2024-122053}
Technical Paper Publication
Xuanwu Chen - Institute for Aero Engine, Tsinghua University
Qinghua Zeng - Institute for Aero Engine, Tsinghua University
Ziwan Li - Institute for Aero Engine, Tsinghua University
Pengfu Xie - Institute for Aero Engine, Tsinghua University
Min Yao - Institute for Aero Engine, Tsinghua University

Effusion Cooling Characteristics of Effusion-Cooled Combustor Liners With Different Hole Configurations Under Swirl Impact, {GT2024-122508}
Technical Paper Publication
Lu Xiang - ShangHai Jiaotong University
Jia Yuliang - Hangzhou Steam Co.
Ji Yongbin - Harbin Institute of Technology
Ge Bing - Shanghai Jiao Tong University
Zang Shusheng - Shanghai Jiao Tong University

04-43 Combustion dynamics - modeling I
6/25/2024
4:00 PM to 5:30 PM - SG12

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Nicholas Magina -***
Chair: ***Santosh Shanbhogue -***
Chair: ***Matthew Yoko - Cambridge university***
Presentations:

LES and POD/DMD Analysis of Thermoacoustic Oscillation of a Hydrogen Micromix Flame Pair, {GT2024-123589}
Technical Paper Publication
Daniel Kroniger - Kawasaki Heavy Industries, Ltd.
Hiromu Kamiya - Kawasaki Heavy Industries, Ltd.
Atsushi Horikawa - Kawasaki Heavy Industries, Ltd.
Ryuta Suzuki - Siemens K.K.
Erik Munktell - Siemens Industry Software AB
Rene Braun - Siemens Digital Industries Software

Model-Based Inference of Flame Transfer Matrices From Acoustic Measurements in an Aero-Engine Test Rig, {GT2024-124263}
Technical Paper Publication
Alexander J. Eder - Technical University of Munich
Moritz Merk - Technical University of Munich
Thomas Hollweck - Technical University of Munich
André Fischer - Rolls-Royce Deutschland
Claus Lahiri - Rolls-Royce Deutschland
Camilo F. Silva - Technical University of Munich
Wolfgang Polifke - Technical University of Munich

Predicting Exhaust Gas Recirculation Impacts on Instability and Emissions of an Industrial Gas Turbine Combustor Using Large Eddy Simulations, {GT2024-124313}
Technical Paper Publication
Chao Xu - Argonne National Laboratory
Yonduck Sung - Solar Turbines Incorporated
Daniel Johnson - Solar Turbines Incorporated

Chris Steele - Solar Turbines Incorporated

04-33 Emissions III
6/25/2024
4:00 PM to 5:30 PM - SG13

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Agnes Jocher -***
Chair: ***teresa marchione - GE Vernova***
Presentations:

Prediction of Soot in an RQL Burner Using a Semi-Detailed JetA-1 Chemistry, {GT2024-125834}
Technical Paper Publication
Etienne Lameloise - CERFACS
Bénédicte Cuenot - CERFACS
Eleonore Riber - CERFACS
Aurélien Perrier - CORIA
Gilles Cabot - CORIA
Frédéric Grisch - CORIA

Smoke Point Is Adequate for Engineering Soot Prediction: A Demonstration, {GT2024-122187}
Technical Paper Publication
Arvind Krishnasamy Bharathi - General Electric, Aerospace
Varunkumar S - Indian Institute of Technology Madras

Numerical Investigation of Effusion Cooling Air Influence on the CO Emissions for a Single-Sector Aero-Engine Model Combustor, {GT2024-124048}
Technical Paper Publication
Sandra Recio Balmaseda - TU Darmstadt - STFS
Tim Jeremy Patrick Karpowski - TU Darmstadt - STFS
Hendrik Nicolai - TU Darmstadt - STFS
Philipp Koob - TU Darmstadt - STFS
Max Greifenstein - TU Darmstadt - RSM
Andreas Dreizler - TU Darmstadt -RSM
Christian Hasse - TU Darmstadt - STFS

34-14 Solver methods 1
6/25/2024
4:00 PM to 5:30 PM - Pod 2- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Sunil Patil - Ansys Inc***
Chair: ***Lorenzo Cozzi -***
Presentations:

Loss Breakdown in Axial Turbines: A New Method for Vortex Loss and Wake Detection From 3D RANS Simulations, {GT2024-121181}
Technical Paper Publication
Greta Raina - ISAE SUPAERO
Yannick Bousquet - ISAE SUPAERO
David Luquet - Safran Aircraft Engines

Eric Lippinois - Safran Aircraft Engines
Nicolas Binder - ISAE SUPAERO

A Scalable Conjugate Heat Transfer Method Applied to Engine Transients, {GT2024-129297}
Technical Paper Publication
Neil Paul - University of Cambridge
Nicholas Atkins - Cambridge University
Tobias Brandvik - Turbostream

Native Multi-GPU Solver for Complex Turbulent Flow Field Requiring Full Wheel Analysis in Turbomachinery, {GT2024-129361}
Technical Paper Publication
Sunil Patil - Ansys Inc
Frank Kelecy - Ansys
Michael Wise - GE Vernova

36-03 Neural-Network based approaches (2)
6/25/2024
4:00 PM to 5:30 PM - Pod 5-Entrance S5 & S6

Chair: ***Francesco Montomoli - Imperial***
Chair: ***Marcus Meyer -***
Chair: ***Shahrokh Shahpar - Rolls-Royce***
Presentations:

Application of Deep Learning for Fan Rotor Blade Performance Prediction in Turbomachinery, {GT2024-127348}
Technical Paper Publication
Jean Fesquet - ISAE-Supaero
Michael Bauerheim - ISAE-Supaero
Ludovic Rojda - ISAE-Supaero
Yannick Bousquet - ISAE-Supaero
Nicolas Binder - ISAE-Supaero

Data-Driven Inverse Design Method for Turbomachinery, {GT2024-121752}
Technical Paper Publication
Kwok Kai So - Turbo Systems Switzerland Ltd
Luis Salamanca - Swiss Data Science Center, ETH Zurich and EPFL, Switzerland
Firat Ozdemir - Swiss Data Science Center, ETH Zurich and EPFL, Switzerland
Fernando Perez-Cruz - Swiss Data Science Center, ETH Zurich and EPFL, Switzerland / Computer Science Department, ETH Zurich, Switzerland

Non-Parametric Surrogate Model (NPSM) for High-Dimensional Aerodynamics Optimization, {GT2024-126830}
Technical Paper Publication
Jiajun Cao - Whittle Lab
Liping Xu - Whittle Lab

04-13 Combustion Modeling I
6/25/2024
4:00 PM to 5:30 PM - SG20/SG21

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***

Chair: ***Anh Khoa Doan -***
Chair: ***Baris Sen - Pratt & Whitney***
Presentations:

A Deep Learning Based Model for Identifying Recirculation Zones From Experimental Images of Trapped Vortex Combustors, {GT2024-127369}
Technical Paper Publication
Priyabrat Dash - Indian Institute of Science, Bangalore
Tanaya Mallik - Indian Institute of Science, Bangalore
Nikhil Verma - Indian Institute of Science, Bangalore
Aritra Roy Choudhury - Indian Institute of Science, Bangalore
R. v. Ravikrishna - Indian Institute of Science, Bangalore
Konduri Aditya - Indian Institute of Science, Bangalore

Generative Design of a Gas Turbine Combustor Using Invertible Neural Networks, {GT2024-123963}
Technical Paper Publication
Patrick Krueger - Institute of Mathematics TU Berlin
Hanno Gottschalk - Institute of Mathematics TU Berlin
Bastian Werdelmann - SIEMENS Energy
Werner Krebs - SIEMENS Energy

Numerical Study on Combustion of a Novel Micromix Multi-Nozzles for Kerosene/Hydrogen Fuels, {GT2024-126048}
Technical Paper Publication
Pengfei Fu - tsinghua university
Yafen Wang - tsinghua university
Lingyun Hou - tsinghua university

23-07, Thrust Bearings
6/25/2024
4:00 PM to 5:30 PM - SG16

Chair: ***Marie Kasprzyk - Oak Ridge National Laboratory***
Chair: ***Jürg Schiffmann -***
Presentations:

Effect of Tilt on Thermo-Hydrodynamic Model of a Thrust Air Foil Bearing, {GT2024-123643}
Technical Paper Publication
Talieh Pourashraf - The University of Manchester
Philip Bonello - The University of Manchester
Craig Lancaster - Cummins Turbo Technologies

Design Strategy of Thrust Gas Bearings for Refrigerant Compressors Considering Effects of Centrifugal Force and Convective Inertia, {GT2024-126107}
Technical Paper Publication
Arvind Prabhakar - Siemens Digital Industry Software Inc
Daejong Kim - University of Texas at Arlington

Effects of Recess Depth and Orifice Diameter on Pneumatic Hammer Instability in Hydrostatic Thrust Bearings: Analysis and Experimental Validation, {GT2024-128181}
Technical Paper Publication
Homin Lim - Hanyang University
Kyuman Kim - Hanyang University
Keun Ryu - Hanyang University

21-07: General Design Aspects and Valves
6/25/2024
4:00 PM to 5:30 PM - SG2

Chair: ***Alex Stein -***
Chair: ***Nicola Maceli -***
Presentations:

Optimization of a Steam Turbine for Mechanical Drive Applications, {GT2024-122524}
Technical Paper Publication
Adam Neil - Elliott Group
Nikhil Rao - Elliott Group
Paul Smith - Elliott Group

Analysis of Flow Fields in a Steam Turbine Control Valve With One Chamber, {GT2024-122777}
Technical Paper Publication
Vaclav Slama - Doosan Skoda Power
Bartolomej Rudas - Doosan Skoda Power

Leakage Loss Reduction by Shroud Cavity Shape Improvement in Reaction Turbine, {GT2024-124167}
Technical Paper Publication
Masahiro Sato - Fuji Electric
Kazunobu Ndong - Fujielectric
Hiroaki Taniguchi - Fuji Electric Co., Ltd.

17-01 Gas Turbine Technologies
6/25/2024
4:00 PM to 5:30 PM - SG4

Chair: ***Rakesh Bhargava -***
Chair: ***Yiguang Li - Cranfield University, UK***
Presentations:

Performance Simulation and Off-Design Performance Control of Reheat Gas Turbine Engines, {GT2024-124937}
Technical Paper Publication
Yiguang Li - University of Cranfield
Yang Liu - Cranfield University

Thermodynamic Analysis and Optimization of an Innovative Closed Loop Brayton Cycle Fueled With Hydrogen, {GT2024-128682}
Technical Paper Publication
Maria Alessandra Ancona - University of Bologna
Michele Bianchi - University of Bologna
Bruno Cavuoti - University of Bologna
Andrea De Pascale - University of Bologna
Francesco Melino - University of Bologna
Antonio Peretto - University of Bologna

Performance Assessment of Smart District Heating Networks: The Influence of Distributed (Co)Generation on the Network Primary Energy Consumption, {GT2024-129151}
Technical Paper Publication
Riccardo Alleori - University of Bologna
Maria Alessandra Ancona - University of Bologna
Lisa Branchini - University of Bologna

Francesco Melino - University of Bologna
Saverio Ottaviano - University of Bologna

37-01 Radial Turbomachinery Diffuser
6/25/2024
4:00 PM to 5:30 PM - Pod 6- Entrance S5 & S6

Chair: ***Bob Mischo -***
Chair: ***Michele Marconcini -***
Presentations:

NASA HECC Geometry and Performance Review Part 1: Validation of a Computational Model for the Vaneless Diffuser Configuration With As-Manufactured Impeller Geometry, {GT2024-125128}
Technical Paper Publication
Gregorio Robles Vega - AeroDynamic Solutions
Alec Bosshart - AeroDynamic Solutions
Michael Ni - AeroDynamic Solutions
Ron-Ho Ni - AeroDynamic Solutions
Herbert Harrison - NASA Glenn Research Center
Tammy Nguyen-Huynh - NASA Glenn Research Center

NASA HECC Geometry and Performance Review Part 2: Geometric Differences Between the As-Manufactured and Design-Intent Impeller Geometry and Their Effects on the Vaneless Diffuser Configuration Performance, {GT2024-125360}
Technical Paper Publication
Gregorio Robles Vega - AeroDynamic Solutions
Alec Bosshart - AeroDynamic Solutions
Michael Ni - AeroDynamic Solutions
Ron-Ho Ni - AeroDynamic Solutions
Herbert Harrison - NASA Glenn Research Center
Tammy Nguyen-Huynh - NASA Glenn Research Center

NASA HECC Geometry and Performance Review Part 3: A Numerical and Experimental Investigation of Tip Clearance Effects on the Vaneless Diffuser Configuration, {GT2024-121641}
Technical Paper Publication
Herbert Harrison - NASA Glenn
Tammy Nguyen-Huynh - The Ohio State University
Randall Mathison - The Ohio State University

24-02 Additive Manufacturing - Session 2
6/25/2024
4:00 PM to 5:30 PM - SG15

Chair: ***Partha Das -***
Chair: ***Davendu Kulkarni - Rolls-Royce***
Chair: ***Peter Flassig - Uni Brandenburg***
Presentations:

Evaluation of Mechanical Properties of Additively Manufactured Beams With Lattice Structures, {GT2024-122599}
Technical Paper Publication
Inci Pir - Istanbul Technical University
Serhat Arda Sahin - Istanbul Technical University
Mertol Tufekci - University of Hertfordshire

Ekrem Tufekci - Istanbul Technical University

Conventional Design to Design for Additive Manufacturing for Frame 5/1 Stage 1 Nozzle, {GT2024-127568}
Technical Paper Publication
Nikunj Avaiya - Baker Hughes
Lorenzo Cocchi - Baker Hughes
Abhimanyu Soman - Baker Hughes
Girolamo Tripoli - Baker Hughes
Simone Colantoni - Baker Hughes
Babu Santhana Gopalakrishnan - Baker Hughes
Paolo Del Turco - Baker Hughes

Novel Microturbine Engine Test Stand for Rapid Assessment of New Materials and Manufacturing Procedures, {GT2024-125114}
Technical Paper Publication
Troy Krizak - The Ohio State University
Onome Scott-Emuakpor - Hyphen Innovations
Philip Johnson - Hyphen Innovations
Kiran D'souza - The Ohio State University

28-05 Impact/Ingestion
6/25/2024
4:00 PM to 5:30 PM - SG23/SG24

Chair: ***Azzedine Dadouche -***
Chair: ***Luis Gomez - Wichita State University***
Presentations:

Damage to a High Bypass Ratio Fan During UAS Ingestions, {GT2024-126781}
Technical Paper Publication
Kiran D'souza - The Ohio State University
Dushyanth Sirivolu - The Ohio State University
Luis Gomez - Wichita State University
Gerardo Olivares - Wichita State University

Comparison of Ingestion of Different Size Hard and Soft Bodies Into a Representative Fan Assembly Model, {GT2024-126793}
Technical Paper Publication
Rashid E. Mattar - The Ohio State University
Dushyanth Sirivolu - The Ohio State University
Kiran D'souza - The Ohio State University

Multi-Disciplinary Surrogate-Based Optimization of a Compressor Rotor Blade Considering Ice Impact, {GT2024-122243}
Technical Paper Publication
Florence Nyssen - Cenaero
Jean De Cazenove - Cenaero
Rémy Nigro - Cenaero
Cédric Cracco - Cenaero
Lieven Baert - Cenaero
Jean-Sébastien Ruess - Safran Aero Boosters
Vincent Valentin - Safran Aero Boosters

05-08 CDI Topics on Additive Manufacturing

6/25/2024
4:00 PM to 5:30 PM - SG7

Chair: ***Lubomir Ribarov - U.S. Merchant Marine Academy***
Chair: ***Igor Loboda -***
Chair: ***Craig Davison - National Research Council, Canada***
Presentations:

Development and Evaluation of Additively Manufactured Sensors for Combustor Surface Temperature, Heat Flux and Strain Measurements, {GT2024-121136}
Technical Paper Publication
Aravind Chandh - Georgia Institute of Technology
Subodh Adhikari - Georgia Institute of Technology
David Wu - Georgia Institute of Technology
Tim Lieuwen - Georgia Institute of Technology
Benjamin Emerson - Georgia Institute of Technology

Evaluating Thin-Film Thermocouple Performance on Additively Manufactured Turbine Airfoils, {GT2024-124155}
Technical Paper Publication
Reid A. Berdanier - The Pennsylvania State University
Margaret R. Nunn - The Pennsylvania State University
Justin T. Brumberg - The Pennsylvania State University
Michael D. Barringer - The Pennsylvania State University
Scott Fishbone - The Pennsylvania State University
Karen A. Thole - The Pennsylvania State University

Combining Machine Learning, Embedded Sensor Networks and Additive Burner Design for Combustor Structural Health Monitoring, {GT2024-127925}
Technical Paper Publication
Fabrice Giuliani - Combustion Bay One e.U.
Nina Paulitsch - Combustion Bay One e.U.
Andrea Hofer - Combustion Bay One e.U.
Vojislav Petrovic-Filipovic - JOANNEUM RESEARCH Forschungsgesellschaft mbH
Benjamin Maier - JOANNEUM RESEARCH Forschungsgesellschaft mbH
Werner Bailer - JOANNEUM RESEARCH Forschungsgesellschaft mbH
Martin Winter - JOANNEUM RESEARCH Forschungsgesellschaft mbH
Roland Unterberger - JOANNEUM RESEARCH Forschungsgesellschaft mbH
Alexander Schricker - Piezocryst GmbH

19-05 Compressor Flow Path
6/25/2024
4:00 PM to 5:30 PM - SG3

Chair: ***Aaron Rimpel -***
Chair: ***Jorge García-Tíscar -***
Chair: ***IBRAHIM ERYILMAZ -***
Presentations:

Research on Effect of Endwall Contouring of Vane Diffuser on Stable Operating Range of Centrifugal Compressor, {GT2024-124444}
Technical Paper Publication
Qin Cui - Xi'An Jiaotong University
Guoliang Qin - Xi'An Jiaotong University
Jian Lei - Xi'An Jiaotong University
Yi Wang - Xi'An Jiaotong University
Cheng Jia - Xi'An Jiaotong University

Numerical Prediction of Inlet Geometry Influence on the In-Duct Acoustics of Small Centrifugal Compressors, {GT2024-124094}
Technical Paper Publication
Alberto Broatch - Universitat Politecnica de Valencia
Roberto Navarro - Universitat Politecnica de Valencia
Jorge García-Tíscar - Universitat Politecnica de Valencia
Ferran Roig - Centida GmbH

Matching of an Overhung Volute to a Centrifugal Compressor at Varied Operating Conditions, {GT2024-126929}
Technical Paper Publication
Janakiraman Thiyagarajan - Scania CV AB
Carl Fredriksson - Scania CV AB
Nicholas Anton - Scania CV AB
Magnus Genrup - Lund University
Jens Fridh - KTH Royal Institute of Technology

01-16 Whole Engine Performance and Novel Concepts
6/25/2024
4:00 PM to 5:30 PM - SG19

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Jacopo Tacconi - Rolls Royce plc***
Chair: ***Kevin Lowe - Virginia Tech***
Presentations:

Operating Point Driven Improvements on the Eco-Efficiency of the Altitude Test Facility at the University of Stuttgart, {GT2024-121078}
Technical Paper Publication
Christopher Roth - Institute of Aircraft Propulsion Systems (ILA)
Stephan Staudacher - Institute of Aircraft Propulsion Systems (ILA)

Optimization of a Battery Electric Hybrid Propulsion System for a Short Range Aircraft, {GT2024-125840}
Technical Paper Publication
Jonas Schroeter - Technical University of Munich
Fabian Armbrüster - MTU Aero Engines AG
Reinhold Schaber - MTU Aero Engines AG
Volker Gümmer - Chair of Turbomachinery and Flight Propulsion

Variable Cycle Engine Concepts and Component Technologies - An Overview, {GT2024-128855}
Technical Paper Publication
Sebastian Zenkner - DLR
Francisco Carvalho - DLR
Robin G. Brakmann - DLR
Georgios Goinis - DLR

30-11 Testing 1
6/25/2024
4:00 PM to 5:30 PM - SG11

Chair: ***Eric Clementoni - Naval Nuclear Laboratory***
Chair: ***Griffin Beck -***
Chair: ***Timothy Allison - SWRI***

Presentations:

The Design, Fabrication, and Installation of the Inconel 740H Piping System for a 10 MW sCO2 Pilot Plant, {GT2024-129244}
Technical Paper Publication
Seth Cunningham - Southwest Research Institute
Mitchell Rhodes - Southwest Research Institute
Fernando Karg Bulness - Southwest Research Institute
Jonathan Wade - Southwest Research Institute
George Khawly - Southwest Research Institute

Commissioning and Operation of an Inventory Management System, {GT2024-129457}
Technical Paper Publication
Joshua Warren - Southwest Research Institute
George Khawly - Southwest Research Institute

Experimental Study of the Real Gas Effects of CO2 on the Aerodynamic Performance Characteristics of a 1.5-Stage Axial Compressor, {GT2024-129572}
Technical Paper Publication
Jeongseek Kang - University of Notre Dame
Alex Vorobiev - University of Notre Dame
Joshua Cameron - University of Notre Dame
Scott Morris - University of Notre Dame
Mark Turner - University of Cincinnati
Kyle Sedlacko - Echogen Power Systems
Jason Miller - Echogen Power Systems
Timothy J. Held - Echogen Power Systems

09-05 Energy Storage Based on CO2
6/25/2024
4:00 PM to 5:30 PM - SG9

Chair: ***David Sanchez - University of Seville***
Chair: ***Marco Astolfi - Politecnico di Milano***
Chair: ***Timothy Allison - SWRI***
Chair: ***Ty Neises - NREL***
Presentations:

Pilot-Scale Testing of a Transcritical CO2-Based Pumped Thermal Energy Storage (PTES) System, {GT2024-129211}
Technical Paper Publication
Timothy Held - Echogen Power Systems
Jason Miller - Echogen Power Systems
Jason Mallinak - Echogen Power Systems
Vamshi Avadhanula - Echogen Power Systems
Luke Magyar - Echogen Power Systems

Use of Performance Models for Powerplant Performance Testing, {GT2024-129317}
Technical Paper Publication
William Conlon - Pintail Power
Milton Venetos - Wyatt Enterprises LLC
Peter Pechtl - ENEXSA GmbH

Thermodynamic Analysis of a Novel Transcritical CO2 Pumped Thermal Energy Storage System With a Vortex Tube Driven by Photovoltaic Thermal Collector, {GT2024-124448}
Technical Paper Publication
Liangqi Chen - Xi'an Jiaotong University

Juwei Lou - Xi'an Jiaotong University
Bofeng Wang - Xi'an Jiaotong University
Jiangfeng Wang - Xi'an Jiaotong University
Pan Zhao - Xi'an Jiaotong University
Yiping Dai - Xi'an Jiaotong University

03-10 Biofuels, NG and hydrogen
6/25/2024
4:00 PM to 5:30 PM - SG6

Chair: ***Marina Braun-Unkhoff - DLR***
Chair: ***Pietro Bartocci - crbnet***
Chair: ***Angela Serra - Baker Hughes***
Presentations:

On the Combustion of Terpenes Biofuels and Pollutants Characterization Through High-Resolution Mass Spectrometry, {GT2024-121549}
Technical Paper Publication
Philippe Dagaut - Centre National de la Recherche Scientifique
Zahraa Dbouk - Centre National de la Recherche Scientifique
Roland Benoit - Centre National de la Recherche Scientifique

The Effect of Heterogeneous Natural Gas-Hydrogen Input Into F-Class Gas Turbine Combustor As a Combustion Optimization Method, {GT2024-128313}
Technical Paper Publication
Jungkeuk Park - KEPCO Research Institute
Jugon Shin - KEPCO Research Institute
Seik Park - KEPCO Research Institute
Sanghyup Lee - KEPCO Research Institute
Nakjeong Choi - KEPCO Research Institute

Operation of the Atmospheric Biomass-Fired Topcycle – BTC – "Fuel to Flame" Test Rig, {GT2024-128685}
Technical Paper Publication
Jan-Peter Hannappel - PHOENIX BIOPOWER AB
Felix Guthe - Phoenix Biopower GmbH
Reddy Panduranga Alemela - Phoenix Biopower GmbH
David Saldarriaga - PHOENIX BIOPOWER AB
Gustaf Borg - Phonix Biopower AB
Martin Jofs - Phonix Biopower AB
Michael Bartlett - Phonix Biopower AB

WEDNESDAY, 6/26/2024

35-04 Fan, Compressor and Engine Noise 1
6/26/2024
8:00 AM to 10:00 AM - Pod 5-Entrance S5 & S6

Chair: ***A Duncan Walker -***
Chair: ***Stefano Bianchi - Airbus***
Chair: ***Mauro Carnevale - University of Bath***

Chair: ***Daniela Anna Misul - Politecnico di Torino***
Presentations:

Effects of Radially Variable Sweep Vanes on Rotor-Stator Interaction Noise, {GT2024-120948}
Technical Paper Publication
Zihan Shen - Beihang University
Xiaoyu Wang - Beihang University
Guangyu Zhang - Beihang University
Xiaofeng Sun - Beihang University

Preliminary Vibro-Acoustic Investigation of an Oil-Free Centrifugal Compressor, {GT2024-122294}
Technical Paper Publication
Karthik Krishna - Danfoss
Tadeu Mendonca Fagundes - Danfoss
Jin Yan - Danfoss
Brenden Richman - Danfoss
Ryan Dingman - Danfoss

Centrifugal Compressor Instrumentation for Developing an Anomaly Detection Method Using Vibration- and Acoustic Measurement Data, {GT2024-123839}
Technical Paper Publication
Nick Linnemann - University of Duisburg-Essen
Bastian Dolle - University of Duisburg-Essen
Dieter Brillert - University of Duisburg-Essen

31-12 Inlet Distortion
6/26/2024
8:00 AM to 10:00 AM - Pod 2- Entrance S5 & S6

Chair: ***masa shimo -***
Chair: ***Jeff Defoe -***
Presentations:

Effect of Rear Engine Concept Distortion on the Aerodynamic Performance of a Fan Rotor, {GT2024-127281}
Technical Paper Publication
Yifan Xue - Shanghai Jiao Tong University
Hefang Deng - Shanghai Jiao Tong University
Xiaoqing Qiang - Shanghai Jiao Tong University

Experimental Investigation of Stall Mechanism and Warning Method in a Two-Stage Transonic Fan Under Inlet Distortion With Axial Slot Casing Treatment, {GT2024-128983}
Technical Paper Publication
Zhonggang Fan - Institute of Engineering thermophysics, Chinese Academic of Science
Juan Du - Institute of Engineering thermophysics, Chinese Academic of Science
Yang Liu - Institute of Engineering thermophysics, Chinese Academic of Science
Dun Ba - Institute of Engineering thermophysics, Chinese Academic of Science
Min Zhang - Institute of Engineering thermophysics, Chinese Academic of Science
Guofeng Ji - AVIC Guizhou Engine Design Institute

Experimental and Numerical Investigation of the Counter-Rotating DLR Turbo Fan Stage CRISPmulti With Boundary Layer Ingestion, {GT2024-128138}
Technical Paper Publication
Timea Lengyel-Kampmann - German Aerospace Center
Guillaume Charroin - German Aerospace Center
Robert Meyer - German Aerospace Center

Experimental Investigation and System Simulation Analysis for the Aerodynamic Performance of a Two-Stage Axial Compressor With Inlet Dynamic Distortion, {GT2024-126463}
Technical Paper Publication
Rong He - Shanghai Jiao Tong University
Tong Wang - Shanghai Jiaotong University
Yongwen Liu - Shanghai Jiao Tong University

12-12 Film cooling computational studies (II)
6/26/2024
8:00 AM to 10:00 AM - SG25/SG26

Chair: ***Michael Benson - Oak Ridge National Laboratory***
Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Shane Haydt -***
Presentations:

CFD Simulation of an S-Bend Diffuser With Passive Full Surface Effusion Cooling: Novel Slot Method Approach, {GT2024-125187}
Technical Paper Publication
Hossein Moradi - Queens University
Albrecht Michael Birk - Queens University

Effect of Thermal Barrier Coating Simulation Method on Cooling Characteristics of Turbine Vanes, {GT2024-126121}
Technical Paper Publication
Zequn Du - Beihang University
Ruquan You - Beihang University
Haiwang Li - Beihang University
Yi Huang - Beihang University

Numerical Investigation and Multi-Objective Structure Optimization of Transpiration Cooling on the Leading Edge of Turbine Blade, {GT2024-127380}
Technical Paper Publication
Taolue Liu - Department of Thermal Science and Energy Engineering, University of Science and Technology of China
Fei He - Department of Thermal Science and Energy Engineering, University of Science and Technology of China
Xiaorong Wu - Department of Thermal Science and Energy Engineering, University of Science and Technology of China
Zhizhao Zhou - Department of Thermal Science and Energy Engineering, University of Science and Technology of China
Yang He - Department of Thermal Science and Energy Engineering, University of Science and Technology of China
Jianhua Wang - Department of Thermal Science and Energy Engineering, University of Science and Technology of China

Exploiting Active Subspace for Modeling Uncertainty and Optimization in Fan-Shaped Film Cooling Simulation, {GT2024-127453}
Technical Paper Publication
Feixue Cai - Tsinghua University
Hua Zhou - Tsinghua University
Min Yao - Tsinghua University
Zhuyin Ren - Tsinghua University

15-04 Turbulated Cooling
6/26/2024
8:00 AM to 10:00 AM - SG29

Chair: ***Ding-wei Zhou - Honeywell International***
Chair: ***Hongzhou Xu -***
Chair: ***Ardeshir Riahi -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Alexander Mirzamoghadam -***
Presentations:

Heat Transfer Enhancement for Gas Turbine Blade Internal Cooling With Lattice Structured Rib, {GT2024-122753}
Technical Paper Publication
Sangmin Kim - Pusan National University
Yong Gap Park - Changwon National University
Sang Youl Yoon - Rolls-Royce University Technology Center in Pusan National University
Man Yeong Ha - Pusan National University
June Kee Min - Pusan National University

Heat Transfer Coefficients in a Three-Passage Ribbed Channel Using a Transient Liquid Crystal Technique, {GT2024-129107}
Technical Paper Publication
Lesley M. Wright - Texas A&M University
Chao-Cheng Shiau - Texas A&M University
Je-Chin Han - Texas A&M University
Robert Krewinkel - MAN Energy Solutions SE

Effect of Rotation on 45-Degree Broken V-Ribs in a 2 Pass Square Channel, {GT2024-128221}
Technical Paper Publication
Madhusudan Pallikaranai Thirumalai - North Carolina State University
Srinath V. Ekkad - North Carolina State University

Experimental and Numerical Study on Heat Transfer and Turbulent Flow in Rotating Channel Roughened with Vortex Ribs, {GT2024-128372}
Technical Paper Publication
Chao Xu - Shanghai Jiao Tong University
Yu Rao - Shanghai Jiao Tong University
Jianian Chen - Shanghai Jiao Tong University
Yong Luan - Shanghai Jiao Tong University

40-03 Compressor Secondary Flows and Interactions
6/26/2024
8:00 AM to 10:00 AM - Pod 4- Entrance S5 & S6

Chair: ***Matthew Meier -***
Chair: ***Reid A. Berdanier - Penn State - University***
Chair: ***Dave Halstead - GE Aviation (Retired)***
Chair: ***David Halstead - GE***
Presentations:

The Unsteady Shock-Boundary Layer Interaction in a Compressor Cascade – Part 1: Measurements With Time-Resolved PIV, {GT2024-124307}
Technical Paper Publication
Joachim Klinner - German Aerospace Center DLR, Institute of Propulsion Technology
Edwin J. Munoz Lopez - German Aerospace Center DLR, Institute of Propulsion Technology
Alexander Hergt - German Aerospace Center DLR, Institute of Propulsion Technology
Chris Willert - German Aerospace Center DLR, Institute of Propulsion Technology

The Unsteady Shock-Boundary Layer Interaction in a Compressor Cascade – Part 2: High-Fidelity Simulation, {GT2024-124264}
Technical Paper Publication
Bjoern F. Klose - German Aerospace Center (DLR)
Christian Morsbach - German Aerospace Center (DLR)
Michael Bergmann - German Aerospace Center (DLR)
Edwin Joseph Munoz Lopez - German Aerospace Center (DLR)
Alexander Hergt - German Aerospace Center (DLR)
Edmund Kügeler - German Aerospace Center (DLR)

The Unsteady Shock-Boundary Layer Interaction in a Compressor Cascade – Part 3: Mechanisms of Shock Oscillation, {GT2024-128197}
Technical Paper Publication
Edwin Joseph Munoz Lopez - German Aerospace Center (DLR)
Alexander Hergt - German Aerospace Center (DLR)
Joachim Klinner - German Aerospace Center (DLR)
Bjoern F. Klose - German Aerospace Center (DLR)
Chris Willert - German Aerospace Center (DLR)
Volker Guemmer - Technical University of Munich

Wake-Separation Bubble Interaction Over an Experimentally Simulated Axial Compressor Blade Under Low Reynolds Number Flow, {GT2024-129181}
Technical Paper Publication
Thomas Irps - University of Sussex
Vasudevan Kanjirakkad - University of Sussex

32-05 Low Pressure Turbines 2
6/26/2024
8:00 AM to 10:00 AM - Pod 1- Entrance S5 & S6

Chair: ***Thomas Praisner - Pratt&Whitney***
Chair: ***Emil Goettlich -***
Chair: ***Jochen Gier -***
Presentations:

Unsteady Flow Simulations of a Transonic Low-Pressure Turbine Cascade, {GT2024-123798}
Technical Paper Publication
Liza Hullin - Dassault Systemes SE
Ignacio Gonzalez-Martino - Dassault Systemes SE
Benoit Bonnal - Dassault Systemes SE

Experimental Evaluation of High Lift, High Work LPT Blades in a Transonic Cascade, {GT2024-125023}
Technical Paper Publication
Ryan Sauder - Wright State University
Mitch Wolff - Wright State University
Gloria Savela - Florida Turbine Technologies
Geoffrey Norris - Florida Turbine Technologies
Andrew Lethander - U.S. Air Force Laboratory
Natalia Posada - U.S. Air Force Laboratory

John Clark - U.S. Air Force Laboratory

Impact of High Freestream Turbulence on LPT Endwall Flow: Part I – Loss Development and Time-Averaged Flow Field, {GT2024-121345}
Technical Paper Publication
Molly Donovan - U.S. Air Force Research Laboratory
Christopher Marks - U.S. Air Force Research Laboratory
Nathan Fletcher - U.S. Air Force Research Laboratory
Markus Rumpfkeil - University of Dayton

Impact of High Freestream Turbulence on LPT Endwall Flow – Part II: Endwall Flow Dynamics, {GT2024-124285}
Technical Paper Publication
Molly Donovan - U.S. Air Force Research Laboratory
Christopher Marks - U.S. Air Force Research Laboratory
Nathan Fletcher - US Air Force Research Laboratory
Markus Rumpfkeil - University of Dayton

04-45 Combustion dynamics - modeling III
6/26/2024
8:00 AM to 10:00 AM - SG12

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Luis Bravo - Army research lab***
Chair: ***Prashant Khare - University of Cincinnati***
Presentations:

Bayesian Data Assimilation in Cold Flow Experiments on an Industrial Thermoacoustic Rig, {GT2024-122656}
Technical Paper Publication
Jingquan Zheng - University of Cambridge
André Fischer - Rolls-Royce Deutschland
Claus Lahiri - Rolls-Royce Deutschland
Matthew Yoko - University of Cambridge
Matthew Juniper - University of Cambridge

Dynamical Systems Characterisation and Reduced Order Modelling of Thermoacoustics in a Lean Direct Injection (LDI) Hydrogen Combustor, {GT2024-124462}
Technical Paper Publication
Ankit Dilip Kumar - University of Cambridge
Chinonso Ezenwajiaku - University College London
Ramanarayanan Balachandran - University College London
Andrea Ducci - University College London
Midhat Talibi - University College London
James Massey - University of Cambridge
Nedunchezhian Swaminathan - University of Cambridge

Adjoint Based Shape Optimization for Thermoacoustic Stability of Combustors Using Free Form Deformation, {GT2024-125711}
Technical Paper Publication
Ekrem Ekici - University of Cambridge
Matthew P. Juniper - Department of Engineering

Flashback Prevention in a Hydrogen-Fueled Reheat Combustor by Water Injection Optimized With Global Sensitivity Analysis, {GT2024-127332}
Technical Paper Publication

Pablo Rouco Pousada - TU Delft
Nguyen Anh Khoa Doan - TU Delft
Konduri Aditya - Indian Institute of Science
Michael Duesing - Ansaldo Energia
Andrea Ciani - Ansaldo Energia
Ivan Langella - TU Delft

36-07 Multi-Disciplinary and Collaborative Optimization applications (1)
6/26/2024
8:00 AM to 10:00 AM - Pod 6- Entrance S5 & S6

Chair: ***Marcus Meyer -***
Chair: ***Peter Flassig - Uni Brandenburg***
Chair: ***Marc Nagel - MTU***
Presentations:

Multidisciplinary Analysis of the Impact of Blade Geometric Deviations on Compressor Performance Based on Fluid-Solid Grid Coordinated Deformation, {GT2024-122558}
Technical Paper Publication
Zhaoxu Tong - Dalian University of Technology
Huiying Zhang - Dalian University of Technology
Yan Zhou - Dalian University of Technology
Rong Xie - Dalian University of Technology
Shengli Xu - Dalian University of Technology

Frequency Topology Optimization of Fan Blade Considering Stress Stiffening and Spin Softening, {GT2024-128970}
Technical Paper Publication
Shenli Xu - Dalian University of Technology
Mingzhou Wang - Dalian University of Technology
Lizhong Mu - Dalian University of Technology
Yan Zhou - NingBo Institute of Dalian University of Technology

Multidisciplinary Design Optimization With Multiple Degrees of Freedom for an Axial Compressor Based on Data-Driven, {GT2024-129265}
Technical Paper Publication
Chuwei LUO - Beihang University
Jiang Chen - Beihang University
Yi Liu - Beihang University
Hang Xiang - Beihang University

Multi-Fidelity Aeromechanical Design Framework for High Flow Speed Multistage Axial Compressors, {GT2024-122244}
Technical Paper Publication
Rémy Nigro - Cenaero
Lieven Baert - Cenaero
Florence Nyssen - Cenaero
Jean De Cazenove - Cenaero
Joachim Dominique - Cenaero
Ingrid Lepot - Cenaero
Monica Veglio - Safran Aero Boosters
Rémy Princivalle - Safran Aero Boosters

04-06 High Hydrogen II
6/26/2024

8:00 AM to 10:00 AM - SG20/SG21

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***David Noble - EPRI***
Presentations:

Experimental Study of Natural Gas and Hydrogen Co-Firing Characteristics Using Different Types of Single Nozzles of F-Class Practical Gas Turbine Combustors, {GT2024-123631}
Technical Paper Publication
Sanghyup Lee - KEPCO Research Institute
Jungkeuk Park - KEPCO Research Institute
Seik Park - KEPCO Research Institute
Nakjeong Choi - KEPCO Research Institute
Jugon Shin - KEPCO Research Institute

Evaluation of a Commercial 65 kW Recuperated Gas Turbine Engine Operated on Up to 30% Hydrogen Added to Natural Gas, {GT2024-128007}
Technical Paper Publication
Walther Villatoro - University of California, Irvine
Aris Navarro - University of California, Irvine
Vincent Mc Donell - UC Irvine
Ray Hu - Capstone Green Energy

Experimental Study on Stability Enhancement of a Natural Gas GT Burner With Hydrogen Flame Piloting Operated With Simulated Exhaust Gas Recirculation, {GT2024-128732}
Technical Paper Publication
Sofia Galeotti - DIEF - Department of Industrial Engineering of Florence - University of Florence
Alessio Picchi - DIEF - Department of Industrial Engineering of Florence - University of Florence
Riccardo Becchi - DIEF - Department of Industrial Engineering of Florence - University of Florence
Gianmarco Lemmi - DIEF - Department of Industrial Engineering of Florence - University of Florence
Roberto Meloni - Baker Hughes
Giulia Babazzi - Baker Hughes
Nicola Giannini - Baker Hughes
Bruno Facchini - DIEF - Department of Industrial Engineering of Florence - University of Florence
Antonio Andreini - DIEF - Department of Industrial Engineering of Florence - University of Florence

Development of a Novel Hydrogen Burner Using Additive Manufacturing, {GT2024-123608}
Technical Paper Publication
Shaun Kim - Hanwha Aerospace
Jupyoung Kim - Hanwha Aerospace
Hosung Byun - Seoul National University
Jae Won Ku - Hanwha Aerospace
Hyungrok Do - Seoul National University
Sanghyeok Kwak - Hanwha Aerospace
Dongsik Han - Hanwha Aerospace
Seungchai Jung - Hanwha Aerospace
Heeho Park - Hanwha Aerospace

22-03 Advanced Aeroelastic Prediction and Validation
6/26/2024
8:00 AM to 10:00 AM - SG23/SG24

Chair: ***Toshinori Watanabe -***
Chair: ***Yoon Choi - GE***

Chair: ***Yujun Leng - Purdue University***
Presentations:

Numerical and Experimental Aeromechanic Study in High Frequency Domain of Hydrogen Compressor, {GT2024-122245}
Technical Paper Publication
Ravi Shanmugam Venkatachalam - Baker Hughes
Manjush Ganiger - Baker Hughes
Lorenzo Toni - Baker Hughes
Alberto Guglielmo - Baker Hughes
Davide Biliotti - Baker Hughes
Lorenzo Miris - Baker Hughes

Numerical Investigation of the Influence of Tyler-Sofrin Modes on the Increase in Blade Unsteady Pressure in a Subsonic Axial Compressor, {GT2024-122612}
Technical Paper Publication
Tetsuya Oshio - IHI Corporation
Mizuho Aotsuka - IHI Corpotation
Shinya Kusuda - IHI Corporation
Atsushi Tateishi - IHI Corporation

Aeroelastic Influence of Blade-Shaft Coupling in a 1 1/2-Stage Axial Compressor, {GT2024-124275}
Technical Paper Publication
Niklas Maroldt - Institute of Turbomachinery and Fluid Dynamics - Leibniz University Hannover
Joerg R. Seume - Institute of Turbomachinery and Fluid Dynamics - Leibniz University Hannover

A Low Mach Preconditioned Harmonic Balance Solver for Cavity Flutter Computations, {GT2024-127337}
Technical Paper Publication
Pierre Sivel - German Aerospace Center (DLR)
Christian Frey - German Aerospace Center (DLR)
Hans-Peter Kersken - German Aerospace Center (DLR)
Edmund Kügeler - German Aerospace Center (DLR)

04-15 Combustion Modeling III
6/26/2024
8:00 AM to 10:00 AM - SG13

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Baris Sen - Pratt & Whitney***
Presentations:

Numerical Simulation of a Reacting Hydrogen Jet in a Vitiated Co-Flow Using a Detailed Chemistry Model, {GT2024-126353}
Technical Paper Publication
Rohit Kulkarni - Convergent Science India, LLP
Nitesh Attal - Convergent Science, Inc.
Shuaishuai Liu - Convergent Science, Inc.
Yajuvendra Shekhawat - Convergent Science India, LLP
Eric Pomraning - Convergent Science, Inc.
Daniel Lee - Convergent Science, Inc.
Tristan Burton - Convergent Science, Inc.
Kelly Senecal - Convergent Science, Inc.

Numerical Investigation (H2/CH4) of an Industrial Gas Turbines for NOx Prediction and Validation, {GT2024-127414}

Technical Paper Publication
A. K. Arun - Baker Hughes
M. Rajesh - Baker Hughes
M. Cerutti - Baker Hughes
D. Pampaloni - Baker Hughes

Numerical Investigation of the Combustion Process in a Lean Burn Gas Turbine Fuel Injector, {GT2024-128456}
Technical Paper Publication
AMIT RAJPUT - Indian Institute of technology Jammu
Ayush Divyansh - INDIAN INSTITUTE OF TECHNOLOGY JAMMU
Shanmugadas K. P. - Indian Institute of Technology Jammu

Numerical Investigation of Reheat Hydrogen Flames in the Sequential-Combustion Stage of a Heavy-Duty Gas Turbine, {GT2024-128966}
Technical Paper Publication
Andrea Gruber - SINTEF Energy Research
Ole Meyer - SINTEF Energy Research
Tarjei Heggset - SINTEF Energy Research
Birute Wood - Ansaldo Energia Switzerland
Andrea Ciani - Ansaldo Energia Switzerland

10-03 Fan Design and Optimization
6/26/2024
8:00 AM to 10:00 AM - SG9

Chair: ***Johan Van der Spuy - Stellenbosch University***
Chair: ***Zhiping Wang -***
Presentations:

Enhanced Modelling of the Phenomenon of Vortex Shedding From a Low-Speed Axial Flow Rotor Blade Profile, {GT2024-123991}
Technical Paper Publication
Gabor Daku - Budapest University of Technology and Economics
Janos Vad - Budapest University of Technology ad Economics

Multi-Point Aerodynamic Optimization of a Backward-Curved Impeller Fan, {GT2024-127168}
Technical Paper Publication
Hamid Motamedi Zokae - University of Exeter
Gavin Tabor - University of Exeter
David Moxey - King's College London
Martin Page - Torin Sifan
Martin Stokes - Torin Sifan

27-03 Bearing Effects and Stability in Rotordynamics
6/26/2024
8:00 AM to 10:00 AM - SG16

Chair: ***Theodore Brockett -***
Chair: ***Patrick Keogh -***
Chair: ***Bastien Abrate - General Electric***
Chair: ***Athanasios Chasalevris - National Technical University of Athens***
Chair: ***Parag Mathuria - Pratt & Whitney***
Presentations:

High Speed H2 Centrifugal Compressor: a General Review of Journal Bearing Design and Experimental Validation, {GT2024-122482}
Technical Paper Publication
Giuseppe Vannini - Baker Hughes
Carolina Giannelli - Baker Hughes
Dario Matina - Baker Hughes
Filippo Cangioli - Waukesha Bearings

Design and Analysis of High-Temperature, High-Pressure Seal Test Rig, {GT2024-129353}
Technical Paper Publication
Thomas Kerr - Southwest Research Institute
Jason Bensmiller - Southwest Research Engineer

Experimental and Analytical Stability Investigation of High Speed Rotors Supported on Novel Internally Skewed Journal Bearings in a 60000 RPM Test Rig, {GT2024-123497}
Technical Paper Publication
Aly El-Shafei - Cairo University
Mohamed S. Ibrahim - Cairo University
Antoine S. Dimitri - Cairo University

A Study on Average Eigenvalue Sensitivity for the Improvement of Rotordynamic Stability of Integrally Geared Centrifugal Compressors, {GT2024-128308}
Technical Paper Publication
Zhusan Luo - Linde, Inc.
Carl Schwarz - Linde, Inc.

08-08. Hydrogen Fuel: Considerations and Demos
6/26/2024
8:00 AM to 10:00 AM - SG8

Chair: ***Benjamin Emerson -***
Chair: ***David Wu - Georgia Tech***
Chair: ***Chris Perullo - Turbine Logic***
Presentations:

Review of the Impact of Hydrogen-Containing Fuels on Gas Turbine Hot-Section Materials, {GT2024-126005}
Technical Paper Publication
Jacqueline O'Connor - Pennsylvania state university
David Noble - EPRI
Alexander Bridges - EPRI
John Shingledecker - EPRI
John Scheibel - EPRI
Michael Gagliano - EPRI

Impact of Hydrogen Fuel Retrofits to Gas Turbine Performance and Hot Gas Path Components, {GT2024-126838}
Technical Paper Publication
Riddhi Kapoor - Thomassen Energy BV
Timothy Bullard - Power Systems Mfg.
Amir Shoraka - Power Systems Mfg.
Kuo-Ting Hsia - Power Systems Mfg.

Hydrogen Co-Firing Demonstration at Constellation Hillabee Siemens Energy SGT6-6000g Power Plant, {GT2024-121044}
Technical Paper Publication
James Harper - EPRI

Duane Gibeaut - Constellation
Mark Lozier - Constellation
Richard Sake - Constellation
Thorsten Wolf - Siemens Energy Inc.
David Noble - EPRI

Heavy Duty H2 Gas Turbine Demonstration – A Combined Experience, {GT2024-126848}
Technical Paper Publication
Nicolas Demougeot - Power Systems Manufacturing
Timothy Bullard - Power System Manufacturing
Bryan Kalb - Power Systems Manufacturing
Fred Hernandez - Power Systems Manufacturing
Martin Spalding - Power Systems Manufacturing
Matt Yaquinto - Power Systems Manufacturing
Gabriele Soffritti - Thomassen Energy
Franklin Van Den Hout - Thomassen Energy
Dong Ki Lee - Hanwha Power Systems
Jun Won Hwang - Hanwha Power Systems

05-05 Data-Driven Methods and AI for Diagnostics
6/26/2024
8:00 AM to 10:00 AM - SG7

Chair: ***Igor Loboda -***
Chair: ***Craig Davison - National Research Council, Canada***
Presentations:

Gas Turbine Gas-Path Fault Diagnosis Based on Decision Fusion of Model-Based and Data-Driven Methods, {GT2024-123564}
Technical Paper Publication
Xianda Cheng - Shanghai Jiaotong University
Haoran Zheng - Shanghai Jiao Tong University
Wei Dong - Shanghai Jiao Tong University

IndRNN-Based Data-Driven Modeling Integrated With Physical Knowledge for Engine Performance Monitoring, {GT2024-124076}
Technical Paper Publication
Dasheng Xiao - School of Power and Energy, Northwestern Polytechnical University
Hong Xiao - School of Power and Energy, Northwestern Polytechnical University
Zhanxue Wang - School of Power and Energy, Northwestern Polytechnical University

Research on Performance Degradation Prediction Method of Heavy-Duty Gas Turbine Based on Data-Physics Fusion Under Uncertainty, {GT2024-124704}
Technical Paper Publication
Yiyang Liu - Dalian University of Technology
Xiaomo Jiang - Dalian University of Technology
Manman Wei - Dalian University of Technology
Xin Ge - Dalian University of Technology

Implementation of Artificial Intelligence for Aircraft Engine Health Monitoring and Prognostics, {GT2024-127081}
Technical Paper Publication
Aditya Aditya - Cranfield University
Theoklis Nikolaidis - Cranfield University
Arias Chao Manuel - Zurich University of Applied Sciences
Simone Togni - Cranfield University

06-02 Pressure Gain Combustion I
6/26/2024
8:00 AM to 10:00 AM - SG1

Chair: ***James Braun -***
Chair: ***Ioannis Roumeliotis - Cranfield University***
Presentations:

Operation of a Fully Integrated Rotating Detonation Combustor in a T63 Gas Turbine Engine, {GT2024-122373}
Technical Paper Publication
Robert T. Fievisohn - Air Force Research Laboratory
Ryan Battelle - Air Force Research Laboratory
Miad Karimi - Air Force Research Laboratory
Christopher Klingshirn - Air Force Research Laboratory

Numerical Analysis of a Flow Control System for High-Pressure Turbine Vanes Subject to Highly Oscillating Inflow Conditions, {GT2024-126791}
Technical Paper Publication
Panagiotis Gallis - Politecnico di Torino
Simone Salvadori - Politecnico di Torino
Daniela Anna Misul - Politecnico di Torino

Performance Comparison of Gas Turbine Layouts With Pressure Gain Combustion for Propulsion Applications, {GT2024-127816}
Technical Paper Publication
Sreenath Purushothaman - University of Genova
Alessandro Sorce - University of Genova
Alberto Traverso - University of Genova
Thomas Gaillard - DMPE, ONERA, Université Paris Saclay

Numerical Analysis and Design of New Exhaust Section Downstream of Constant Volume Combustor, {GT2024-129204}
Technical Paper Publication
Panagiotis Gallis - Politecnico di Torino
Daniela Anna Misul - Politecnico di Torino
Bastien Boust - Pprime Institute, CNRS-ENSMA–University of Poitiers
Marc Bellenoue - Pprime Institute, CNRS-ENSMA–University of Poitiers
Simone Salvadori - Politecnico di Torino

01-13 Thermal Management and Aero-engine Oil Systems I
6/26/2024
8:00 AM to 10:00 AM - SG19

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Ioannis Roumeliotis - Cranfield University***
Chair: ***Lakshya Bhatnagar - Purdue University***
Chair: ***Kevin Lowe - Virginia Tech***
Presentations:

Effect of Flow Distortions on Pin Fins in the Entry Region of Circular Channels, {GT2024-123712}
Technical Paper Publication
Evan Lundburg - Pennsylvania State University
Stephen Lynch - Pennsylvania State University
Michael Lyall - Air Force Research Laboratory

Numerical Analysis of the Effect of Geometric Variations on the Mass Flow Distribution for an Under-Race Lubrication System, {GT2024-122481}
Technical Paper Publication
Daniel Mateo Aguirre Bermudez - Institute for thermal turbomachines
Aju Abraham - FIFTY2 Technology GmbH
Shreyas Joshi - FIFTY2 Technology GmbH
Corina Schwitzke - Institut für Thermische Strömungsmaschinen
Hans-Jörg Bauer - Institut für Thermische Strömungsmaschinen

Experimental Analysis on Performance of Air/Oil Centrifugal Breathers for Aircraft Engines Under Different Operating Conditions, {GT2024-123819}
Technical Paper Publication
Mariano Di Matteo - Université Libre de Bruxelles
Olivier Berten - Univeristé Libre de Bruxelles
Patrick Hendrick - Université Libre de Bruxelles

A New Experimental Capability for Electric and Hybrid-Electric Propulsion and Thermal Management Research: The Surrey Aerothermal Test Facility (SATF), {GT2024-121348}
Technical Paper Publication
Alishaan Hussain - University Of Surrey
John Doherty - University of Surrey
Michael Pekris - University of Surrey
John Chew - University of Surrey
Paul Hayden - University of Surrey

20-01 Compressor and Gas Turbine Development and Testing
6/26/2024
8:00 AM to 10:00 AM - SG3

Chair: ***Jason Wilkes -***
Chair: ***Brian Pettinato - Elliott***
Presentations:

CFD Analysis of Inlet Flow Region in a Centrifugal Compressor, {GT2024-123766}
Technical Paper Publication
Meera Sudheer - Siemens Energy Industrial Turbomachinery India Private Limited
Giridhar Kumar Dhinne - Siemens Energy Industrial Turbomachinery India Private Limited
Greg Hoch - Siemens Energy

Natural Gas Overhung Pipeline Compressor Rotordynamic Design, Test Validation, and Consideration of Morton Effect, {GT2024-125936}
Technical Paper Publication
Wei Li - Elliott Group
Christopher Braman - Elliott Group
Hiroki Hatori - Elliott Group
Manish Thorat - Elliott Group
Brian Pettinato - Elliott Group

Development of SGT-A35 GT61 (39 MW) for Oil and Gas Applications, {GT2024-129319}
Technical Paper Publication
Deepak Thirumurthy - Siemens Energy, Inc.
Vincent Perez - Siemens Energy Canada
Didier Wong Mew Wah - Siemens Energy Canada
Mark Scudamore - Industrial Turbine Company (UK) Limited, Siemens Energy

Gas Turbine Drives for Pipeline-Compressors: Assessing the Influence of H2-Blends on Performance, Load Dynamics, and Emissions of a Gas Turbine With DLE Technology in a Real-World Field-Study, {GT2024-120965}
Technical Paper Publication
Charlotte Rudolph - Open Grid Europe GmbH
Maurizio Sciancalepore - Open Grid Europe GmbH
Deborah Vesper - Open Grid Europe GmbH
Tobias Schiffer - Open Grid Europe GmbH
Francis Bainier - GRTgaz
Thorsten Lauzat - Open Grid Europe GmbH

03-02 LCA
6/26/2024
8:00 AM to 10:00 AM - SG6

Chair: ***Marina Braun-Unkhoff - DLR***
Chair: ***Angela Serra - Baker Hughes***
Chair: ***Domenico Borello - Università di Roma La Sapienza***
Presentations:

A Carbon Footprint Comparison Through LCA of Forging vs. Wire Arc Additive Manufacturing (WAAM) Processes for the Internal Casing of a Gas Turbine, {GT2024-123183}
Technical Paper Publication
Rachele Orlandi - Baker Hughes
Martina Pucciarelli - Baker Hughes
Giacomo Ragni - Baker Hughes
Angela Serra - Baker Hughes
Francesco Fantozzi - University of Perugia

LCA Modelling of Forged Components for Turbomachinery: Improved Approach Based on Production Data, {GT2024-127740}
Technical Paper Publication
Mosè Al Freijat - Baker Hughes
Rachele Orlandi - Baker Hughes
Giacomo Ragni - Baker Hughes
Martina Pucciarelli - Baker Hughes
Angela Serra - Baker Hughes
Francesco Fantozzi - Università degli studi di Perugia

Comparative Life Cycle Assessment of Waste Coal and Biomass/Torrefied Biomass Co-Fired Power Plant With Carbon Capture and Storage Technologies, {GT2024-129405}
Technical Paper Publication
Surja Sarkar - Georgia Southern University
Prakash Bhoi - Georgia Southern University

30-12 Testing 2
6/26/2024
8:00 AM to 10:00 AM - SG11

Chair: ***Timothy Held -***
Chair: ***Jonathan Wade -***
Chair: ***Timothy Allison - SWRI***
Presentations:

Development of Thermo-Mechanical Service-Like Testing for Supercritical CO2 Expanders, {GT2024-128170}
Technical Paper Publication
Federico Bucciarelli - Baker Hughes
Damaso Checcacci - Baker Hughes
Giuseppe Macoretta - University of Pisa
Bernardo Disma Monelli - University of Pisa
Leonardo Bertini - University of Pisa

Pulsations and Vibrations in the Discharge Piping of a Throttled Supercritical CO2 Turbine, {GT2024-128951}
Technical Paper Publication
Jason Wilkes - Southwest Research Institute
Abhay Patil - Southwest Research institute
Jon Bygrave - Hanwha Power Systems

Numerical and Experimental Comparison of a Single Stage Axial sCO2 Compressor, {GT2024-129128}
Technical Paper Publication
Saugat Ghimire - University of Cincinnati
Justin Holder - University of Cincinnati
Matthew Ha - University of Cincinnati
Mark Turner - University of Cincinnati
Jeongseek Kang - University of Notre Dame
Scott C. Morris - University of Notre Dame
Kyle Sedlacko - Echogen Power Systems
Timothy J. Held - Echogen Power Systems

Experimental Investigation of Rotor Passage Loss in S-CO2 Radial Turbine, {GT2024-122604}
Technical Paper Publication
Seungkyu Lee - Korea Advanced Institute of Science and Technology
Jeong Ik Lee - Korea Advanced Institute of Science and Technology
Gihyeon Kim - Korea Advanced Institute of Science and Technology
Jeong Yeol Baek - Korea Advanced Institute of Science and Technology

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26-02 Applications using Probabilistic and Machine Learning Methods
6/26/2024
8:00 AM to 10:00 AM - SG15

Chair: ***Liping Wang -***
Chair: ***Kai Kadau - Siemens Energy Inc***
Chair: ***Michael Enright - SouthWest Research Institute***
Presentations:

Possibilities of Applying Machine Learning Techniques for Probabilistic Analysis in a Turbine Blade-Disk Interface, {GT2024-122477}
Technical Paper Publication
Elmira Emmrich - Technische Universität Dresden
Md Tarekul Islam - Technische Universität Dresden
Matthias Voigt - Technische Universität Dresden
Lukas Bruder - MTU Aero Engines AG
Julian Von Lautz - MTU Aero Engines AG
Ronald Mailach - Technische Universität Dresden

Probabilistic Modelling Geometric Tolerance and LCF Life of Gas Turbine Compressor Blade, {GT2024-127340}
Technical Paper Publication
Zhiqiang (David) Meng - Siemens Energy Industrial Turbomachinery Ltd, Lincoln, United Kingdom
Richard Bluck - Siemens Energy Industrial Turbomachinery Ltd, Lincoln, United Kingdom
Björn Sjödin - Siemens Energy AB

Integrating Location-Specific Non-Destructive Inspection Simulation With Probabilistic Damage Tolerance Assessment, {GT2024-129117}
Technical Paper Publication
Michael Enright - Southwest Research Institute
Yasin Zaman - Southwest Research Institute
Fabrice Foucher - Extende
Sebastien Lonné - Extende
Philippe Dubois - Extende
Stephane Leberre - CEA DISC
Pierre Calmon - CEA DISC

Influence of Shape and Size of Casting Defects on the LCF Performance of MAR-M247 – A Path Towards a Probabilistic Model, {GT2024-124232}
Technical Paper Publication
Jan Radners - Fraunhofer Institute for Mechanics of Materials IWM
Christoph Schweizer - Fraunhofer Institute for Mechanics of Materials IWM
Michael Schlesinger - Fraunhofer Institute for Mechanics of Materials IWM
Stefan Eckmann - Fraunhofer Institute for Mechanics of Materials IWM
Malek Al-Ameri - Siemens Energy Global GmbH & Co. KG
Christian Amann - Siemens Energy Global GmbH & Co. KG
Peter Gumbsch - Fraunhofer Institute for Mechanics of Materials IWM and Karlsruhe Institute of Technology (KIT), Institute for Applied Materials
Kai Kadau - Siemens Energy Inc.

02-01 Mechanical Behavior of Ceramics and Composites
6/26/2024
8:00 AM to 10:00 AM - SG2

Chair: ***Michael Presby -***
Chair: ***Spencer Jeffs - Swansea University***
Chair: ***Stefan Fritz - DLR***
Presentations:

Cluster Analysis of Acoustic Emission Signals From SiC/SiC CMCs Including the Introduction of Waveguides and the Effect of Material Changes Under Thermal Exposure, {GT2024-121309}
Technical Paper Publication
Zak Quiney - Swansea University Institute of Structural Materials
Louise Gale - Rolls-Royce Plc
Stephen Pattison - Rolls-Royce Plc.
Gonzalo Garcia Luna - Rolls-Royce Plc.
Chris Newton - Swansea University Institute of Structural Materials
Martin Bache - Swansea University Institute of Structural Materials
Spencer Jeffs - Swansea University Institute of Structural Materials

Vibration and Acoustic Emission Assessment of a SiCf/SiC Ceramic Matrix Composite With Damage, {GT2024-127571}
Technical Paper Publication
Spencer Jeffs - Swansea University
Jordan Stephen - Swansea University
Zak Quiney - Swansea University
Gonzalo García Luna - Rolls-Royce plc

Development of High-Temperature, Interlaminar Tension (ILT) Test Methodology for Ceramic Matrix Composites (CMCs), {GT2024-123432}
Technical Paper Publication
Jacob Mattison - Naval Air System Command
David Faucett - Naval Air Systems Command

Sung Choi - Naval Air Systems Command

An Integrated Neural Network and Finite Element Method for Defect Characterization and Strength Prediction of Unidirectional Composites, {GT2024-127092}
Technical Paper Publication
Bo Zhang - Beihang university
Changqi Liu - Beihang University
Duoqi Shi - Beihang University
Xiaoguang Yang - Beihang University

01-19 Aero-engine Control and Diagnostics II
6/26/2024
8:00 AM to 10:00 AM - SG17/SG18

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Kevin Lowe - Virginia Tech***
Chair: ***Donald Simon - NASA***
Chair: ***Mikael Stenfelt - Saab Aerospace***
Presentations:

Machine Learning Regression Models for Turbofan Engines: A Comparative Study on Remaining Useful Life Prediction, {GT2024-127544}
Technical Paper Publication
Zahi M. Omer - Technology Innovation Institute
Abdulla Al Seiari - Technology Innovation Institute
Zhaohui Cen - Technology Innovation Institute
Francisco Bilendo - Technology Innovation Institute

The Parameter Augmentation Pretraining Neural Network Model of Aero-Engine Thrust Prediction, {GT2024-127933}
Technical Paper Publication
Rui You - Northwestern Polytechnical University
Hong Xiao - Northwestern Polytechnical University
Guo Chen - Northwestern Polytechnical University
Yufeng Liang - Northwestern Polytechnical University

Gas Path Fault Diagnosis Method Under Small Samples With Inter-Class Imbalance, {GT2024-129080}
Technical Paper Publication
Kun Wang - Tsinghua University
Ai He - Tsinghua University
Yuan Liu - AECC Hunan Aviation Powerplant Research Institute
Tingyu Xiao - Tsinghua University
Zhixiong Chen - AECC Hunan Aviation Powerplant Research Institute
Zhongzhi Hu - Tsinghua University

34-20 Solver methods 4
6/26/2024
8:00 AM to 10:00 AM - Pod 7- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Matthew Ha -***
Chair: ***Frederic Goenaga -***
Presentations:

Accurate Modeling of the Flow Structures in the Gap Between Corotating Disks of a Tesla Turbine, {GT2024-121758}
Technical Paper Publication
Mohammadsadegh Pahlavanzadeh - Silesian University of Technology
Krzysztof Rusin - Silesian University of Technology
Włodzimierz Wróblewski - Silesian University of Technology

Flow Reconstruction in a Transonic Turbine Cascade Using Physics-Informed Neural Networks (PINNs), {GT2024-128885}
Technical Paper Publication
Ezra McNichols - NASA Glenn Research Center
Paht Juangphanich - NASA Glenn Research Center
Mallory Hawke - Johns Hopkins University Applied Physics Laboratory
Ethan Shoemaker - Millennium Space Systems
Mackinnon Poulson - Lockheed Martin
Meghan Brandt - NASA Glenn Research Center
Jeffrey Bons - The Ohio State University

High-Fidelity Simulation of the Aerothermal Performances of a Turbofan Thrust Reverser, {GT2024-122355}
Technical Paper Publication
Adrien Grenouilloux - CORIA - UMR6614 - CNRS
Yacine Bechane - CORIA - UMR 6614 - CNRS
Julien Carmona - CORIA - UMR 6614 - CNRS
Pierre Bénard - INSA de Rouen
Ghislain Lartigue - CORIA - UMR 6614 - CNRS
Vincent Moureau - CORIA - UMR 6614 - CNRS
Paul Ferrey - Safran Nacelles

Design of a Multi-Purpose High-Speed Rotating Rig, for the Rapid Testing of Compressor, Turbine and Fan Single Stages, {GT2024-125663}
Technical Paper Publication
Leon Harman - Frewer Engineering
Kristian Mahon - Frewer Engineering
Richard Lock - Frewer Engineering
Thomas Bradwell - Hyde Group Ltd
Nick Atkins - University of Cambridge
Tolga Yasa - University of Cambridge
James Taylor - University of Cambridge

15-09 Impingement and Internal Cooling
6/26/2024
8:00 AM to 10:00 AM - SG27/SG28

Chair: ***Stephen Lynch -***
Chair: ***Robin Brakmann - German Aerospace Center***
Chair: ***Lesley Wright -***
Chair: ***Simone Salvadori -***
Chair: ***Ardeshir Riahi -***
Chair: ***Hongzhou Xu -***
Presentations:

Effects of the Shape Modification of the Leading Edge Impingement Cooling for Turbine Blade, {GT2024-127420}
Technical Paper Publication
Kozo Nita - IHI Corporation
Shu Fujimoto - IHI Corporation
Masaya Suzuki - Japan Aerospace Exploration Agency
Junichi Kazawa - Japan Aerospace Exploration Agency

Yoji Okita - Japan Aerospace Exploration Agency

Study on the Impingement Cooling Structure With the Characteristic of Low Flow Resistance, {GT2024-125626}
Technical Paper Publication
Changwei Li - Northwestern Polytechnical University
Tao Guo - Northwestern Polytechnical University
Cunliang Liu - Northwestern Polytechnical University
Huiren Zhu - Northwestern Polytechnical University
Guodong Li - Northwestern Polytechnical University
Xinyu Wang - Northwestern Polytechnical University
Jiayu Li - Northwestern Polytechnical University
Shanjie Liu - Northwestern Polytechnical University

Conjugate Heat Transfer on the Effect of Impinging Distance for Film-Cooled Blade Leading Edge With Staggered-Oblique Impinging Jets, {GT2024-129140}
Technical Paper Publication
Hongye Li - Insitute of Egineering Thermophysics
Qiang Du - Insitute of Egineering Thermophysics
Qingzong Xu - Insitute of Egineering Thermophysics
Jiawei Xu - Insitute of Egineering Thermophysics
Guangyao Xu - Insitute of Egineering Thermophysics
Haoyang Liu - Insitute of Egineering Thermophysics
Pengfei Wang - Institute of Engineering Thermophysics, Chinese Academy of Sciences

Numerical Analysis of Heat Transfer Inhomogeneity of Supercritical Pressure Carbon Dioxide in Horizontal Minichannels, {GT2024-120999}
Technical Paper Publication
Ni Li - Dalian university of technology
Zheng Fang - Dalian university of technology
Hang Pu - Dalian university of technology
Lin Mu - Dalian university of technology
Yan Shang - Dalian university of technology
Ming Dong - Dalian university of technology

18-05 Metallurgy, Coating and Repair I
6/26/2024
8:00 AM to 10:00 AM - SG4

Chair: ***Calvin Stewart -***
Presentations:

Novel Alloying Strategy to Improve Brazing Properties on Nickel Based Superalloys for Aircrafts Turbine Application, {GT2024-121186}
Technical Paper Publication
Dirk Wilhelm Reker - MTU Maintenance Hannover
Roman Sowa - MTU Aero Engines Polska
Caspar Schwalbe - MTU Aero Engines
Frank Seidel - MTU Maintenance Hannover
Kai Moehwald - Institute of Materials Science, Leibniz Universität Hannover
Martin Nicolaus - Institute of Materials Science, Leibniz Universität Hannover
Steffen Wackenrohr - Institute of Materials Science, Leibniz Universität Hannover
Wolfgang Tillmann - Institute of Materials Engineering, TU Dortmund University

Phase Prediction Methodologies for Rapid Screening of High Entropy Alloys, {GT2024-123368}
Technical Paper Publication
Aron Mohammadi - Carleton University
Jonathan Tsang - National Research Council of Canada

Xiao Hunag - Carleton Unversity
Richard Kearsey - National Research Council of Canada

Rejuvenation Heat Treatment Development to Extend the Service Life of René N4 Single Crystal Gas Turbine Blades, {GT2024-124014}
Technical Paper Publication
Cristina Motta - Politecnico di Milano
Francesco Mastromatteo - Baker Hughes - Nuovo Pignone Tecnologie
Elisabetta Gariboldi - Politecnico di Milano
Filippo Cappuccini - Baker Hughes - Nuovo Pignone Tecnologie

Metallurgical Investigation and Failure Analysis in GTD-111 Stage 2 Buckets From an Industrial F-Class Gas Turbine, {GT2024-126858}
Technical Paper Publication
Alex Bridges - Electric Power Research Institute
John Shingledecker - Electric Power Research Institute
Yongqing Wang - Duke Energy

31-13 Flow Control
6/26/2024
10:30 AM to 12:00 PM - Pod 4- Entrance S5 & S6

Chair: ***Tianyu Pan -***
Chair: ***Alexander Hergt -***
Presentations:

Numerical Study on the Effect of Back Cavity on the Aerodynamic Behavior of a Non-Axisymmetric Casing Treatment for Transonic Axial Compressors, {GT2024-121845}
Technical Paper Publication
Simon Martin - Safran SA
Benoit Rodriguez - Safran SA

An Experimental Investigation of the Corner Separation Control in a Compressor Cascade Using Spatially Oscillating Jet, {GT2024-126084}
Technical Paper Publication
Pengcheng Yang - Harbin Institute of Technology
Shaowen Chen - Harbin Institute of Technology
Guanyu Liu - Harbin Institute of Technology
Shiqi Wang - Aero-Engine Academy of China, Aero-Engine Corporation of China

Mechanism Study of Stator Suction Slots to Inhibit the Boundary Layer Separation in a Single-Stage Axial Flow Compressor, {GT2024-128721}
Technical Paper Publication
Haoguang Zhang - School of Power and Energy, Northwestern Polytechnical University
Hao Wang - School of Power and Energy, Northwestern Polytechnical University
Yiming Feng - School of Power and Energy, Northwestern Polytechnical University
Jinhang Xiao - School of Power and Energy, Northwestern Polytechnical University
Wuli Chu - School of Power and Energy, Northwestern Polytechnical University

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12-05 Conjugate heat transfer investigations
6/26/2024
10:30 AM to 12:00 PM - SG25/SG26

Chair: ***Ardeshir Riahi -***
Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Khosro Mollahosseini -***
Presentations:

Development of a Reduced Order Model for Double Wall Liner Cooling Schemes, {GT2024-129340}
Technical Paper Publication
Zeki Tugberk Karasu - TEI
Fırat Kıyıcı - TEI
Erinc Erdem - TEI

Conjugate Modelling of a Fully Film Cooled Vane at Transonic Conditions, {GT2024-128219}
Technical Paper Publication
Jacob Swartz - The Pennsylvania State University
Stephen Lynch - The Pennsylvania State University
Matthew Krull - The Pennsylvania State University
Isabella Gayoso - The Pennsylvania State University

Conjugate Heat Transfer Simulation of High-Pressure Cooling Blade Under Rotational Conditions in a Gas Turbine, {GT2024-125672}
Technical Paper Publication
DUY TAN VO - Chung Ang University
Yoonhyeong Jeong - Korea University
Jaiyoung Ryu - School of Mechanical Engineering, Korea University

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40-04 Fan & Compressor Inflow Distortion Effects
6/26/2024
10:30 AM to 12:00 PM - Pod 7- Entrance S5 & S6

Chair: ***Dai Kato - IHI***
Chair: ***Reid A. Berdanier - Penn State - University***
Chair: ***Yuan Dong - Pratt & Whitney***
Chair: ***Dajan Mimic - Leibniz University Hannover***
Presentations:

Unsteady Flow, Turbulence and Acoustic Measurements on the Counter-Rotating DLR Turbo Fan Stage CRISPmulti, With and Without Inlet Distortions, {GT2024-124839}
Technical Paper Publication
Robert Meyer - German Aerospace Center (DLR)
Ulf Tapken - German Aerospace Center (DLR)
Lukas Klähn - German Aerospace Center (DLR)
Maximilian Behn - German Aerospace Center (DLR)
Timea Lengyel-Kampmannl - German Aerospace Center (DLR)

The Impact of Inflow Unsteadiness on Loss Prediction, {GT2024-127538}
Technical Paper Publication
Pawel Przytarski - University of Melbourne
Davide Lengani - University of Genova
Richard Sandberg - University of Melbourne

Numerical Study on the Propagation Characteristics of Circumferential Temperature Distortion in a Combined Compressor, {GT2024-127826}

Technical Paper Publication
Zhenfei Wang - Xi'an Jiaotong University
Zhiheng Wang - Xi'an Jiaotong University
Tongxi Li - Xi'an Jiaotong University
Guang Xi - Xi'an Jiaotong University

14-05 Labyrinth Seals
6/26/2024
10:30 AM to 12:00 PM - SG29

Chair: ***Alexander Mirzamoghadam -***
Chair: ***Mike Barringer -***
Chair: ***Stephen Lynch -***
Chair: ***Carl Sangan -***
Chair: ***Lesley Wright -***
Chair: ***John Blanton -***
Chair: ***Rishon Saftler - Pratt & Whitney***
Presentations:

Analytical Leakage Model Development for Labyrinth Seals With Honeycomb Structure: Validation and Design of Experiments, {GT2024-125916}
Technical Paper Publication
Gürkan Ertuğral - TRMOTOR Power Systems
Özhan Öksüz - TRMOTOR Power Systems

Numerical Investigation on the Robustness Assessment and Enhancement of Labyrinth Seal With Axial Displacement and Clearance Deviation, {GT2024-122314}
Technical Paper Publication
Xin Jin - Beihang University
Chuankai Liu - Beihang University
Peng Liu - Beihang University
Zijun Li - Beihang University
Shuiting Ding - Beihang University

Optimization of Smooth Straight-Through Labyrinth Seal Based on XGBoost and Improved GA, {GT2024-122889}
Technical Paper Publication
Liu Hao - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Li Guoqing - Institute of Engineering Thermophysics, Chinese Academy of Sciences

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11-01 Combustor-turbine interactions
6/26/2024
10:30 AM to 12:00 PM - SG27/SG28

Chair: ***Antonio Andreini - University of Florence***
Chair: ***Cosimo Bianchini -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Wontae Hwang -***
Chair: ***Anil Tolpadi - GE Aerospace***
Presentations:

A Review of Secondary Combustion on Turbine Blade Cooling, {GT2024-121346}

Technical Paper Publication
Tinashe Ngwenya - University of Oxford
Antonino Nava - Rolls-Royce
Peter Ireland - University of Oxford

Influence of Dilution and Effusion Flows in Generating Variable Inlet Profiles for a High-Pressure Turbine, {GT2024-123899}
Technical Paper Publication
Chad Schaeffer - The Pennsylvania State University
Michael Barringer - The Pennsylvania State University
Stephen Lynch - The Pennsylvania State University
Karen Thole - The Pennsylvania State University

Investigation of Hot Streak Migrations in a Triple Dual-Stage Swirler Combustor Coupled With Turbine Vanes Under Different Contraction Ratios, {GT2024-126063}
Technical Paper Publication
Jiacheng Lyu - Zhejiang University
Keqi Hu - Zhejiang University
Zhixin Zhu - Zhejiang University
Gaofeng Wang - Zhejiang University

04-44 Combustion dynamics - modeling II
6/26/2024
10:30 AM to 12:00 PM - SG20/SG21

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Camilo F. Silva -***
Chair: ***Francesco Gant - Ansaldo energia***
Chair: ***Matthew Yoko - Cambridge university***
Presentations:

Instability Amplitude Suppression in a Double Orifice Flow Through External Periodic Forcing, {GT2024-127399}
Technical Paper Publication
Ashutosh Singh - Indian Institute of Technology Bombay
Isha Mukherjee - Indian Institute of Technology Bombay
Vineeth Nair - Indian Institute of Technology Bombay

Intrinsic Thermoacoustic Feedback in Auto-Ignition Flames Stabilized in a Converging-Diverging Nozzle, {GT2024-128594}
Technical Paper Publication
Fernando Biagioli - Infosys
Khawar Syed - Infosys Ltd

On the Optimum Distribution of Multiple Helmholtz Resonators for Annular Combustors, {GT2024-127023}
Technical Paper Publication
Hongwei Chen - Southern University of Science and Technology
Liming Yin - Southern University of Science and Technology
Xiaopei Liu - Shanghai Electric Gas Turbine Co., Ltd.
Mingmin Chen - Harbin Engineering University
Dong Yang - Southern University of Science and Technology

34-03 Turbine design methods 1
6/26/2024
10:30 AM to 12:00 PM - Pod 2- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Craig McKeever -***
Chair: ***Kai Zhou -***
Presentations:

Aerodynamic Optimization of an Axial Turbine Blade and Diffuser, {GT2024-124695}
Technical Paper Publication
Kingshuk Dasadhikari - Mitsubishi Heavy Industries
Yasunori Kimura - Mitsubishi Heavy Industries
Yoshihiro Kuwamura - Mitsubishi Heavy Industries
Hokuto Isoda - Mitsubishi Heavy Industries
Fumito Hiratani - Mitsubishi Heavy Industries

Multi-Objective Aerodynamic Optimization of Gas Turbine Exhaust Diffuser: Experimental and Numerical Validations, {GT2024-127354}
Technical Paper Publication
Yuxuan Dong - Midea Group Co., Ltd,
Rui Yang - Institute of Turbomachinery, Xi'an Jiaotong University
Xidong Wang - Midea Group Co., Ltd,
Zhigang Li - Institute of Turbomachinery, Xi'an Jiaotong University
Jun Li - Institute of Turbomachinery, Xi'an Jiaotong Univ.
Liming Song - Institute of Turbomachinery, Xi'an Jiaotong University

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36-09 Uncertainty Quantification & Sensitivity Analysis (1)
6/26/2024
10:30 AM to 12:00 PM - Pod 6- Entrance S5 & S6

Chair: ***Marcus Meyer -***
Chair: ***Robin Schmidt - Rolls-Royce***
Presentations:

Impact of Input Data Quality on the Uncertainties of a Compressor Blade Parametrization Process, {GT2024-121341}
Technical Paper Publication
Benedikt Schulten - Institute of Jet Propulsion and Turbomachinery
Jan Goeing - Institute of Jet Propulsion and Turbomachinery
Sebastian Lueck - Institute of Jet Propulsion and Turbomachinery
Jens Friedrichs - Institute of Jet Propulsion and Turbomachinery

Probabilistic Analysis of Leading Edge Erosion Behavior of a High-Pressure Compressor in a Turbofan Engine, {GT2024-122239}
Technical Paper Publication
Andreas Türke - Technische Universität Dresden, Institute of Fluid Mechanics, Chair of Turbomachinery and Flight Propulsion
Lukas Schlüter - Technische Universität Dresden, Institute of Fluid Mechanics, Chair of Turbomachinery and Flight Propulsion
Matthias Voigt - Technische Universität Dresden, Institute of Fluid Mechanics, Chair of Turbomachinery and Flight Propulsion
Robin Schmidt - Rolls-Royce Deutschland Ltd & Co KG
Andreas Vogel - Rolls-Royce Deutschland Ltd & Co KG
Ronald Mailach - Technische Universität Dresden, Institute of Fluid Mechanics, Chair of Turbomachinery and Flight Propulsion

Beyond the Error: Unveiling Uncertainties in Pressure Sensor Measurements, {GT2024-125684}
Technical Paper Publication
Michel Saint-Mard - SENSORADE SA
Alexis Kozlowski - SENSORADE
Adrien Hertay - Sensorade
Patrick Hendrick - University of Brussels

04-23 Ignition I
6/26/2024
10:30 AM to 12:00 PM - SG13

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Michael Klassen -***
Chair: ***Dr. Naseem Ansari - Ansys***
Presentations:

Ignition of Aged Lubricants in a Shock Tube, {GT2024-126713}
Technical Paper Publication
Matthew Abulail - Texas A&M University
Raquel Juarez - Texas A&M University
Eric L. Petersen - Texas A&M University

Evaluation of Data-Driven Classifiers for an Ignition Forecast of Large Gas Turbines, {GT2024-128055}
Technical Paper Publication
Florian Lang - Siemens Energy Global GmbH & Co. KG
Maximilian Savtschenko - Siemens Energy Global GmbH & Co. KG
Vikas Yadav - Technische Universität Berlin, Institut für Strömungsmechanik und Technische Akustik, Data Analysis and Modeling of Turbulent Flows
Abdulla Ghani - Technische Universität Berlin, Institut für Strömungsmechanik und Technische Akustik, Data Analysis and Modeling of Turbulent Flows

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23-01, Foil bearings
6/26/2024
10:30 AM to 12:00 PM - SG15

Chair: ***Ali Shakil - Collins Aerospace***
Chair: ***Jürg Schiffmann -***
Chair: ***Karim Shalash -***
Presentations:

Performance of Heavily Loaded Textured Gas Foil Bearings Based on the Multigrid Method, {GT2024-126255}
Technical Paper Publication
Jiazhen Han - School of Energy Science and Engineering, Harbin Institute of Technology
Guanghui Zhang - School of Energy Science and Engineering, Harbin Institute of Technology
Kefan Xu - School of Energy Science and Engineering, Harbin Institute of Technology
Wenjie Gong - School of Energy Science and Engineering, Harbin Institute of Technology
Wenlong Sun - School of Energy Science and Engineering, Harbin Institute of Technology
Zhongwen Huang - Nanjing Engineering Institute of Aircraft Systems

Experimental Characterization of Darcy Friction Factors of Bump Channel Flows and Application to Cooling Flow Path Design, {GT2024-128199}

Technical Paper Publication
Daejong Kim - University of Texas at Arlington

28-06 Structure Characterization and Identification
6/26/2024
10:30 AM to 12:00 PM - SG23/SG24

Chair: ***Bogdan I. Epureanu -***
Chair: ***Azzedine Dadouche -***
Chair: ***Sean Kelly -***
Presentations:

Model Order Determination for Modal Parameter Estimation: Application to a Composite Fan Stage, {GT2024-126685}
Technical Paper Publication
Corentin Jorajuria - Centrale Innovation
Claude Gibert - Centre National de la Recherche Scientifique
Cécile Esteves - Safran Aircraft Engines
Fabrice Thouverez - Ecole Centrale de Lyon

Experiment on Tuned Open-Test-Case Fan ECL5/CATANA: Structural Characterization Under Vacuum Conditions, {GT2024-127539}
Technical Paper Publication
Kevin Billon - Univ. Lyon, Ecole Centrale De Lyon, LTDS UMR 5513
Lionel Sanchez - Univ. Lyon, Ecole Centrale De Lyon, LTDS UMR 5513
Gaëtan Bouvard - Univ. Lyon, Ecole Centrale De Lyon, LTDS UMR 5513
Claude Gibert - Univ. Lyon, Ecole Centrale De Lyon, LTDS UMR 5513
Laurent Blanc - Univ. Lyon, Ecole Centrale De Lyon, LTDS UMR 5513
Fabrice Thouverez - Univ. Lyon, Ecole Centrale De Lyon, LTDS UMR 5513

Mechanical Properties of the Support Structure With Recoverable Stiffness, {GT2024-126043}
Technical Paper Publication
He Sun - Beihang University
Dayi Zhang - Beihang University
Qicheng Zhang - Beihang University
Cheng Yang - Byd Auto Industry Company Limited

05-12 Instrumentation II: Pressure Probes
6/26/2024
10:30 AM to 12:00 PM - SG7

Chair: ***Lorenzo Ferrari - University of Pisa – DESTEC, Italy***
Chair: ***Igor Loboda -***
Chair: ***Lubomir Ribarov - U.S. Merchant Marine Academy***
Presentations:

Accuracy of Steady Pneumatic Probes in Unsteady Turbomachinery Flows, {GT2024-121034}
Technical Paper Publication
Tim Sebastian Widera - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Bastian Patzer - MTU Aero Engines AG
Stephan Behre - MTU Aero Engines AG
Peter Jeschke - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University

A Numerical and Experimental Study of Five-Hole Probe Calibrations in Low-Speed Flows, {GT2024-127876}

Technical Paper Publication
Dahae Jeong - Pennsylvania State University
Tamara Guimarães - Pennsylvania State University

Application of Machine Learning Techniques in Calibration and Data Reduction of Multi-Hole Probes, {GT2024-128955}
Technical Paper Publication
Arman Mirhashemi - NASA Glenn Research Center
Paht Juangphanich - NASA Glenn Research Center
Kenji Miki - NASA Glenn Research Center

06-03 Pressure Gain Combustion II
6/26/2024
10:30 AM to 12:00 PM - SG1

Chair: ***Simone Salvadori -***
Chair: ***Eric Bach - Purdue University***
Presentations:

A Comprehensive Thermodynamic Analysis of Gas Turbine Combined Cycles With Pressure Gain Combustion Based on Humphrey Cycle, {GT2024-124972}
Technical Paper Publication
Abhishek Dubey - University of Genova
Alessandro Sorce - University of Genova
Panagiotis Stathopoulos - German Aerospace Center (DLR)

A Reduced Order Methodology for Optimizing Turbine Expanders Working With Rotating Detonation Combustors, {GT2024-126249}
Technical Paper Publication
Gokkul Raj Varatharajulu Purgunan - Technical University of Berlin
Majid Asli - Brandenburg University of Technology Cottbus-Senftenberg
Roman Klopsch - Technical University of Berlin
Josh Meister - Technical University of Berlin
Panagiotis Stathopoulos - German Aerospace Center (DLR)

Detailed Sliding-Mesh Computation of Turbulent Jet Ignition and Combustion in a Wave Rotor Combustor With Stationary Pre-Chamber, {GT2024-128674}
Technical Paper Publication
Rasheed K. Yinusa - Purdue University in Indianapolis
Mohamed Razi Nalim - Purdue University in Indianapolis

20-06 Optimization I - Upstream O&G Operation & Design
6/26/2024
10:30 AM to 12:00 PM - SG3

Chair: ***Jason Wilkes -***
Chair: ***Mauro Venturini -***
Chair: ***Lucrezia Manservigi -***
Presentations:

Centrifugal Compressor Design and Surge Simulation for Active Inference Based Control, {GT2024-124905}
Technical Paper Publication
Sharath Sathish - BP plc

Mahmoud Khader - University of Hertfordshire
Abdulnaser Sayma - City, University of London
Sunil Shah - Modelicon InfoTech LLP

Techno-Economic Optimisation of Gas Compressor Station Location As a Decision Variable, {GT2024-126805}
Technical Paper Publication
Oluwatayo Babatope Ojo - Cranfield University
Uyioghosa Igie - Cranfield University
Pericles Pilidis - Cranfield University

Operations Optimisation of a Gas-Lift Compression System Using a Digital-Twin Approach, {GT2024-125917}
Technical Paper Publication
Marco Mucino - Whitecastle Engineering Limited
John Savage - Whitecastle Engineering Limited

30-06 Fluid Dynamics
6/26/2024
10:30 AM to 12:00 PM - SG11

Chair: ***Michael Martin -***
Chair: ***Ritesh Ghorpade -***
Chair: ***Timothy Allison - SWRI***
Presentations:

Supercritical Carbon Dioxide Mixing Loss Characteristics Near the Critical Point, {GT2024-122056}
Technical Paper Publication
Jinhong Wang - Imperial College London
Teng Cao - Imperial College London
Ricardo Martinez-Botas - Imperial College London

Evaluation of Subfilter Model Performance for LES of Supercritical Fluids, {GT2024-125326}
Technical Paper Publication
Dhruv Purushotham - Georgia Institute of Technology
Joseph Oefelein - Georgia Institute of Technology

Numerical Investigation of Two-Phase Shock Waves in CO2 Flows Using a Modified Hertz-Knudsen Model, {GT2024-127438}
Technical Paper Publication
Giuseppe Petruccelli - LUT University
Amir Momeni Dolatabadi - LUT University
Aki Grönman - LUT University
Teemu Turunen-Saaresti - LUT University
Alberto Guardone - Politecnico di Milano

40-08 Compressor Flow Control Approaches
6/26/2024
10:30 AM to 12:00 PM - Pod 5-Entrance S5 & S6

Chair: ***Reid A. Berdanier - Penn State - University***
Chair: ***Fangyuan Lou - Tsinghua University***
Chair: ***Baotong Wang - Tsinghua University***
Presentations:

Mitigation of Laminar Separation Bubble Through Leading-Edge Modification of an Aerofoil With Herringbone Riblets, {GT2024-124289}
Technical Paper Publication
Ravi Kumar - Indian Institute of Technology Kanpur
Pradeep Singh - Vellore Institute of Technology University
Subrata Sarkar - Indian Institute of Technology Kanpur

Unsteady Flow Mechanism of Corner Separation Control Using Blade End Slots in a Highly Loaded Compressor Cascade, {GT2024-129534}
Technical Paper Publication
Yangwei Liu - Beihang University
Weibo Zhong - Beihang University
Yumeng Tang - Beihang University

A Framework and Approach for Leveraging Unsteady Response in Turbocompressor Flowfields, {GT2024-129548}
Technical Paper Publication
Eric Krivitzky - Thermofluid Research Lab, LLC
Louis Larosiliere - Elliott Group

32-14 ORC & Supersonic Turbines 2
6/26/2024
10:30 AM to 12:00 PM - Pod 1- Entrance S5 & S6

Chair: ***Lukas Benjamin Inhestern - Purdue University***
Chair: ***Emil Goettlich -***
Chair: ***Matteo Pini - TU Delft***
Presentations:

Numerical Analysis of a Two-Phase Turbine: a Comparative Study Between Barotropic and Mixture Models, {GT2024-127133}
Technical Paper Publication
Amit Kumar - Technical University of Denmark
Simone Parisi - Technical University of Denmark
Roberto Agromayor - Technical University of Denmark
Jens Honore Walther - Technical University of Denmark
Fredrik Haglind - Technical University of Denmark

Numerical Study on Unsteady Flow of a Supersonic Partial Admission Impulse Turbine, {GT2024-127765}
Technical Paper Publication
Tongxi Li - Xi'an Jiaotong University
Jiakang Wang - Xi'an Jiaotong University
Zhiheng Wang Wang - Xi'an Jiaotong University
Guang Xi - Xi'an Jiaotong University

Supersonic Convergent-Divergent Vaned Nozzles Design Algorithm and Respective Discharge Coefficient Model, {GT2024-125893}
Technical Paper Publication
Leonid Moroz - SoftInWay, Inc.
Maksym Burlaka - SoftInWay, Inc.
Borys Frolov - SoftInWay Switzerland GmbH
Tetiana Dyzenko - SoftInWay Switzerland GmbH

04-47 Combustor Design V

6/26/2024
10:30 AM to 12:00 PM - SG12

Chair: ***Samir Rida - GE Vernova***
Chair: ***Gilles Bourque - McGill University***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Marc Furi - Siemens***
Chair: ***Antoine Durocher - NRC Canada***
Presentations:

Investigating the Impact of Steam Enhancement on Combustion in a Swirl-Assisted Jet-Stabilized Gas Turbine Combustor, {GT2024-127761}
Technical Paper Publication
Saeed Izadi - German Aerospace Center (DLR), Institute of Combustion Technology
Oliver Kislat - German Aerospace Center (DLR), Institute of Combustion Technology
Jan Zanger - German Aerospace Center (DLR), Institute of Combustion Technology
Hannah Seliger-Ost - German Aerospace Center (DLR), Institute of Combustion Technology
Peter Kutne - German Aerospace Center (DLR), Institute of Combustion Technology
Manfred Aigner - German Aerospace Center (DLR), Institute of Combustion Technology

Water-Based Yttrium Additive for Hot Corrosion Inhibition in a Gas Turbine, {GT2024-127690}
Technical Paper Publication
Hatem Selim - GE Gas Power
Baha Suleiman - GE Gas Power
Alaaeldin Dawood - GE Gas Power
Pierre Montagne - General Electric Company
Sundar Amancherla - General Electric Company
Abdurrahman Khalidi - Covanta

01-18 Inlets, Nozzles, Mixers and Nacelles III
6/26/2024
10:30 AM to 12:00 PM - SG19

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Kevin Lowe - Virginia Tech***
Chair: ***Peter Cassidy - Von Karman Institute***
Presentations:

Effect of Gerlach Cross-Section on S-Duct Inlet Performance in High Subsonic Flow, {GT2024-129341}
Technical Paper Publication
Benjamin D. Frosst - Royal Military College of Canada
Asad Asghar - Royal Military College of Canada
William D. E. Allan - Royal Military College of Canada
Robert A. Stowe - Valcartier Research Centre, Defence Research and Development Canada
Rogerio Pimentel - Valcartier Research Centre, Defence Research and Development Canada
Grant Ingram - Department of Engineering, Durham University
Timothy Orchard - Department of Engineering, Durham University

Effect of Geometry Modification of a Double Entrance Y-Duct Inlet on Aerodynamic Performance With High Speed Flow, {GT2024-129402}
Technical Paper Publication
Ben Gilbart - Royal Military College of Canada
Courtney Rider - Royal Military College of Canada
Asad Asghar - Royal Military College of Canada
William Allan - Royal Military College of Canada
Robert Stowe - Valcartier Research Centre, Defence Research and Development Canada

Rogerio Pimentel - Valcartier Research Centre, Defence Research and Development Canada

Investigation on the Flow Mechanism and Dynamic Response Performance of Efficient Fluidic Thrust Vectoring Serpentine Nozzle, {GT2024-126499}
Technical Paper Publication
Jingwei Shi - Northwestern polytechnical University
ZhongHao Hui - Northwestern Polytechnical University
Li Zhou - Northwestern polytechnical University
Zhanxue Wang - Northwestern polytechnical University

18-06 Metallurgy, Coating and Repair II
6/26/2024
10:30 AM to 12:00 PM - SG4

Chair: ***Paul Lowden -***
Chair: ***Sanna F. Siddiqui - Florida Polytechnic University***
Presentations:

Tribological Evaluation of Coatings for Air Foil Bearing Applications, {GT2024-121771}
Technical Paper Publication
Eleftherios Iakovakis - University of Manchester
Sepideh Aliasghari - University of Manchester
Philip Bonello - University of Manchester
Allan Matthews - University of Manchester
Michael Burkinshaw - Cummins
Simon Moore - Cummins

The Role of Materials in Enabling Gas Turbine Technologies, {GT2024-126823}
Technical Paper Publication
David Shifler - Office of Naval Research

27-07 Curvics, Brush Seals, and Multi-Layer SFDs in Rotordynamics
6/26/2024
10:30 AM to 12:00 PM - SG16

Chair: ***Rasish Khatri -***
Chair: ***Steven Chatterton - Politecnico di Milano***
Presentations:

Rotordynamics of a Single-Stage Brush Seal in Isolation: The Effects of Variable Stiffness and Back Plate Geometry, {GT2024-128839}
Technical Paper Publication
Josh Bird - University of Bath
Patrick Keogh - University of Bath
Carl Sangan - University of Bath
Aaron Bowsher - Cross Manufacturing Company (1938) Ltd
Peter Crudgington - Cross Manufacturing Company (1938) Ltd
James Scobie - University of Bath

12-13 Advanced film cooling enabled by additive manufacturing

6/26/2024
1:30 PM to 3:30 PM - SG25/SG26

Chair: ***Robin Prenter - Pratt Whitney***
Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Sanjay Chopra -***
Presentations:

Geometric and Flow Characterization of Additively Manufactured Turbine Blades With Drilled Film Cooling Holes, {GT2024-122559}
Technical Paper Publication
Kelsey McCormack - Pennsylvania State University
Maria Rozman - The Pennsylvania State University
Reid Berdanier - The Pennsylvania State University
Karen Thole - The Pennsylvania State University

Integration of Cooling Holes Into a Turbine Vane Made Using Additive Manufacturing, {GT2024-124085}
Technical Paper Publication
Nicholas L. Gailey - The Pennsylvania State University
Michael D. Barringer - The Pennsylvania State University
Reid A. Berdanier - The Pennsylvania State University
Karen A. Thole - The Pennsylvania State University

Optimization of a Novel Design-For-Additive-Manufacturing Film Cooling Hole, {GT2024-128010}
Technical Paper Publication
Niccolo' Castelli - University of Florence
Alessio Picchi - University of Florence
Bruno Facchini - University of Florence
Lorenzo Winchler - Baker Hughes
Francesco Morante - Baker Hughes

Investigation of the Effects of Geometry Variations on the Performance of an Adjoint Optimized Film Cooling Hole, {GT2024-128042}
Technical Paper Publication
Molly Ellinger - The University of Texas at Austin
Elise Flachs - The University of Texas at Austin
David Bogard - The University of Texas at Austin

40-07 Turbine Secondary Flows and Interactions
6/26/2024
1:30 PM to 3:30 PM - Pod 7- Entrance S5 & S6

Chair: ***John P. Clark -***
Chair: ***Reid A. Berdanier - Penn State - University***
Chair: ***Anna Petersen -***
Presentations:

Noise Source Identification for the Unsteady Low Pressure Turbine Flow Fields, {GT2024-122178}
Technical Paper Publication
Lanyi Yan - Harbin Engineering University
Daniele Simoni - University of Genova
Yigang Luan - Harbin Engineering University

Tao Sun - Harbin Engineering University
Dario Barsi - University of Genova
Pietro Zunino - University of Genova

Unsteady Loss Mechanisms in Low-Pressure Turbines With Diverging End-Walls Studied via High-Fidelity Simulation, {GT2024-125408}
Technical Paper Publication
Marco Rosenzweig - The University of Melbourne
Melissa Kozul - The University of Melbourne
Richard Sandberg - The University of Melbourne

LES Analysis of Loss Anomaly of a Turbine Blade With Large Trailing Edge Radius, {GT2024-128243}
Technical Paper Publication
Kenji Miki - NASA Glenn Research Center
Ali Ameri - The Ohio State University / NASA Glenn Research Center
Paul Giel - HX5 LLC / NASA Glenn Research Center

Optimization of Low-Pressure Turbine Blade by Means of Fine Inspection of Loss Production Mechanisms, {GT2024-128710}
Technical Paper Publication
Matteo Russo - Università degli Studi di Genova
Andrea Carlucci - Università degli Studi di Genova
Matteo Dellacasagrande - Università degli Studi di Genova
Daniele Petronio - Università degli Studi di Genova
Davide Lengani - Università degli Studi di Genova
Daniele Simoni - Università degli Studi di Genova
Juri Bellucci - Morfo Design
Matteo Giovannini - Morfo Design
Angelo Alberto Granata - Morfo Design
Monica Gily - Avio Aero
Carlotta Manca - Avio Aero

32-08 Flow Control 1
6/26/2024
1:30 PM to 3:30 PM - Pod 4- Entrance S5 & S6

Chair: ***Francesco Bertini - Avio Aero***
Chair: ***Emil Goettlich -***
Chair: ***Ravikanth Avancha - GE Aerospace***
Chair: ***Marcel Oettinger - MTU Aero Engines***
Presentations:

Performance of Rough-Ribbed Low-Pressure Turbine Blades Under Varying Loading and Operating Conditions, {GT2024-127998}
Technical Paper Publication
Ananth S M - Indian Institute of Technology Madras
Massimiliano Nardini - University of Melbourne
Melissa Kozul - University of Melbourne
Nagabhushana Rao Vadlamani - Indian Institute of Technology Madras
Richard Sandberg - University of Melbourne

A Simplified Injection Model for Variable Area Turbine Fluidic Throttling, {GT2024-121643}
Technical Paper Publication
Alex Spens - The Ohio State University
Evan McFadden - The Ohio State University
Cole Westrick - The Ohio State University

Jeffrey Bons - The Ohio State University

Aerodynamic Performance of Partially Variable Geometry High-Pressure Turbine, {GT2024-125712}
Technical Paper Publication
Lyu You - Institute for Aero Engine,Tsinghua University
Xuezhi Dong - Institute for Aero Engine, Tsinghua University
Xiyang Liu - Institute for Aero Engine, Tsinghua University
Chunqing Tan - Institute for Aero Engine, Tsinghua University

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14-07 Modelling Methods for IAS
6/26/2024
1:30 PM to 3:30 PM - SG29

Chair: ***Peter Childs -***
Chair: ***Mike Barringer -***
Chair: ***Stephen Lynch -***
Chair: ***Carl Sangan -***
Chair: ***Lesley Wright -***
Chair: ***Oliver Pountney -***
Presentations:

Turbine Rear Frame Interface – Thermal Modelling Improvement Using CFD Based Approach, {GT2024-128451}
Technical Paper Publication
Sendilkumaran Soundiramourty - BakerHughes
Vishnu Vardhan Reddy Tippireddy - Bakerhughes
Simone Cubeda - BakerHughes

A Physics Informed Neural Network for Solving the Inverse Heat Transfer Problem in Gas Turbine Rotating Cavities, {GT2024-128967}
Technical Paper Publication
Mark Puttock-Brown - University of Sussex
Goutham Krishna Mahesh Bindhu - University of Sussex
Colin Ashby - University of Sussex

Partitioned Coupled Heat Transfer Fluid-Structure Interaction for Transient and Steady State Analysis of Aero Engines Applications, {GT2024-126718}
Technical Paper Publication
Ute Israel - MTU Aero Engines AG
Francois Cottier - MTU Aero Engines AG
Jochen Gier - MTU Aero Engines AG

Numerical Investigation for a Rotating Cavity With Axial Throughflow With Both Axial Heating and Radial Heating, {GT2024-123812}
Technical Paper Publication
Yu Zhao - Research Institute of Aero-Engine , Beihang University
Shuiting Ding - Research Institute of Aero-Engine , Beihang University
Tian Qiu - Research Institute of Aero-Engine , Beihang University
Yang Xu - School of Energy and Power and Engineering
Peng Liu - Research Institute of Aero-Engine , Beihang University

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04-42 Combustion dynamics - flow instabilities
6/26/2024
1:30 PM to 3:30 PM - SG12

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Pratikash Panda -***
Chair: ***Christopher Douglas -***
Presentations:

Global Stability and Forced Response Analysis of Swirling Flows in Aviation Combustors, {GT2024-121890}
Technical Paper Publication
Parth Patki - Georgia Institute of Technology
Benjamin Emerson - Georgia Institute of Technology
Timothy Lieuwen - Georgia Institute of Technology

Reduced Order Model for Cavity-Based Combustors Describing Various Bifurcations As Cavity Size Is Varied, {GT2024-128504}
Technical Paper Publication
Ashutosh Singh - Indian Institute of Technology Bombay
Vineeth Nair - Indian Institute of Technology Bombay

Flame Interaction and Stabilization Mechanisms in a Dual Premix Swirl Combustor With a Pilot Bluff Body, {GT2024-128941}
Technical Paper Publication
Linye Li - Shanghai Jiao Tong University
Xiaojing Tian - State Key Laboratory of Clean and EfficienTurbomachinery Power Equipment
Shengming Yin - Shanghai Jiao Tong University
Haodong Zhang - Shanghai Jiao Tong University
Yifan Yang - Shanghai Jiao Tong University
Guoqing Wang - Shanghai Jiao Tong University
Zhenzhen Feng - State Key Laboratory of Clean and EfficienTurbomachinery Power Equipment
Liangliang Xu - Shanghai Jiao tong University
Xi Xia - Shanghai Jiao Tong University
Fei Qi - Shanghai Jiao Tong University

Effect of Flare Angle in a Counter-Rotating Dual Radial Swirler on the Stability of a Swirl-Stabilized Flame, {GT2024-129127}
Technical Paper Publication
Darshan Rathod - Indian Institute of Science
Thirumalaikumaran S K - Indian Institute of Science
Sonu Kumar - King Abdullah University of Science and Technology
Pratikash Panda - Indian Institute of Science
Saptarshi Basu - Indian Institute of Science

04-29 Emissions hydrogen/ammonia II
6/26/2024
1:30 PM to 3:30 PM - SG20/SG21

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Ponnuthurai Gokulakrishnan -***
Chair: ***Zekai Hong - NRC Canada***
Presentations:

Computational Cost Optimization of Hydrogen-Air Combustion for NOx Prediction, {GT2024-127585}

Technical Paper Publication

Quentin Buisson - CNRS EM2C - UPR 288
Julien Leparoux - Safran Tech
Stefano Puggelli - Safran Tech
Maxime Leroy - CNRS EM2C - UPR 288
Clément Mirat - CNRS EM2C - UPR 288

Interplay Between Unburned Emissions and NOx Emissions From a Dual Swirl Hydrogen Air Injector, {GT2024-128817}
Technical Paper Publication

Hervé Magnes - Institut de Mécanique des Fluides de Toulouse, IMFT, Université de Toulouse, CNRS, Toulouse, France
Martin Vilespy - Institut de Mécanique des Fluides de Toulouse, IMFT, Université de Toulouse, CNRS, Toulouse, France
Laurent Selle - Institut de Mécanique des Fluides de Toulouse, IMFT, Université de Toulouse, CNRS, Toulouse, France
Thierry Poinsot - Institut de Mécanique des Fluides de Toulouse, IMFT, Université de Toulouse, CNRS, Toulouse, France
Thierry Schuller - Institut de Mécanique des Fluides de Toulouse, IMFT, Université de Toulouse, CNRS, Toulouse, France

Design, Analysis, and Experimental Testing of Hydrogen Lean Direct Injection Nozzles at Elevated Pressure, {GT2024-126814}
Technical Paper Publication

Malcolm Overbaugh - University of California
Vincent Mc Donell - UC Irvine
Phillip Buelow - Collins Aerospace
Jason Ryon - Collins Aerospace
Brandon Williams - Collins Aerospace
Ottavio De Beni - Collins Aerospace

Investigation of NO-Formation in Humid, Ammonia-Doped Combustion, {GT2024-128810}
Technical Paper Publication

Simeon Dybe - Technical University Berlin
Hannah Helbig - Technical University Berlin
Muhammad Yasir - Technical University Berlin
Felix Güthe - Phoenix BioPower
Reddy Alemela - Phoenix BioPower
Michael Bartlett - Phoenix BioPower
Christian Oliver Paschereit - Technical University Berlin
Myles D. Bohon - Technical University Berlin

04-31 Emissions I
6/26/2024
1:30 PM to 3:30 PM - SG13

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***teresa marchione - GE Vernova***
Chair: ***Denise Ahrens - Rolls-Royce***
Presentations:

Optimised Pilot Burner With Intelligent Control to Achieve Sub 9 PPM Emissions for Siemens Energy SGT-300-1S 7.9 MWe Engine, {GT2024-121452}
Technical Paper Publication

Kexin Liu - Siemens Energy Industrial Turbomachinery Ltd

Suresh Sadasivuni - Siemens Energy Industrial Turbomachinery Ltd

Reduction of the Emission Footprint of Gas Turbines in Future Energy System Scenarios Through Optimized Hydrogen Admixture Strategies, {GT2024-125595}
Technical Paper Publication
Christian Goßrau - RWTH Aachen University (Institute of Power Plant Technology, Steam and Gas Turbines)
Nils Hendrik Petersen - RWTH Aachen University (Institute of Power Plant Technology, Steam and Gas Turbines)
Manfred Wirsum - RWTH Aachen University (Institute of Power Plant Technology, Steam and Gas Turbines)

Advancements in Sustainable Aviation Fuels: Impact of Nano-Additives and Ammonia-Based Strategies on Emissions, {GT2024-128827}
Technical Paper Publication
Pasquale Di Gloria - University of Salento
Maria Grazia De Giorgi - University of Salento
Luciano Strafella - University of Salento
Giuseppe Ciccarella - University of Salento
Gregorio Grazio Castelluzzo - University of Salento
Francesca Baldassarre - University of Salento
Antonio Ficarella - University of Salento

Predicting Gas Turbine NOx Emissions With Machine Learning, {GT2024-127627}
Technical Paper Publication
Harrison Eller - Power Systems Mfg.
Sanjana Singh - Power Systems Mfg.
Sumit Soni - Power Systems Mfg.

34-06 Axial compressor design methods
6/26/2024
1:30 PM to 3:30 PM - Pod 1- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Jeffrey Gluck -***
Chair: ***Shakeel Nasir -***
Presentations:

Acoustic Excitation As a Flow Control Technique in a High-Speed Compressor Cascade, {GT2024-128637}
Technical Paper Publication
Seyfettin Coskun - Cranfield University
David John Rajendran - Cranfield University
Vassilios Pachidis - Cranfield University
Marko Bacic - Rolls-Royce plc.

Simulation of Full Featured Compressor Using Massive Parallel Unsteady CFD, {GT2024-124877}
Technical Paper Publication
Jan Suhrmann - Rolls-Royce Deutschland Ltd & Co KG
Paolo Adami - GE Aerospace
Vladislav Ganine - University of Surrey, Thermofluids Systems UTC
Rigel Falcao Do Couto Alves - Capgemini SE
Oliver Reutter - German Aerospace Center DLR

Design Guidelines for Inertial Particle Separators, {GT2024-129347}
Technical Paper Publication
Nicholas Bojdo - University of Manchester
Antonio Filippone - University of Manchester

Aerodynamic Shape Optimization of a Stator, {GT2024-125897}
Technical Paper Publication
Payam Dehpanah - Flexcompute Inc
Cj Doolittle - Flexcompute Inc
Carsten Fuetterer - FRIENDSHIP SYSTEMS AG
Mattia Brenner - FRIENDSHIP SYSTEMS AG

34-07 Centrifugal, combustor, and bearing methods
6/26/2024
1:30 PM to 3:30 PM - Pod 6- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Martina Ricci - Baker Hughes***
Chair: ***Jeffrey Krise - Honeywell***
Presentations:

Analysis of the Inlet Recirculation Phenomenon in a High-Speed Industrial Centrifugal Compressor: Experimental and Computational Study, {GT2024-121039}
Technical Paper Publication
Tariq Ullah - Institute of Turbomachinery, Lodz University of Technology
Merle Klüver - School of Energy Systems, Lappeenranta–Lahti University of Technology
Ahti Jaatinen-Värri - School of Energy Systems, Lappeenranta–Lahti University of Technology
Teemu Turunen-Saaresti - School of Energy Systems, Lappeenranta–Lahti University of Technology
Krzysztof Sobczak - Institute of Turbomachinery, Lodz University of Technology
Grzegorz Liskiewicz - Institute of Turbomachinery, Lodz University of Technology

Combustor Design From a Turbine Perspective to Minimize the Effect of Turbulence, {GT2024-121786}
Technical Paper Publication
Jennifer Miklaszewski - University of Colorado Boulder
Masha Folk - Rolls-Royce North America
Peter Hamlington - University of Colorado Boulder

CFD Study of Journal Bearing Flow Physics and the Influence of Oil Feed Condition Within a Planetary Gearbox, {GT2024-128783}
Technical Paper Publication
Ivo Martin - Rolls-Royce Deutschland Ltd & Co KG
Wolfram Kurz-Hardjosoekatmo - Rolls-Royce Deutschland Ltd & Co KG
Sebastian Schrewe - Rolls-Royce Deutschland Ltd & Co KG

22-04 Turbine Aerodynamic Excitation and Damping
6/26/2024
1:30 PM to 3:30 PM - SG15

Chair: ***Harald Schoenenborn -***
Chair: ***Yoon Choi - GE***
Chair: ***Anne-Lise Fiquet -***
Presentations:

A Computational Study of Temperature Driven Low Engine Order Forced Response in High Pressure Turbines, {GT2024-127475}
Technical Paper Publication
Alexander Trafford - VUTC, Dept Mechanical Engineering, Imperial College London
Sina Stapelfeldt - VUTC, Dept Mechanical Engineering

The Role of Operating Conditions on Flutter Instability of a Low-Pressure Turbine Rotor, {GT2024-127528}
Technical Paper Publication
Lorenzo Pinelli - University of Florence - Department of Industrial Engineering
Francesco Poli - University of Florence
Andrea Arnone - University of Florence
Antonio Giuseppe D' Ettole - Avio Aero – GE Aviation Business
Emanuele Rosso - Avio Aero – GE Aviation Busines
Gianmaria Sartor - Avio Aero – GE Aviation Business
Vsevolod Kharyton - Siemens Energy AB

Validation of a Methodology to Assess the Flutter Limit Cycle Oscillation Amplitude of Low-Pressure Turbine Bladed-Disks - Part I: Mach Number Effects, {GT2024-129074}
Technical Paper Publication
Alvaro Escudero - Universidad Politécnica de Madrid
Salvador Rodríguez-Blanco - Universidad Politécnica de Madrid
Roque Corral - Universidad Politécnica de Madrid

Validation of a Methodology to Assess the Flutter Limit Cycle Oscillation Amplitude of Low-Pressure Turbine Bladed-Disks - Part II: Shaft Speed Effects, {GT2024-129134}
Technical Paper Publication
Alvaro Escudero - Universidad Politécnica de Madrid
Salvador Rodríguez-Blanco - Universidad Politécnica de Madrid
Roque Corral - Universidad Politécnica de Madrid

10-02 Fan Applications
6/26/2024
1:30 PM to 3:30 PM - SG9

Chair: ***Lorenzo Tieghi - Sapienza University of Rome***
Chair: ***Johan Van der Spuy - Stellenbosch University***
Presentations:

Axial Flow Fan Performance in a Forced Draught Air-Cooled Heat Exchanger for a sCO2 Brayton Cycle, {GT2024-120962}
Technical Paper Publication
Francois D. Boshoff - Stellenbosch University
Sybrand J. Van Der Spuy - Stellenbosch University
Johannes P. Pretorius - Stellenbosch University

Characterization of Windshield Effectiveness in Improving Air Cooled Condenser Performance Under High Winds and its Impact on Steam Turbine Power Output, {GT2024-121702}
Technical Paper Publication
Cosimo Bianchini - Ergon Research
Riccardo Da Soghe - Ergon Research
Lorenzo Giannini - Ergon Research
Andrew Gardner - Galebreaker
Jamie Wilde - Galebreaker

Numerical-Experimental Comparison of the Performance of a Mixed-Flow Fan Designed for Electric Vehicles, {GT2024-124082}
Technical Paper Publication
Nicola Aldi - University of Ferrara
Michele Pinelli - University of Ferrara
Mattia Piovan - University of Ferrara
Alessio Suman - University of Ferrara

Nicola Zanini - University of Ferrara
Enrico Mollica - SPAL Automotive Srl
Filippo Menichini - SPAL Automotive Srl

23-04, Hydrodynamic Bearings
6/26/2024
1:30 PM to 3:30 PM - SG23/SG24

Chair: ***Thomas Hagemann -***
Chair: ***Jürg Schiffmann -***
Presentations:

Design Considerations for Directed-Lubrication Thrust Bearings Across a Wide Range of Operating Conditions With a Focus on Pressure Drop in the Oil Supply Path, {GT2024-126536}
Technical Paper Publication
Bruce Fabijonas - Kingsbury, Inc.
Louis Krajewski - Kingsbury, Inc.
Amruthkiran Hegde - Kingsbury, Inc.
Richard Rodzwic - Kingsbury, Inc.

Large Axial Vibrations in Turbomachines: Non-Linear Behaviour of Double Sided Lubricated Thrust Bearing, {GT2024-124990}
Technical Paper Publication
Ludovico Dassi - Politecnico di Milano, Dipartimento di Meccanica
Steven Chatterton - Politecnico di Milano
Edoardo Gheller - Politecnico di Milano
Paolo Pennacchi - Politecnico di Milano

Preventing Tilting Pad Fluttering by Using Elastic Pad Fixation, {GT2024-125725}
Technical Paper Publication
Eckhard Schueler - Miba Industrial Bearings Germany Osterode GmbH
Stephan Faulhaber - Miba Industrial Bearings Germany Osterode GmbH

37-02 Radial Turbomachinery Optimization
6/26/2024
1:30 PM to 3:30 PM - Pod 5-Entrance S5 & S6

Chair: ***Pangbo Ren - University of Cambridge***
Chair: ***Bob Mischo -***
Chair: ***Charles Stuart - Trinity College Dublin, the University of Dublin***
Presentations:

Data-Driven Radial Compressor Design Space Mapping, {GT2024-123250}
Technical Paper Publication
James Brind - Whittle Laboratory, University of Cambridge

Experimentally Verified Optimization of a Two-Stage Real Gas Centrifugal Compressor Using an Industrial-Ready Adjoint Method, {GT2024-124863}
Technical Paper Publication
Lucian Hanimann - Lucerne University of Applied Sciences and Arts
Benno Fleischli - Lucerne University of Applied Sciences and Arts
Luca Mangani - Lucerne University of Applied Sciences and Arts
Ernesto Casartelli - Lucerne University of Applied Sciences and Arts

Ansgar Weickgenannt - Teqtoniq GmbH
Andreas Lehr - Teqtoniq GmbH

Machine Learning Application to Centrifugal Compressor Design, {GT2024-125831}
Technical Paper Publication
David Ransom - Siemens Energy
Ravichandra Srinivasan - Siemens Energy

Artificial Intelligence-Based Performance Maps for Expander-Compressor Analysis in Energy Transition Applications, {GT2024-128901}
Technical Paper Publication
Fabrizio Lottini - Baker Hughes
Marco Bicchi - Baker Hughes
Andrea Agnolucci - Baker Hughes
Michele Marconcini - University of Florence
Andrea Arnone - University of Florence

28-07 Dynamic Response of Bladed Disks
6/26/2024
1:30 PM to 3:30 PM - SG16

Chair: ***Luigi Carassale -***
Chair: ***Azzedine Dadouche -***
Chair: ***Lars Panning-von Scheidt - University of Hannover***
Presentations:

The Impact of Different Equilibrium Hypothesis on the Non-Linear Response of Bladed Disks, {GT2024-123245}
Technical Paper Publication
Gianmarco Zara - Politecnico di Torino
Teresa Maria Berruti - Politecnico di Torino
Stefano Zucca - Politecnico di Torino

Development and Application of a High-Fidelity Numerical Tool for Dynamic Analysis of Bladed Disc Systems With Underplatform Dampers in Aircraft Engine Turbines, {GT2024-123318}
Technical Paper Publication
Mertol Tüfekci - University of Hertfordshire

Structural Dynamics of an Axial Compressor's Rear Blisk Drum and Multi-Stage Coupling, {GT2024-128647}
Technical Paper Publication
Marco Gambitta - Brandenburg University of Technology (BTU)
Bernd Beirow - Brandenburg University of Technology (BTU)
Thomas Klauke - Rolls-Royce Deutschland

Forced Response of Bladed Disks With Excitation Variability, {GT2024-122504}
Technical Paper Publication
Yue Xiao - Leibniz University of Hannover
Lars Panning-Von Scheidt - Leibniz University Hannover, Institut of Dynamics and Vibration Research

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08-10. Gas Turbine Outage Optimization
6/26/2024
1:30 PM to 3:30 PM - SG8

Chair: ***Benjamin Emerson -***

Chair: ***Seyfettin Gulen - Bechtel***
Chair: ***Tony Thornton - TTS Energy Services***
Chair: ***Anthony Thornton - TTS Energy Services***
Presentations:

Benchmarking Gas Turbine Outages: Creating an Expectation Model of Performance Recovery, {GT2024-128029}
Technical Paper Publication
Chris Perullo - Turbine Logic
Andrew Gerlings - Chevron Pipeline and Power
Rick Tomlinson - Chevron Pipeline and Power
Steven Koskey - Turbine Logic
David Noble - EPRI

A Surrogate Model Approach to Predict O&M Cost for Combined Cycle Power Plant, {GT2024-125809}
Technical Paper Publication
Woosung Choi - KEPRI, KEPCO
Bobby M. Webb - EPRI
David R. Noble - EPRI

Risk Assessment and Probabilistic Projection of IN706 Gas Turbine Rotor, {GT2024-125009}
Technical Paper Publication
John Scheibel - Electric Power Research Institute
Huawei Shi - Turbine Technology International, Incorporated
Robert Dewey - Turbine Technology International Incorporated

Hydrogen Fueling and GT Demand Changes Impact Insights Through Modeling, {GT2024-123486}
Technical Paper Publication
James Harper - EPRI
Paolo Pezzini - EPRI
Moritz Hubel - Modelon

05-06 PHM Systems & Comparative Studies
6/26/2024
1:30 PM to 3:30 PM - SG7

Chair: ***Elias Tsoutsanis - Technology Innovation Institute, UAE***
Chair: ***Igor Loboda -***
Chair: ***Yiguang Li - Cranfield University, UK***
Presentations:

Prognostics and Health Management for Electrified Aircraft Propulsion: State of the Art and Challenges, {GT2024-122290}
Technical Paper Publication
Liang Tang - GE Research
Abhinav Saxena - GE Research
Karim Younsi - GE Research

Study on an Automatic FMECA Analysis for Gas Turbine Systems Using Model-Based Systems Engineering Method, {GT2024-128865}
Technical Paper Publication
Jinwei Chen - Shanghai Jiao Tong University
Zhenchao Hu - Shanghai Jiao Tong University
Huisheng Zhang - Shanghai Jiao Tong University

A Comprehensive Literature Review on the Resolution of Turbine Engine Performances' Inverse Problems, {GT2024-129003}

Technical Paper Publication
Dong Quan Vu - Safran Tech
Sebastien Razakarivony - Safran Tech
Yosra Marnissi - Safran Tech
Michel Nocture - Safran Aircraft Engine

A Comparison of Flat and Hierarchical Structures in Aircraft Engine Fault Classification Algorithms, {GT2024-129597}
Technical Paper Publication
Igor Loboda - Instituto Politecnico Nacional
Juan Luis Pérez-Ruiz - Universidad de Ciencias y Artes de Chiapas
Iván González Castillo - Secretaría de Marina Armada de México
Sergiy Yepifanov - National Aerospace University "Kharkiv Aviation Institute"

06-04 Fuel Cell Driven Cycles I
6/26/2024
1:30 PM to 3:30 PM - SG1

Chair: ***Luca Mantelli - University of Genoa***
Chair: ***Ali Baghernejad - University of Mons***
Presentations:

Development and Optimization of a Solid Oxide Fuel Cell Gas Turbine Hybrid System, {GT2024-126860}
Technical Paper Publication
Michael Sprengel - Czero
Nick Echter - Czero

Thermodynamic Analysis of a Solid-Oxide Fuel Cell Gas Turbine (SOFC-GT) Hybrid System for Marine Applications, {GT2024-127431}
Technical Paper Publication
Badamasi Babaji - King Abdullah University of Science and Technology
James Turner - King Abdullah University of Science and Technology

Investigation of an Ammonia-Fuelled SOFC-mGT Hybrid System: Performances Analysis and Comparison With Natural Gas-Based System, {GT2024-128991}
Technical Paper Publication
Chiara Anfosso - Università di Genova - Savona Campus
Silvia Crosa - Università di Genova - Savona Campus
Federico Iester - Università di Genova
Daria Bellotti - Università degli Studi di Genova
Loredana Magistri - Università di Genova

Dynamic Performance Analysis of a Turbocharged PEMFC System, {GT2024-129090}
Technical Paper Publication
Luca Mantelli - Università degli Studi di Genova
Federico Iester - Università degli Studi di Genova
Silvia Crosa - Università degli Studi di Genova
Michele Bozzolo - Rolls-Royce Power Systems
Loredana Magistri - Università degli Studi di Genova
Aristide Massardo - Università degli Studi di Genova

01-11 Modelling, Simulation and Validation III
6/26/2024
1:30 PM to 3:30 PM - SG17/SG18

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Rainer Schnell - German Aerospace Center (DLR)***
Chair: ***Dimitrios Bermperis - Malardalen University***
Chair: ***Kevin Lowe - Virginia Tech***
Presentations:

Large Eddy Simulation With Sliding Mesh Method of a Small-Scale Turbojet Engine, {GT2024-121649}
Technical Paper Publication
Alejandro M. Briones - University of Dayton Research Institute
Brent A. Rankin - Air Force Research Laboratory

Power Analysis of Wave Speed Coincidence Stability and the Effect of Asymmetry, {GT2024-122913}
Technical Paper Publication
Chris Ma - University of Nottingham
Seamus Garvey - University of Nottingham
Punithavathy Kamesh - Rolls-Royce plc
Andrew Rix - Rolls-Royce plc

On Hysteresis in a Variable Pitch Fan Transitioning to Reverse Thrust Mode and Back, {GT2024-128701}
Technical Paper Publication
Dimitrios Vitlaris - Cranfield University
David John Rajendran - Cranfield University
Richard Tunstall - Rolls-Royce plc
John Whurr - Rolls-Royce plc
Vassilios Pachidis - Cranfield University

The Effect of Flight Speed and Altitude on Windmilling Restart Operation of Turbofan Engine System, {GT2024-124058}
Technical Paper Publication
Jingkai Zhang - Harbin Engineering University
Zhitao Wang - Harbin Engineering University
Shuying Li - Harbin Engineering University
Pengfei Wei - Harbin Engineering University

01-05 Inlet Distortion and Engine Operability I
6/26/2024
1:30 PM to 3:30 PM - SG19

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***John Gillespie - NASA Glenn Research Center***
Chair: ***Dimitra Tsakmakidou - Rolls-Royce***
Chair: ***Kevin Lowe - Virginia Tech***
Presentations:

Coupled Design of Multi-Component Distortion-Generating Devices for Aircraft Engine Ground Tests – Part I: Design Methodology and Numerical Validation, {GT2024-128869}
Technical Paper Publication
Julissa Grondin - Cenaero
Michaël Leborgne - Cenaero
Lieven Baert - Cenaero
Ingrid Lepot - Cenaero
Alexandre Gouttière - Cadence Design Systems Belgium
Donavan Dieu - Cadence Design Systems Belgium
Dirk Wunsch - Cadence Design Systems Belgium
Elissavet Boufidi - Von Karman Institute for Fluid Dynamics
Manas Madasseri Payyappalli - Von Karman Institute for Fluid Dynamics

Fabrizio Fontaneto - Von Karman Institute for Fluid Dynamics
Tony Spriet - Safran Aircraft Engines
Jérôme Talbotec - Safran Aircraft Engines

Coupled Design of Multi-Component Distortion-Generating Devices for Aircraft Engine Ground Tests – Part II: Experimental Characterization in a Closed-Loop, High Speed Test Rig, {GT2024-128870}
Technical Paper Publication
Elissavet Boufidi - Von Karman Institute for Fluid Dynamics
Manas Madasseri Payyappalli - Von Karman Institute for Fluid Dynamics
Julissa Grondin - Cenaero
Michaël Leborgne - Cenaero
Lieven Baert - Cenaero
Alexandre Gouttière - Cadence Design Systems Belgium
Donavan Dieu - Cadence Design Systems Belgium
Dirk Wunsch - Cadence Design Systems Belgium
Tony Spriet - Safran Aircraft Engines
Jérôme Talbotec - Safran Aircraft Engines
Fabrizio Fontaneto - Von Karman Institute for Fluid Dynamics

Numerical and Experimental Investigation of Steady Flow Distortion in Drooped Turbofan Intakes, {GT2024-124697}
Technical Paper Publication
Yuhan Zhang - Beihang University
Xu Dong - Beihang University
Zhenyu Li - Beihang University
Dakun Sun - Beihang University
Xiaofeng Sun - Beihang University

20-02 PTC10 and Compressor Performance Measurement Techniques
6/26/2024
1:30 PM to 3:30 PM - SG3

Chair: ***Jason Wilkes -***
Chair: ***Natalie Smith -***
Chair: ***Timothy Allison - SWRI***
Chair: ***Robert Pelton - Elliott***
Presentations:

Field Performance Testing and Test Codes for Gas Compressors, {GT2024-122217}
Technical Paper Publication
Klaus Brun - Elliott Group
Rainer Kurz - Solar Turbines

A Practical Evaluation of Equations of State and the New PTC-10 Polytropic Calculations for Centrifugal Compressors, {GT2024-125064}
Technical Paper Publication
Anand Srinivasan - Solar Turbines Inc
Rainer Kurz - Solar Turbines Inc.
Timothy David - Solar Turbines Inc

ASME PTC 10-2022: Concise Update Overview, {GT2024-129055}
Technical Paper Publication
Matt Taher - Bechtel Energy Inc.

Detection of Flow Induced Aerodynamic Performance Characteristics of Centrifugal Compressors Using Acoustic Measurements, {GT2024-125080}
Technical Paper Publication

Anand Srinivasan - Solar Turbines Inc
Edward Fowler - Solar Turbines Inc
Corey Fuzak - Solar Turbines Inc
Rainer Kurz - Solar Turbines Inc

30-08 Heat Pumps
6/26/2024
1:30 PM to 3:30 PM - SG11

Chair: ***Emmanuel Jacquemoud - MAN Energy Solutions***
Chair: ***Natalie Smith -***
Chair: ***Alessandro Romei -***
Chair: ***Timothy Allison - SWRI***
Presentations:

Integration a Rotary Pressure Exchanger in Transcritical CO2 Refrigeration System: Modeling and Annual Energy Saving Estimation, {GT2024-122716}
Technical Paper Publication
Neelesh Sarawate - Energy Recovery Inc
Arnav Deshmukh - Energy Recovery Inc
Azam Thatte - Energy Recovery Inc

Off-Design Heat Exchanger Modelling for Transcritical CO2 Heat Pump Cycles, {GT2024-126683}
Technical Paper Publication
Leonhard Wolscht - MAN Energy Solutions Schweiz AG
Maxime Podeur - MAN Energy Solutions AG
Martin Adams - MAN Energy Solutions AG
Emmanuel Jacquemoud - MAN Energy Solutions AG

CO2 Transcritical Turbines Stator Optimization for Refrigeration Applications, {GT2024-127501}
Technical Paper Publication
Saugnac Renaud - Mines Paris
Ortego Sampedro Egoï - Mines Paris
Bouallou Chakib - Mines Paris

High Temperature Industrial-Scale CO2 Heat Pumps: Thermodynamic Analysis and Pilot-Scale Testing, {GT2024-129203}
Technical Paper Publication
Timothy Held - Echogen Power Systems
Jason Miller - Echogen Power Systems
Jason Mallinak - Echogen Power Systems
Luke Magyar - Echogen Power Systems

03-07 Methanol
6/26/2024
1:30 PM to 3:30 PM - SG6

Chair: ***Bhupendra Khandelwal - University of Alabama***
Chair: ***Pietro Bartocci - crbnet***
Chair: ***Angela Serra - Baker Hughes***
Chair: ***Marina Braun-Unkhoff - DLR***
Presentations:

Utilisation of Evaporated Ethanol in Natural Gas Fired Lean-Premix Combustors of Power Generation Gas Turbines, {GT2024-120971}
Technical Paper Publication
David Abbott - Uniper Technologies Ltd
Tijn Van Eil - TU Delft, Process and Energy Depertment
Sikke Klein - TU Delft,
Catherine Goy - Uniper Technologies Limited

Green Methanol Demonstrated as an Alternative Fuel to Decarbonise Gas Turbines, {GT2024-122266}
Technical Paper Publication
Tyler Clifford - Siemens Energy
Charlie Booth - Net Zero Technology Centre
Michel Houde - Siemens Energy
Regis Fowler - Siemens Energy
Cameron Maclean - Siemens Energy
Madhubanti Basu - Siemens Energy
Benjamin Witzel - Siemens Energy
Ghenadie Bulat - Siemens Energy

Investigation of Viscor and Methanol Spray Dynamics Using Proper Orthogonal Decomposition in Siemens Energy Industrial Atomisers, {GT2024-126663}
Technical Paper Publication
Ali Alshahrani - University College London
Izwan Mohni - University College London
Adesile Ajisafe - University College London
Marc Furi - Siemens Energy Canada Limited
Michel Houde - Siemens Energy Canada Limited
Suresh Sadasivuni - Siemens Energy Industrial Turbomachinery Ltd
Geoffrey Engelbrecht - Siemens Energy Industrial Turbomachinery Ltd
Ghenadie Bulat - Siemens Energy Industrial Turbomachinery Ltd
Midhat Talibi - University College London
Ramanarayanan Balachandran - University College London
Andrea Ducci - University College London

Methanol-Fired Allam Cycle: Combining Oxy-Fuel Power Cycles With Synthetic E-Fuels, {GT2024-128672}
Technical Paper Publication
Giovanni Manente - University of Salento
Ahtasham Rahim - University of Salento
Antonio Ficarella - University of Salento

02-02 Design and Application of CMC Materials and Components
6/26/2024
1:30 PM to 3:30 PM - SG2

Chair: ***Michael Presby -***
Chair: ***Spencer Jeffs - Swansea University***
Chair: ***Jun Shi - Rolls Royce***
Presentations:

Development of 1400°C(2552°F) Class Ceramic Matrix Composite Turbine Shroud and Demonstration Test With JAXA F7 Aircraft Engine, {GT2024-124241}
Technical Paper Publication
FUMIAKI WATANABE - IHI Corporation
Shohei Yamanaka - IHI Corporation
Toshihito Noguchi - IHI Corporation
Hiroto Hirano - IHI Corporation

Hayao Sato - IHI Corporation
Mitsumasa Makida - Japan Aerospace Exploration Agency
Masahiro Hojo - Japan Aerospace Exploration Agency

Design and Manufacture of EBC Coated SiC/SiC Nozzle Guide Vanes for High-Pressure Turbines, {GT2024-126286}
Technical Paper Publication
Fabia Süß - German Aerospace Center (DLR), Institute of Structures and Design
Robin Schöffler - German Aerospace Center (DLR), Institute of Propulsion Technology
Lion Friedrich - German Aerospace Center (DLR), Institute of Structures and Design
Anna Petersen - German Aerospace Center (DLR), Institute of Propulsion Technology
Felix Vogel - German Aerospace Center (DLR), Institute of Structures and Design
Martin Frieß - German Aerospace Center (DLR), Institute of Structures and Design
Andrea Ebach-Stahl - German Aerospace Center (DLR), Institute of Materials Research

Potential of Pressure Slip Casted All-Oxide CMC Elements for Use in Gas Turbine Systems, {GT2024-128503}
Technical Paper Publication
Fabian Jung - Institut für Textiltechnik of RWTH Aachen University
Johannes Götte - B&B AGEMA Gesellschaft für energietechnische Maschinen und Anlagen Aachen GmbH, Aachen, Germany
Yiou Liu - B&B AGEMA Gesellschaft für energietechnische Maschinen und Anlagen Aachen GmbH, Aachen, Germany
Timo Markus - Institut für Textiltechnik of RWTH Aachen University
Thomas Gries - Institut für Textiltechnik of RWTH Aachen University

Influence of SiC Fiber Dispersion on the Mechanical Strength of SiCf/SiC Composites, {GT2024-126212}
Technical Paper Publication
Soo-Hyun Kim - Korea Institute of Energy Research
Seyoung Kim - Korea Institute of Energy Research
In-Sub Han - Korea Institute of Energy Research
Hyung-Joon Bang - Korea Institute of Energy Research
Young-Hoon Seong - Korea Institute of Energy Research
Seulhee Lee - Korea Institute of Energy Research

35-02 Turbine Transition Ducts
6/26/2024
1:30 PM to 3:30 PM - Pod 2- Entrance S5 & S6

Chair: ***A Duncan Walker -***
Chair: ***Dimitra Tsakmakidou - Rolls-Royce***
Chair: ***Markus Brettschneider - MTU Aero Engines***
Presentations:

Redistribution of Purged Cavity Air Inside a Turbine Exit Vane Frame due to the Interaction With the Main Airflow, {GT2024-126664}
Technical Paper Publication
Malte Schien - Institute of Thermal Turbomachinery and Machine Dynamics
Pablo Lopez - GE Aerospace
Lukas Bratusek - Institute of Thermal Turbomachinery and Machine Dynamics, TU Graz
Franz Heitmeir - Institute of Thermal Turbomachinery and Machine Dynamics, TU Graz
Andreas Marn - Institute of Thermal Turbomachinery and Machine Dynamics, TU Graz

Impact of Lean on Aerodynamic Performance of a Turbine Rear Structure, {GT2024-122626}
Technical Paper Publication
Srikanth Deshpande - GKN Aerospace AB
Mattia Ricchi - GKN Aerospace AB
Jonas Larsson - GKN Aerospace AB
Valentin Vikhorev - Chalmers University of Technology

Valery Chernoray - Chalmers University of Technology

The Effects of Casing Profile on the Aerodynamics of Integrated Intermediate Turbine Ducts, {GT2024-122362}
Technical Paper Publication
Jiangdong Hou - Peking University
Xiaozhi Duan - Peking University
Ziyu Kang - Peking University
Yu Yi - AECC Hunan Aviation Power Plant Research Institute
Chao Zhou - Peking University

Experimental and Numerical Comparison of Two Turbine Vane Frame Designs, {GT2024-126184}
Technical Paper Publication
Nicolas Krajnc - Graz University of Technology
Asim Hafizovic - Graz University of Technology
Lukas Wiesinger - Graz University of Technology
Francesco Mangini - Graz University of Technology
Patrick Zeno Sterzinger - GE Aerospace
Marios Patinios - GE Aerospace
Emil Goettlich - Graz University of Technology

13-11 Advanced Methods (II)
6/26/2024
1:30 PM to 3:30 PM - SG27/SG28

Chair: ***Stephen Lynch -***
Chair: ***Mauro Carnevale -***
Chair: ***Lesley Wright -***
Chair: ***Guillermo Paniagua -***
Chair: ***Robert Krewinkel -***
Chair: ***Cis De Maesschalck -***
Presentations:

Configuration of a Heat Transfer Design Verification Test System Using Airfoil Additive Manufacturing, {GT2024-122051}
Technical Paper Publication
Keekeun Kim - Agency for Defense Development
Junwon Suh - Agency for Defense Development
Dongwha Kim - Agency for Defense Development
Youngmin Kwon - Agency for Defense Development
Kwanho Moon - Agency for Defense Development
Gyongwon Ryu - Agency for Defense Development

Effects of Combustor Residual Swirl and Hot Spot on Aerothermal Characteristics and Cooling Performance of Gas Turbine Blade, {GT2024-124545}
Technical Paper Publication
Tianyi Sun - Institute of Turbomachinery, Xi'an Jiaotong University
Zhiyu Li - Institute of Turbomachinery, Xi'an Jiaotong Universitry
Zhigang Li - Institute of Turbomachinery, Xi'an Jiaotong University
Jun Li - Institute of Turbomachinery, Xi'an Jiaotong Univ.
Qingzong Xu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Qiang Du - Institute of Engineering Thermophysics, Chinese Academy of Sciences

3D Temperature Evaluation of the Vane Based on Fluid-Network Method, {GT2024-127175}
Technical Paper Publication
Siyuan Zhang - Tsinghua University
Xueying Li - Tsinghua University

Jing Ren - Tsinghua University

Numerical Demonstration for a Novel Design of High-Temperature Turbine Facility Enabled by Shock Tube, {GT2024-127546}
Technical Paper Publication
Yizhi Fang - Shanghai Jiao Tong University
Wei Zeng - Shanghai Jiao Tong University
Haiteng Ma - Shanghai Jiao Tong University

18-07 Metallurgy, Coating and Repair III
6/26/2024
1:30 PM to 3:30 PM - SG4

Chair: ***Paul Lowden -***
Chair: ***Sanna F. Siddiqui - Florida Polytechnic University***
Presentations:

Durability Test of Advanced TBC's, {GT2024-127899}
Technical Paper Publication
Hans Van Esch - TEServices
Stijn Pietersen - TEServices
John Scheibel - EPRI
Olaf Barth - Dominion

Tribological Performance of Soft Magnetic Composite Materials for Gas Turbine Applications, {GT2024-129206}
Technical Paper Publication
Alessio Suman - University of Ferrara
Annalisa Fortini - University of Ferrara

Using Simultaneous Differential Scanning Calorimetry and Thermogravimetric Analysis to Develop Braze Processes for Porous FELTMETAL™ Abradable Seal Material, {GT2024-129441}
Technical Paper Publication
Erin Volpe - Technetics Group
Elaine Motyka - Technetics Group
Stefan Roeseler - Technetics Group
Ryan Plessinger - Technetics Group
Tyler Noyes - Technetics Group
Jonathan Kweder - Technetics Group

31-02 Transonic Flow
6/26/2024
4:00 PM to 5:30 PM - Pod 1- Entrance S5 & S6

Chair: ***M. Krautheim - Rolls-Royce***
Chair: ***Marc Kainz - Ansys***
Chair: ***John Bolger - Rolls-Royce***
Presentations:

Influence of Engine Conditions on the Performance Prediction of a Two-Stage Transonic Low Pressure Compressor, {GT2024-126672}
Technical Paper Publication
Julian Alexander Scheibel - University of the Bundeswehr Munich, Department of Aerospace Engineering, Institute of Jet Propulsion

Marcel Stößel - University of the Bundeswehr Munich, Department of Aerospace Engineering, Institute of Jet Propulsion
Dragan Kožulović - University of the Bundeswehr Munich, Department of Aerospace Engineering, Institute of Jet Propulsion

Nature of Transonic Compressor Flow: Importance of 3D Athroat/Ainlet Part I: Subsonic Mach Numbers, {GT2024-128748}
Technical Paper Publication
Demetrios Lefas - Whittle Laboratory, University of Cambridge

Investigation on the Interaction of Tip Leakage Flow/ Shock Wave/ Boundary Layer in a Transonic Compressor Stage, {GT2024-126225}
Technical Paper Publication
Jianci Ma - Tsinghua University
Jiabin Li - Tsinghua University
Lucheng Ji - Tsinghua University

12-01 Experimental studies on film cooling
6/26/2024
4:00 PM to 5:30 PM - SG27/SG28

Chair: ***Kapil Panchal - Ebara Elliott Energy***
Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Srinath Ekkad -***
Presentations:

Passage Secondary Flow Effects on Turbine Endwall Discrete Hole Film Cooling - A Review With Unique New Evidence, {GT2024-123466}
Technical Paper Publication
Ting-Wei Chen - University of Minnesota, Twin Cities
Matthew Stinson - Trane Technologies
Terrence Simon - University of Minnesota, Twin Cities

Enhanced Adiabatic Film Cooling Effectiveness by Varying Compound Angle, {GT2024-122413}
Technical Paper Publication
Yeongmin Pyo - University of Ottawa
Mohsen Broumand - National Research Council of Canada
Juchan Son - University of Ottawa
Patrick Richer - University of Ottawa
Bertrand Jodoin - University of Ottawa
Zekai Hong - National Research Council of Canada

Multirow Film-Cooling Effectiveness of Vertically Oriented Slot Cross-Section Diffusion Holes on a Turbine Nozzle Guide Vane Suction Surface , {GT2024-124139}
Technical Paper Publication
Jiajun Hu - University of Chinese Academy of Sciences, Beijing, 100049, China
Baitao An - Institute of Engineering Thermophysics, Chinese Academy of Sciences

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12-08 Effects of film cooling geometry on cooling performance (I)
6/26/2024

4:00 PM to 5:30 PM - SG25/SG26

Chair: ***Giovanna Barigozzi -***
Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Hui Tang -***
Presentations:

Effect of Relative Location of Film Cooling Hole With Internal Angled Ribs on the Film Cooling Effectiveness of a Gas Turbine Blade, {GT2024-122560}
Technical Paper Publication
Young Jun Kang - Korea Aerospace University
Jin Young Jeong - Korea Aerospace University
Hyeok Je Kim - Korea Aerospace University
Gi Mun Kim - Korea Aerospace University
Jae Su Kwak - Korea Aerospace University

Performance Comparison of Different Leading Edge Cooling Layouts Considering Inlet Swirl, {GT2024-126024}
Technical Paper Publication
Kexin Hu - Tsinghua University
Zhen Zhang - Tsinghua University
Xinrong Su - Tsinghua University
Xin Yuan - Tsinghua University

Numerical Study on the Console Hole Film Cooling Performance With Varied Hole Inlet Shape, {GT2024-127255}
Technical Paper Publication
Yiming Luo - Beihang University
Haiwang Li - Beihang University
Zhiyu Zhou - Beihang University
Gang Xie - Beihang University
Long Meng - Beihang University

40-02 Axial Compressor Instabilities and Stall
6/26/2024
4:00 PM to 5:30 PM - Pod 6- Entrance S5 & S6

Chair: ***Tianyu Pan -***
Chair: ***Reid A. Berdanier - Penn State - University***
Chair: ***Zhihui Li - Imperial College***
Presentations:

Analysis of Pre-Stall Pressure Disturbances in an Axial Compressor, {GT2024-123043}
Technical Paper Publication
Valerie Hernley - Johns Hopkins University Applied Physics Laboratory
Jeongseek Kang - University of Notre Dame
Matthew Montgomery - Doosan Enerbility
Aleksandar Jemcov - University of Notre Dame
Scott C. Morris - University of Notre Dame

Criteria for the Occurrence of Tip Leakage Flow Induced Rotating Instability, {GT2024-126921}
Technical Paper Publication
Xiangyi Chen - Yangtze Delta Region Institute of Tsinghua University, Zhejiang
Martin Lange - Chair of Turbomachinery and Flight Propulsion, Technische Universität Dresden

Björn Koppe - Chair of Turbomachinery and Flight Propulsion, Technische Universität Dresden
Christoph Jasmund - Chair of Turbomachinery and Flight Propulsion, Technische Universität Dresden
Wuli Chu - School of Power and Energy, Northwestern Polytechnical University
Ronald Mailach - Chair of Turbomachinery and Flight Propulsion, Technische Universität Dresden

Unsteady Flow Structure of Rotating Instability in a 1.5-Stage Axial Compressor, {GT2024-122609}
Technical Paper Publication
Nobumichi Fujisawa - Waseda University
Yutaka Ohta - Waseda University
Mai Yamagami - IHI Corporation
Takashi Goto - IHI Corporation
Dai Kato - IHI Corporation

04-38 Combustion dynamics - flame response I
6/26/2024
4:00 PM to 5:30 PM - SG12

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Tony John - GE Aerospace***
Presentations:

Effect of Transverse Acoustic Excitation Over a Partially-Premixed Swirling Flame, {GT2024-128680}
Technical Paper Publication
Ravi Gupta - Indian Institute of Science, Bangalore
Aayushi Bohrey - Indian Institute of Science Bangalore
Pratikash Panda - Indian Institute of Science

Inferring Flame Transfer Functions of Turbulent Conical Flames From Pressure Measurements, {GT2024-122798}
Technical Paper Publication
Matthew Yoko - University of Cambridge
Matthew P. Juniper - University of Cambridge

22-05 Aeroelastic Instabilities and Mistuning
6/26/2024
4:00 PM to 5:30 PM - SG15

Chair: ***Davendu Kulkarni - Rolls-Royce***
Chair: ***Yoon Choi - GE***
Chair: ***Virginie Chenaux -***
Presentations:

Manufacturing and Build Variations Modelling for Multi-Stage Axial Compressors: Forced Response Predictions, {GT2024-125093}
Technical Paper Publication
Giuseppe Bruni - Siemens Energy
Senthil K. Krishnababu - Siemens Energy Industrial Turbomachinery Ltd.
Simon Jackson - Siemens Energy Industrial Turbomachinery Ltd.

Numerical Study of Low Engine Order Excitations due to Manufacturing Variability Part 1: Characterization of the Geometric Scatter and its Effect on Forced Response, {GT2024-126586}
Technical Paper Publication

Óscar Pérez Escobar - ITP Aero
Vicente Timón - ITP Aero
Juan Manuel Gallardo - ITP Aero

Numerical Study of Low Engine Order Excitations due to Manufacturing Variability Part 2: An Efficient Approach for Stochastic Studies, {GT2024-126570}
Technical Paper Publication
Juan Manuel Gallardo - ITP Aero
Óscar Pérez Escobar - ITP Aero

04-12 Flashback and Blowoff III
6/26/2024
4:00 PM to 5:30 PM - SG20/SG21

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Debolina Dasgupta -***
Presentations:

Experimental Evaluation of a Premixed Swirl-Stabilized Gas Burner With a Focus on Mixture Stratification, {GT2024-128753}
Technical Paper Publication
Raul Payri - Universitat Politècnica de València
Jose M Garcia-Oliver - Universitat Politecnica de Valencia
Pedro Martí Gómez-Aldaraví - Universitat Politècnica de València
Elkin Ramírez Correa - Universitat Politècnica de València

Image-Based Flashback Detection in a Hydrogen-Fired Gas Turbine Using a Convolutional Autoencoder, {GT2024-128722}
Technical Paper Publication
Paul Porath - Technische Universität Berlin
Vikas Yadav - Technische Universität Berlin
Lukasz Panek - Siemens Energy AG
Abdulla Ghani - Technische Universität Berlin

04-24 Kinetics I
6/26/2024
4:00 PM to 5:30 PM - SG13

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Khawar Syed -***
Chair: ***Ali Benim -***
Presentations:

Development of a Reactor Network Model for a Practical Gas Turbine Combustor, {GT2024-124079}
Technical Paper Publication
Srujan Gubbi - Georgia Institute of Technology
Wenting Sun - Georgia Institute of Technology
Nakjeong Choi - KEPCO Research Institute
Seik Park - KEPCO Research Institute

Jungkeuk Park - KEPCO Research Institute
Sanghyup Lee - KEPCO Research Institute
Jim Harper - EPRI
Robert Steele - EPRI
David Noble - EPRI

Development of a Virtual Chemistry Reaction Mechanism for H2/CH4 Turbulent Combustion Modelling, {GT2024-124328}
Technical Paper Publication
simone Castellani - Università di Firenze
Antonio Andreini - Università di Firenze
Roberto Meloni - Baker Hughes

An Optimized and Reduced Chemical Kinetic Model for CFD Simulations of Hydrogen and Natural Gas Blends Combustion for Industrial Gas Turbines, {GT2024-128989}
Technical Paper Publication
Ramees Khaleel Rahman - University of Central Florida
Raghu Kancherla - Power Systems Mfg., LLC
Gregory Vogel - Power Systems Mfg., LLC
Subith Vasu - University of Central Florida

23-11, Labyrinth Seals
6/26/2024
4:00 PM to 5:30 PM - SG23/SG24

Chair: ***Giuseppe Vannini -***
Chair: ***Jürg Schiffmann -***
Chair: ***Tingcheng Wu -***
Presentations:

Effect of Frequency Characteristics and Swirl Brakes on Fluid Destabilization Force Acting on Compressor Closed Impeller Leakage Path, {GT2024-124505}
Technical Paper Publication
Makoto Iwasaki - Mitsubishi Heavy Industries, Ltd.
Shingo Nishida - Mitsubishi Heavy Industries, Ltd.
Shuichi Yamashita - Mitsubishi Heavy Industries, Ltd.
Takashi Oda - Mitsubishi Heavy Industries Compressor, Ltd.

Effect of Labyrinth Seal Parameters on Leakage and Rotordynamics in a Centrifugal Compressor Supported by Active Magnetic Bearings, {GT2024-126770}
Technical Paper Publication
Tuhin Choudhury - Lappeenranta-Lahti University of Technology LUT
Gyan Ranjan - Lappeenranta-Lahti University of Technology LUT
Alexander Smirnov - Spindrive Oy
Janne Heikkinen - Spindrive Oy
Lauri Rauhala - Mertala Innovations Oy
Jussi Sopanen - Lappeenranta-Lahti University of Technology LUT

Sensitivity Analysis of Simplified Labyrinth Seals Model Stability to Flow Hypotheses, {GT2024-128188}
Technical Paper Publication
Giorgia Foschi - Ecole Centrale of Lyon
Fabrice Thouverez - Ecole Centrale of Lyon
Laurent Blanc - Ecole Centrale of Lyon
Giuseppe Fiore - Centre National d'Etudes Spatiales
Giampiero Pampolini - Ariane Group SAS
Patrick Girard - Safran Aircraft Engines

41-03 Small-scale Wind Turbines
6/26/2024
4:00 PM to 5:30 PM - SG8

Chair: ***Giacomo Persico - Politecnico di Milano***
Chair: ***Lorenzo Ferrari - University of Pisa – DESTEC, Italy***
Chair: ***Kenneth Van Treuren - Baylor University***
Presentations:

Investigating Power Augmentation of 1 MW Horizontal Axis Wind Turbine Using Auxiliary Turbines, {GT2024-127330}
Technical Paper Publication
Ahmed M. R. Elbaz - The British University in Egypt
Ali Shehab - Ain Shams University, Cairo, Egypt.

Investigating the Performance of a Small Horizontal Axis Wind Turbines (HAWT) Using Toroidal Blades, {GT2024-128897}
Technical Paper Publication
Ahmed Ezz - The British University in Egypt
Ahmed El Baz - The British University in Egypt

Design Guidelines for Arrays of Closely Spaced Darrieus Turbines, {GT2024-121978}
Technical Paper Publication
Omar Sherif Mohamed - University of Florence
Pier Francesco Melani - University of Florence
Giuseppe Soraperra - HE-PowerGreen s.r.l.
Alessandra Brighenti - HE-PowerGreen s.r.l
Francesco Balduzzi - University of Florence
Alessandro Bianchini - University of Florence

05-13 Instrumentation III: Intrusive Measurement
6/26/2024
4:00 PM to 5:30 PM - SG7

Chair: ***Lubomir Ribarov - U.S. Merchant Marine Academy***
Chair: ***Igor Loboda -***
Chair: ***Tamara Guimaraes Bucalo - Penn State - University***
Presentations:

Flow Disturbance by Intrusive Instrumentation: Part 2 – Protrusions on the Suction Side of HP Compressor Vanes, {GT2024-122780}
Technical Paper Publication
Lukas Schäflein - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Daniel Jung - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Peter Jeschke - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Roland Wunderer - MTU Aero Engines AG

Enhancing Total Temperature Measurement Accuracy: Calibration Procedures and Novel Two-Wire Probes, {GT2024-126636}
Technical Paper Publication
Diego Sanchez - Purdue University
Guillermo Paniagua - Purdue University

Flow Disturbance by Intrusive Instrumentation: Part 1 – Protrusions on the Pressure Side of HP Compressor Vanes, {GT2024-129145}
Technical Paper Publication
Daniel Jung - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Lukas Schäflein - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Peter Jeschke - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Roland Wunderer - MTU Aero Engines AG

19-08 Turbine Design
6/26/2024
4:00 PM to 5:30 PM - SG5

Chair: ***Michaã«L DELIGANT -***
Chair: ***Aaron Rimpel -***
Chair: ***Tommaso Capurso - École Nationale Supérieure d'Arts et Métiers***
Chair: ***Tommaso Capurso - Poliba***
Presentations:

Influence of External Heat Transfer on the Thermo-Structural Stress of a Radial Turbine Wheel, {GT2024-121990}
Technical Paper Publication
Francesco Balduzzi - University of Florence
Pierre-Alain Hoffer - Ferrari SpA
Luigi Mosciaro - Ferrari SpA
Daniele Mattiello - Ferrari SpA
Silvio Rabbolini - Ferrari SpA
Nicola Pini - Ferrari SpA
Alessandro Bianchini - University of Florence
Giovanni Ferrara - University of Florence

Blade Excitation Alleviation of a Nozzleless Radial Turbine by Casing Treatment Based on Reduced Order Model, {GT2024-129628}
Technical Paper Publication
Mingyan Yang - Shanghai Jiao Tong University
Zhaokai Lu - Shanghai Jiao Tong University
Wataru Sato - IHI co. Ltd
Teppei Kuwata - IHI Co. Ltd

06-05 Fuel Cell Driven Cycles II
6/26/2024
4:00 PM to 5:30 PM - SG1

Chair: ***Luca Mantelli - University of Genoa***
Chair: ***Ali Baghernejad - University of Mons***
Presentations:

A Holistic Conceptual Synthesis and Analysis of Fuel Cell System Architectures Using 1D Coupled Thermofluid and Electrochemical Lumped Parameter System Simulation, {GT2024-126934}
Technical Paper Publication
Vlad Goldenberg - SoftInWay
Ben Conser - SoftInWay
Clement Joly - SoftInWay
Leonid Moroz - SoftInWay

Topology Optimization of Fuel Cells: an Innovative Approach for Sustainable Aviation, {GT2024-128915}
Technical Paper Publication
Nicola Casari - TOffeAM ltd.
Antonio Di Caterino - ToffeeAM LTD
Marco Pietropaoli - ToffeeAM LTD

Techno-Economic Analysis of the Solid Oxide Semi-Closed CO2 Cycle for Different Plant Sizes, {GT2024-129298}
Technical Paper Publication
Matteo Martinelli - Politecnico di Milano
Stefano Campanari - Politecnico di Milano
Emanuele Martelli - Politecnico De Milano - Dept. of Energy

01-12 Propellers and Open Rotors
6/26/2024
4:00 PM to 5:30 PM - SG19

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Kenneth Van Treuren - Baylor University***
Chair: ***Stavros Vouros - Mälardalen University***
Chair: ***Kevin Lowe - Virginia Tech***
Presentations:

QCSEE — Design and Test Contributions to the Rise Open Fan Program, {GT2024-123719}
Technical Paper Publication
Aspi Wadia - GE Aerospace
Jan Schilling - GE Aerospace
William Solomon - GE Aerospace
Gregory Steinmetz - GE Aerospace
Daniel Mollmann - GE Aerospace

Innovative Synergies in Aircraft Propulsion: the Concept of Hybrid Power Systems With Contra-Rotating Propellers, {GT2024-121815}
Technical Paper Publication
Majid Hazeri - EIMT (European Institute of Management & Technology)
Mohsen Moradkhani - Consultant/Researcher
Javad Rashid Jafari - Adana Alparslan Türkeş Bilim ve Teknoloji university
Davood Asadi - Adana Alparslan Bilim ve Tek. University

Design and Analysis of a Liftfan for eVTOL Aircraft, {GT2024-123904}
Technical Paper Publication
Rory Hine - University of Cambridge
Dominic Cousins - University of Cambridge
Leo Maden - University of Cambridge
Samuel Walker - University of Cambridge
Nick Atkins - University of Cambridge
Samuel Grimshaw - University of Cambridge
James Taylor - University of Cambridge

20-07 - Optimization II - Machine Learning, and the Digital Twin
6/26/2024
4:00 PM to 5:30 PM - SG3

Chair: ***Jason Wilkes -***
Chair: ***Stefano Minotti - Baker Hughes***
Presentations:

Smart Industrial Gas Turbine Low-Cost IoT Architecture, {GT2024-124967}
Technical Paper Publication
Vili Panov - Siemens Energy Industrial Turbomachinery Ltd
Samuel Cruz-Manzo - Siemens Energy Industrial Turbomachinery Ltd
Egor Goloshchapov - Siemens Energy ES

Data-Driven Generative Model Aimed to Create Synthetic Data for the Long-Term Forecast of Gas Turbine Operation, {GT2024-122162}
Technical Paper Publication
Enzo Losi - Università degli Studi di Ferrara
Lucrezia Manservigi - Università degli Studi di Ferrara
Pier Ruggero Spina - Università degli Studi di Ferrara
Mauro Venturini - Università degli Studi di Ferrara

30-14 Waste Heat Recovery & Geothermal
6/26/2024
4:00 PM to 5:30 PM - SG11

Chair: ***Owen Pryor -***
Chair: ***Karl Wygant -***
Chair: ***Timothy Allison - SWRI***
Presentations:

Performance of sCO2 Cycles for Waste Heat Recovery and Techno-Economic Perspective As Gas Turbine Bottoming Cycle, {GT2024-123967}
Technical Paper Publication
Vincent Thielens - University of Mons
Frederiek Demeyer - Engie R&I Laborelec
Ward De Paepe - University of Mons

sCO2 Cycle Selection for Waste Heat Recovery From Aircraft Engine, {GT2024-129456}
Technical Paper Publication
Ladislav Vesely - University of Central Florida
William Andress - Purdue University
Guillermo Paniagua - Purdue University
Marcel Otto - University of Central Florida
Jayanta Kapat - University of Central Florida
Claire Bury - University of Central Florida

Comparison of Geothermal Power Systems in Texas, {GT2024-129331}
Technical Paper Publication
Owen Pryor - Southwest Research Institute
Cole Replogle - Southwest Research Institute
Reese Roddy - Southwest Research Institute

03-04 H2 and NH3 in Aeroengines
6/26/2024
4:00 PM to 5:30 PM - SG6

Chair: ***Pierre Gauthier - Siemens Energy***
Chair: ***Pietro Bartocci - crbnet***
Chair: ***Angela Serra - Baker Hughes***
Chair: ***Marina Braun-Unkhoff - DLR***
Presentations:

Performance Modeling and Analysis of Hydrogen-Fueled Aero-Engines, {GT2024-124156}
Technical Paper Publication
Xiting Wang - Tsinghua University
Ai He - Tsinghua University
Zhixiong Chen - AECC Hunan Aviation Powerplant Research Institute
Jincen Jiang - Tsinghua University
Yuan Liu - AECC Hunan Aviation Powerplant Research Institute
Zhongzhi Hu - Tsinghua University

Multi-Objective Optimization and Chemical Reactor Network Modelling to Estimate the Minimum NOx and Ammonia Slip in an Aviation Combustor, {GT2024-128997}
Technical Paper Publication
Shahzad Bobi - University of Central Florida
Priyankar Garai - University of Central Florida
Ramees Rahman - University of Central Florida
David Zamora - University of Central Florida
Marzuqa Ahmed - University of Central Florida
Subith Vasu - University of Central Florida

Transient Modeling of an Aero-Engine Using Ammonia As a Fuel Carrier, {GT2024-129283}
Technical Paper Publication
Kangana Patel - University of central florida
Vipul Goyal - University of Central florida
Brandon Cotto - University of central florida
Marcel Otto - University of Central florida
Ladislav Vesely - University of central florida
Jayanta Kapat - University of Central florida
Mingxuan Shi - The Boeing Company

40-09 Fan and Compressor Vibrations
6/26/2024
4:00 PM to 5:30 PM - Pod 4- Entrance S5 & S6

Chair: ***Dai Kato - IHI***
Chair: ***Reid A. Berdanier - Penn State - University***
Chair: ***Yoon Choi - GE***
Presentations:

Non-Synchronous Vibration and Related Tip Clearance Flow Characteristic in a Low-Speed Axial Fan, {GT2024-129094}
Technical Paper Publication
He Zhang - Research Institute of Aeroengine, Beihang University
Ming Zhang - School of Energy and Power Engineering, Beihang University
Xu Dong - Research Institute of Aeroengine, Beihang University
Dakun Sun - School of Energy and Power Engineering, Beihang University
Xiaofeng Sun - School of Energy and Power Engineering, Beihang University

Utilizing a Multi-Degree of Freedom Reduced-Order Model for Identifying Non-Synchronous Vibrations in Turbomachinery, {GT2024-129201}
Technical Paper Publication

Richard Hollenbach - Exponent

Numerical Analysis of Oscillating Blade in Linear Cascade at Transonic Flow, {GT2024-129233}
Technical Paper Publication
Ragupathy S - INDIAN INSTITUTE OF TECHNOLOGY KANPUR
Abhijit Kushari - INDIAN INSTITUTE OF TECHNOLOGY KANPUR
M C Keerthi - INDIAN INSTITUTE OF TECHNOLOGY DHARWAD

32-13 High Pressure Turbines 2
6/26/2024
4:00 PM to 5:30 PM - Pod 2- Entrance S5 & S6

Chair: ***Cis De Maesschalck -***
Chair: ***Emil Goettlich -***
Chair: ***Sergio Lavagnoli - von Karman Institute for Fluid Dynamics***
Presentations:

High Effectiveness Tip Cooling Using Inclined Slots, {GT2024-121742}
Technical Paper Publication
Macdonald Mutekwa - University of Oxford
Joao Vieira - Rolls-Royce plc
Maximilian Farfaras - University of Oxford
John Coull - University of Oxford
Marko Bacic - Rolls-Royce plc
Peter Ireland - University of Oxford

An Aerodynamic Investigation of a High-Pressure Turbine Using Rotor Casing Static Pressure Measurements at Engine Representative Conditions With Different Tip Designs, Tip Gaps and Inlet Temperature Profiles, {GT2024-122649}
Technical Paper Publication
Deepanshu Singh - University of Cambridge
Paul Beard - University of Oxford
David Cardwell - University of Oxford
Vianney Staelens - Rolls-Royce
Pratik Bahulekar - Rolls-Royce
Mark Stokes - Rolls-Royce
Simon Bather - Rolls-Royce
Kam Chana - University of Oxford

36-04 Neural-Network based approaches (3)
6/26/2024
4:00 PM to 5:30 PM - Pod 5-Entrance S5 & S6

Chair: ***Francesco Montomoli - Imperial***
Chair: ***Marcus Meyer -***
Chair: ***Shahrokh Shahpar - Rolls-Royce***
Presentations:

Generative Model Based Parameterization for More Efficient Aerodynamic Optimization of Non-Axisymmetric Endwall, {GT2024-128792}
Technical Paper Publication
Cunxi Li - Xi'an Jiaotong University
Liming Song - Xi'an Jiaotong University
Zhendong Guo - Xi'an Jiaotong University

Zhao Yang - Xi'an Jiaotong University
Jun Li - Xi'an Jiaotong University
Zhenping Feng - Xi'an Jiaotong University

A Real Time AI-Based Strategy for the Design of a Low-Pressure Turbine Profile, {GT2024-128809}
Technical Paper Publication
Juri Bellucci - Morfo Design Srl
Angelo Alberto Granata - Morfo Design Srl
Mattia Silei - Università di Firenze
Matteo Giovannini - Morfo Design Srl
Ennio Spano - Avio Aero
Andrea Notaristefano - Avio Aero
Davide Lengani - University of Genova

Centrifugal Compressor Performance and Flow Path Generation With Artificial Intelligence, {GT2024-129190}
Technical Paper Publication
Valentyn Barannik - SoftInWay Switzerland GmbH
Maksym Burlaka - SoftInWay, Inc.
Bohdan Lysianskyi - SoftInWay Switzerland GmbH
Leonid Moroz - SoftInWay, Inc.

18-08 Advanced Manufacturing and Design II
6/26/2024
4:00 PM to 5:30 PM - SG4

Chair: ***Daniel Heinen -***
Chair: ***Firat Irmak -***
Presentations:

Tool Wear Prediction in Broaching Based on Tool Geometry, {GT2024-123636}
Technical Paper Publication
Christoph Zachert - Werkzeugmaschinenlabor WZL Der RWTH Aachen
Markus Meurer - Werkzeugmaschinenlabor WZL der RWTH Aachen
Thomas Bergs - Werkzeugmaschinenlabor WZL der RWTH Aachen

Improving the Fatigue Life of an Additively Manufactured Stainless-Steel Specimen Using a Secondary Grinding Process, {GT2024-124342}
Technical Paper Publication
Murali Krishnan Ramachandran - The University of Akron
Safia Alam Sumaiya - The University of Akron
Mandar Golvaskar - The University of Akron
Julia Wood - The University of Akron
Isaac Sluder - The University of Akron
Chandra Sekhar Rakurty - MK Morse
Nithin Rangasamy - MK Morse
Onome Scott Emuakpor - Hyphen Innovations
Manigandan Kannan - The University of Akron

Wire EDM for the Manufacture of Fir Tree Slots Using Different Wire Electrodes, {GT2024-126584}
Technical Paper Publication
Ugur Küpper - Manufacturing Technology Institute (MTI) of RWTH Aachen University
Daniel Schulze Brock - Manufacturing Technology Institute (MTI) of RWTH Aachen University
Andreas Klink - Manufacturing Technology Institute (MTI) of RWTH Aachen University
Tim Herrig - Manufacturing Technology Institute (MTI) of RWTH Aachen University
Thomas Bergs - Manufacturing Technology Institute (MTI) of RWTH Aachen University

THURSDAY, 6/27/2024

35-04 Fan, Compressor and Engine Noise 2
6/27/2024
8:00 AM to 10:00 AM - Pod 5-Entrance S5 & S6

Chair: ***A Duncan Walker -***
Chair: ***Stefano Bianchi - Airbus***
Chair: ***Mauro Carnevale - University of Bath***
Chair: ***Daniela Anna Misul - Politecnico di Torino***
Presentations:

Design of Broadband Liner Based on Cremer Concept, {GT2024-124758}
Technical Paper Publication
Ji Zhang - Beihang university
Xianghai Qiu - Beihang university
Lin Du - Beihang university
Xiaofeng Sun - Beihang university

Research on the Aerodynamic Noise Performance of a Novel Structure of Cooling Fans in Series, {GT2024-128543}
Technical Paper Publication
Yuhang Zheng - Shanghai Jiao Tong University
Zhaoyin Li - Shanghai Jiao Tong University
Zonghan Sun - Shanghai Jiao Tong University
Fang Lu - Shanghai Jiao Tong University
Jie Tian - Shanghai Jiao Tong University
Hua Ouyang - Shanghai Jiao Tong University

Swirling Flow Effects on the Aeroacoustic Signature of an Aerospike Nozzle, {GT2024-126691}
Technical Paper Publication
Thomas Golliard - KTH Royal Institute of Technology
Mihai Mihaescu - KTH Royal Institute of Technology

Acoustic Modes in an Open Box Cavity With Variable Depth Using Two Distinct Wind Tunnels, {GT2024-129059}
Technical Paper Publication
Steffen Hammer - KTH - Royal Institute of Technology
James Twaddle - Purdue University
Jens Fridh - KTH - Royal Institute of Technology
Guillermo Paniagua - Purdue University

31-01 Casing Treatment
6/27/2024
8:00 AM to 10:00 AM - Pod 2- Entrance S5 & S6

Chair: ***Stefano Bianchi - Airbus***
Chair: ***Lisa Brilliant - RTX/Pratt & Whitney***
Chair: ***Sameer Kulkarni -***
Presentations:

Effects of Inlet Total Pressure Distortion on the Performance of a Two-Stage Transonic Fan, {GT2024-126211}
Technical Paper Publication

Jiahui Qiu - Institute of Engineering Thermo-physics, Chinese Academy of Sciences
Hongliang Zhao - School of Energy, Power and Mechanical Engineering, North China Electric Power University
Chen Yang - Institute of Engineering Thermo-physics, Chinese Academy of Sciences
Juan Du - Institute of Engineering Thermo-physics, Chinese Academy of Sciences
Min Zhang - Institute of Engineering Thermo-physics, Chinese Academy of Sciences
Yaolong Qin - Institute of Engineering Thermo-physics, Chinese Academy of Sciences

An Experimental Investigation of the Non-Axisymmetric Casing Treatment for a Low-Speed Axial-Flow Compressor Under Circumferential Inflow Distortion, {GT2024-124430}
Technical Paper Publication

Pan Zhao - Digital Twin Research Center, Institute of Engineering Thermophysics, Chinese Academy of Sciences
Min Zhang - Digital Twin Research Center, Institute of Engineering Thermophysics, Chinese Academy of Sciences
Yihan Li - China North Vehicle Research Institute
Xiaobin Xu - Digital Twin Research Center, Institute of Engineering Thermophysics
Dun Ba - Digital Twin Research Center, Institute of Engineering Thermophysics, Chinese Academy of Sciences
Juan Du - Digital Twin Research Center, Institute of Engineering Thermophysics, Chinese Academy of Sciences

Development of a Transonic Fan Research Facility Focused on Casing Treatments and Inlet Distortion Effects, {GT2024-126747}
Technical Paper Publication

Andrew Cusator - Purdue University
William Brown - Purdue University
Yuning Dai - Purdue University
Andrew Bedke - Purdue University
Nicole Key - Purdue University

Influence of the Terminal Position of the Rotatable Ring of Controllable Speed Casing on the Flow Stability of a High-Load Compressor Stage, {GT2024-123009}
Technical Paper Publication

Jingjun Zhong - Shanghai Maritime University
Yi Hu - Shanghai Maritime University
Zhao Ao - Shanghai Maritime University
Wanyang Wu - Shanghai Maritime University

12-07 Predicting combined effects on cooling performance
6/27/2024
8:00 AM to 10:00 AM - SG25/SG26

Chair: ***Prashant Singh -***
Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Md. Nafiz Chowdhury -***
Presentations:

Superposition of Overall Cooling Effectiveness on a Turbine Blade Leading Edge, {GT2024-121339}
Technical Paper Publication

Bailey Hopkins - US Air Force
James L. Rutledge - Air Force Institute of Technology

Evaluations of Superposition Predictions of Adiabatic and Overall Effectiveness for Three Rows of Film Cooling Holes With Differing Hole Geometries, {GT2024-128105}
Technical Paper Publication
Molly Ellinger - The University of Texas at Austin
Elise Flachs - The University of Texas at Austin
Ameya Kulkarni - The University of Texas at Austin
David Bogard - The University of Texas at Austin

Showerhead Film Cooling Mechanism and Superposition Characteristics of Turbine Blade Leading-Edge, {GT2024-127944}
Technical Paper Publication
Bingran Li - Northwestern Polytechnical University
Cunliang Liu - Northwestern Polytechnical University
Lin Ye - Northwestern Polytechnical University
Fan Zhang - Northwestern Polytechnical University
Tianliang Zhou - Northwestern Polytechnical University

Film Superposition Characteristics With Laidback Fan-Shaped Holes Under the Influence of Internal Crossflow, {GT2024-127291}
Technical Paper Publication
Haoyang liu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Qiang Du - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Qingzong Xu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Jiawei Xu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Guangyao Xu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Hongye Li - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Pengfei Wang - Institute of Engineering Thermophysics, Chinese Academy of Sciences

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32-10 Aerodynamic Studies
6/27/2024
8:00 AM to 10:00 AM - Pod 1- Entrance S5 & S6

Chair: ***Mark Turner -***
Chair: ***Emil Goettlich -***
Chair: ***Paul Vitt -***
Presentations:

Targeting Full-Hydrogen Operation on Industrial-Scale Gas Turbines: Impact of Unconventional Fuels on Turbine Module Performance and Aeromechanics, {GT2024-128743}
Technical Paper Publication
Alberto Bandini - University of Florence
Claudio Bettini - Ansaldo Energia
Lorenzo Peruzzi - Ansaldo Energia
Mauro Carretta - Ansaldo Energia
Claudio Canelli - Ansaldo Energia
Michele Marconcini - University of Florence
Lorenzo Pinelli - University of Florence - Department of Industrial Engineering
Andrea Arnone - University of Florence

High Resolution Probe Measurements in a Multi-Stage Turbine Rig, {GT2024-121069}
Technical Paper Publication
Philipp Weggler - German Aerospace Center, Institute of Propulsion Technology, Turbine Department
Johannes Bachner - German Aerospace Center, Institute of Propulsion Technology, Turbine Department
Franz-Xaver König - German Aerospace Center, Institute of Propulsion Technology, Turbine Department
Robert Stephan - Siemens Energy
Christoph Gmelin - Siemens Energy

Turbulence Measurements in Axial Turbines Using Fast Response Aerodynamic Pressure Probes, {GT2024-127179}
Technical Paper Publication
Andrea Notaristefano - Politecnico di Milano
Giacomo Persico - Politecnico di Milano
Paolo Gaetani - Politecnico Di Milano

Combustor Traverse Optimization to Lower High-Pressure Turbine Rotor Temperatures, {GT2024-128054}
Technical Paper Publication
Mario Carta - Department of Mechanical, Chemical and Materials Engineering, University of Cagliari
Tiziano Ghisu - Department of Mechanical, Chemical and Materials Engineering, University of Cagliari
Shahrokh Shahpar - Innovation Hub, Future Methods, Rolls-Royce plc

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04-32 Emissions II
6/27/2024
8:00 AM to 10:00 AM - SG13

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Denise Ahrens - Rolls-Royce***
Chair: ***Lutz Blaette - Siemens energy***
Presentations:

A Numerical Study of Emission Characteristics in Bluff Body Stabilized Turbulent Premixed Methane-Air Flames in Confined Environments, {GT2024-126815}
Technical Paper Publication
Anant Girdhar - Georgia Institute of Technology
Sriram Kalathoor - Georgia Institute of Technology
Jechiel Jagoda - Georgia Institute of Technology
Lakshmi N Sankar - Georgia Institute of Technology

Effects of Secondary Jet Angle Variation on Flow, Flame Structure and Emission in the Reburning Zone Under Axial Fuel Staging Combustion of CH4/NH3/H2 Fuel, {GT2024-127517}
Technical Paper Publication
Yuze Li - Shanghai Jiaotong University
Yuansen Li - School of Mechanical Engineering, Shanghai Jiao Tong University
Yunlai Xiao - School of Mechanical Engineering, Shanghai Jiao Tong University
Yuliang Jia - Advanced Power Research Institute, Hangzhou Steam Turbine Co. LTD
Xutong Zhu - AVIC CHENGDU AIRCRAFT INDUSTRIAL(GROUP) CO., LTD
Bing Ge - School of Mechanical Engineering, Shanghai Jiao Tong University
Shusheng Zang - School of Mechanical Engineering, Shanghai Jiao Tong University

Emission and Operational Characteristics Analysis of Axially Staged Combustors Based on Overall Parameters, {GT2024-127850}
Technical Paper Publication
Enguang Liang - Tsinghua University
Zhijian Yu - Tsinghua University
Chenjie Zhang - Tsinghua University
Min Zhu - Tsinghua University

NOx Emissions Assessment of a Multi Jet Burner Operated With Premixed High Hydrogen Natural Gas Blends, {GT2024-128558}
Technical Paper Publication
Alexander Jaeschke - Technische Universität Berlin
Bernhard Cosic - MAN Energy Solutions
Dominik Wassmer - MAN Energy Solutions

Christian Oliver Paschereit - Technische Universität Berlin

34-05 Harmonic balance methods
6/27/2024
8:00 AM to 10:00 AM - Pod 4- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Richard Hollenbach -***
Chair: ***Roque Corral -***
Presentations:

Using Pseudotime Marching for the Solution of Harmonic Balance Problems, {GT2024-127820}
Technical Paper Publication
Christian Frey - German Aerospace Center (DLR)
Jan Backhaus - German Aerospace Center (DLR)
Graham Ashcroft - German Aerospace Center (DLR)
Georg Geiser - German Aerospace Center (DLR)
Benjamin Winhart - MTU Aero Engines AG
Heinrich Stüer - Siemens Energy

On the Development of an Efficient Sliding Mesh Interface for the Harmonic Balance Method, Part I: Implementation and Verification, {GT2024-125015}
Technical Paper Publication
Georg Geiser - German Aerospace Center (DLR)
Felix Schwarzenthal - German Aerospace Center (DLR)
Graham Ashcroft - German Aerospace Center (DLR)
Maximilian Hartmann - MTU Aero Engines AG
Daniel Schlüß - MTU Aero Engines AG

On the Development of an Efficient Sliding Mesh Interface for the Harmonic Balance Method, Part II: Effects of Casing Treatments on the Aerodynamic Damping of a Compressor Blade, {GT2024-127237}
Technical Paper Publication
Maximilian Hartmann - MTU Aero Engines AG
Daniel Schlüß - MTU Aero Engines AG
Georg Geiser - German Aerospace Center (DLR)
Felix Schwarzenthal - German Aerospace Center (DLR)
Graham Ashcroft - German Aerospace Center (DLR)
Florian Herbst - MTU Aero Engines AG

Numerical Stability Analysis of Implicit Solution Methods for Harmonic Balance Equations, {GT2024-125758}
Technical Paper Publication
Yuxuan Zhang - Northwestern Polytechnical University
Dingxi Wang - Northwesten Polytechnical University
Sen Zhang - Northwestern Polytechnical University
Yuze Zhu - Northwestern Polytechnical University

22-06 Compressor Aerodynamic Excitation and Damping
6/27/2024
8:00 AM to 10:00 AM - SG15

Chair: ***Roque Corral -***
Chair: ***Yoon Choi - GE***
Chair: ***Fanzhou Zhao -***

Presentations:

A Reduced Order Model Based on Aerodynamic Influence Coefficients for Aeroelastic Computations in Transonic Compressors, {GT2024-125072}
Technical Paper Publication
Marco Casoni - Universitã Di Padova
Fabian Klausmann - TU-Darmstadt
Ernesto Benini - Università di Padova

Understanding the Aerodynamic Damping Behavior of an Industrial Axial Compressor Rotor With Multi-Row Effects, {GT2024-128729}
Technical Paper Publication
Lorenzo Pinelli - University of Florence - Department of Industrial Engineering
Dario Vienni - University of Florence
Libero Tapinassi - Baker Hughes
Vittorio Michelassi - Baker Hughes
Corrado Burberi - Baker Hughes
Salvatore Lorusso - Baker Hughes
Mirko Ignesti - Baker Hughes,
Michele Marconcini - University of Florence

An Experimental Study on the Effects of Non-Uniform Vane Spacing on Forced Response Reduction in a Mistuned Rotor Blisk in a Multistage Axial Compressor, {GT2024-121838}
Technical Paper Publication
Yujun Leng - Purdue University, West Lafayette
Jhansi Dodda - Purdue University, West Lafayette
Nicole Key - Purdue University, West Lafayette

An Analytical Study on the Effect of Non-Uniform Vane Spacing on Forced Response Reduction in a Mistuned Blisk Rotor in a Multistage Axial Compressor, {GT2024-134043}
Technical Paper Publication
Yujun Leng - Purdue University, West Lafayette
Jhansi Dodda - Purdue University-West Lafayette
Nicole Key - Purdue University, West Lafayette

04-20 Combustor Design II
6/27/2024
8:00 AM to 10:00 AM - SG12

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Antonio Ficarella -***
Chair: ***Hamdullah Ozogul - TEI***
Presentations:

Combustor Operational Flexibility in the Ansaldo Energia GT36 Fleet, {GT2024-129069}
Technical Paper Publication
Patricia Sierra Sanchez - Ansaldo Energia Switzerland Ltd
Douglas Pennell - Ansaldo Energia Switzerland Ltd
Richard L. R. Smith - Ansaldo Energia Switzerland Ltd
Anders Wickström - Ansaldo Energia Switzerland Ltd
Francesco Gant - Ansaldo Energia Switzerland Ltd
Frédéric Boudy - Ansaldo Energia Switzerland Ltd

Performance and Flexibility of the DLN 2.6e Combustion System on the 7HA.03 Gas Turbine, {GT2024-128439}

Technical Paper Publication
William York - GE Vernova
Jun Cai - GE Vernova
Lucas Stoia - GE Vernova

SGT5-4000F Hydrogen Capability – High Pressure Combustion Rig Tests Part II, {GT2024-123364}
Technical Paper Publication
Lutz Blätte - Siemens Energy
Dominik Goeb - Siemens Energy
Pascal Gruhlke - Siemens Energy
Bernd Prade - Siemens Energy
Kai-Uwe Schildmacher - Siemens Energy
Holger Streb - Siemens Energy
Daniel Vogtmann - Siemens Energy

FlameSheetTM Combustion System Operation and Experience With Refinery Offgas in a 7FA Gas Turbine, {GT2024-129063}
Technical Paper Publication
Fred Hernandez - Power Systems Mfg. LLC
Matthew Yaquinto - Power Systems Mfg. LLC
Bryan Kalb - Power Systems Mfg. LLC
Marc Paskin - Power Systems Mfg. LLC

23-03, Bearing Modeling I
6/27/2024
8:00 AM to 10:00 AM - SG16

Chair: ***Ali Shakil - Collins Aerospace***
Chair: ***Jürg Schiffmann -***
Presentations:

A Thermal Model for a Hybrid Gas Bearing System in Oil-Free Turbochargers, {GT2024-125903}
Technical Paper Publication
Wonbae Jung - Texas A&M Turbomachinery Laboratory
Adolfo Delgado - Texas A&M Turbomachinery Laboratory
Anthony Dudlo - Texas A&M Turbomachinery Laboratory
Sang-Guk Kang - DEVCOM Army Research Laboratory
Chol-Bum M. Kweon - DEVCOM Army Research Laboratory

On the Predicted Effects of Recess Depth and Orifice Diameter on Pneumatic Hammer Instability in Hydrostatic Journal Bearings Using Compressible Fluid and Comparisons With Test Data, {GT2024-129343}
Technical Paper Publication
Hyunsung Jung - Hanyang University
Kyuman Kim - Hanyang University
Keun Ryu - Hanyang University

The Axial-Throughflow Influence on the Taylor Vortices In Taylor-Couette-Poiseuille System, {GT2024-126931}
Technical Paper Publication
Siyi Li - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Qiang Du - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Yaguang Xie - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Guang Liu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Zengyan Lian - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Yifu Luo - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Lei Xie - Institute of Engineering Thermophysics, Chinese Academy of Sciences

The Effect of Air-Water Mixture on the Dynamic Response of a Hydrodynamic Journal Bearing With Inclined Grooves, {GT2024-122232}
Technical Paper Publication
Anthony Voitus - EDF
Mihai Arghir - Institut Pprime
Mohamed-Amine Hassini - EDF Lab Paris-Saclay

41-05 CFD modeling
6/27/2024
8:00 AM to 10:00 AM - SG8

Chair: ***Giacomo Persico - Politecnico di Milano***
Chair: ***Lorenzo Ferrari - University of Pisa – DESTEC, Italy***
Chair: ***Ryo Amano -***
Presentations:

GPU-Accelerated Actuator-Disk Large-Eddy Simulation for Wind Farm Flows, {GT2024-121168}
Technical Paper Publication
Jérôme Dabas - CERFACS
Gabriel Staffelbach - CERFACS
Nicolas Odier - CERFACS
Florent Duchaine - CERFACS
Laurent Gicquel - CERFACS

Assessing the Effect of Coriolis Acceleration on the Coherent Structures in the Wake of a Wind Turbine Using DMD, {GT2024-121510}
Technical Paper Publication
Felice Manganelli - Politecnico di Bari
Claudio Bernardi - Politecnico di Bari
Stefano Leonardi - University of Texas at Dallas
Stefania Cherubini - Politecnico di Bari
Pietro De Palma - Politecnico di Bari

Investigating the Performance of Multi Element Wind Lens, {GT2024-128215}
Technical Paper Publication
Kareem Elsafty - The British University in Egypt
Ahmed Elbaz - The British University in Egypt

Investigations on Effects of Inflow Turbulence on Vortex-Induced Vibrations of a Wind Turbine Airfoil With the Wake Oscillator Model, {GT2024-124806}
Technical Paper Publication
Bo Lian - Shanghai Jiao Tong University
Xin Tong - Shanghai Jiao Tong Univeristy
Xiaocheng Zhu - Shanghai Jiao Tong University
Zhaohui Du - Shanghai Jiao Tong University

28-08 Experimental Investigations
6/27/2024
8:00 AM to 10:00 AM - SG23/SG24

Chair: ***Evgeny Petrov -***
Chair: ***Azzedine Dadouche -***
Chair: ***Teresa Berruti -***

Presentations:

Coupled Vibration of a Centrifugal Compressor Blade Excited by Macro Fiber Composite Actuator, {GT2024-128483}
Technical Paper Publication
Mingjie Nie - Shanghai Jiao Tong University
Yong Chen - Shanghai Jiao Tong University
Xu Tang - Shanghai Jiao Tong University

An Improved Experimental Validation of Nonlinear Forced Response Simulation of Shrouded Blades, {GT2024-128700}
Technical Paper Publication
Rizwan Ahmed - Politecnico di Torino
Erhan Ferhatoglu - Politecnico di Torino
Lakshminarayana Reddy Tamatam - Politecnico di Torino
Christian Maria Firrone - Politecnico di Torino
Stefano Zucca - Politecnico Di Torino - DIMEAS

Validation of a Numerical Model Based on an Optical Surface Scan and Experimental Modal Analyses Under Vacuum Conditions, {GT2024-128070}
Technical Paper Publication
Denny Langheinrich - Brandenburg University of Technology (BTU)
Bernd Beirow - Brandenburg University of Technology (BTU)
Seif Elmasry - Rolls-Royce Deutschland Ltd & Co KG

Mechanical Behavior of Nozzle Guide Vane Bushing in Absence of Lubrication by Means of Novel Endurance Test Rig, {GT2024-127894}
Technical Paper Publication
Federico Bucciarelli - Baker Hughes
Stella Grazia Tomasello - Baker Hughes
Michelangelo Bellacci - Baker Hughes
Damaso Checcacci - Baker Hughes
Antonio Ghiara - AM testing s.r.l.
Francesco Maestrale - AM testing s.r.l.
Salvatore Manconi - AM Testing s.r.l.

05-07 Advanced Diagnostics & Data Analytics I
6/27/2024
8:00 AM to 10:00 AM - SG7

Chair: ***Yiguang Li - Cranfield University, UK***
Chair: ***Igor Loboda -***
Presentations:

Aero-Engine Remaining Useful Life Prediction via Physics-Informed Self-Attention Encoder, {GT2024-124893}
Technical Paper Publication
Xuanwu Zhang - Zhejiang University
Jiayue Lou - Zhejiang University
Jifa Zhang - Zhejiang University
Yao Zheng - Zhejiang University
Yifan Xia - Zhejiang University

Novel Applications of Data Analytics in Gas Turbine Operation for Distributed Power Generation, {GT2024-125463}
Technical Paper Publication
Deepak Thirumurthy - Siemens Energy, Inc.
Mark Scudamore - Industrial Turbine Company (UK) Limited, Siemens Energy

Enhancing Diagnostic Capability by Utilization of Twin-Engine Aircraft Configuration Aspects, {GT2024-127733}

Technical Paper Publication
Mikael Stenfelt - Saab Aeronautics
Amare Desalegn Fentaye - Mälardalen University
Konstantinos Kyprianidis - Mälardalen University

Predicting Gas Turbine Power Output in Single Shaft Combined Cycle Power Plants: A Physics-Based and Data Analytics Approach, {GT2024-128650}
Technical Paper Publication
Pugalenthi Nandagopal - Siemens India LTD
Manjunath More - Siemens India Ltd
Kirti Sharma - Indian Institute Of Technology–Ropar (IIT–Ropar)
Uttam Saroj - Indian Institute Of Technology–Ropar (IIT–Ropar)
Gurdev Singh - Siemens Energy

07-01 Student projects
6/27/2024
8:00 AM to 10:00 AM - SG4

Chair: ***Prashant Khare - University of Cincinnati***
Chair: ***Ioanna Aslanidou - Mälardalen University***
Presentations:

An Innovative and Ambitious Student Design Project: To Build a Small-Scale Brayton Cycle Engine on a Short Timeline With a Limited Budget, {GT2024-120931}
Technical Paper Publication
Charles L. Keesee - University of Jamestown
Jakob Delong - University of Jamestown
Matthew Fig - University of Jamestown
Gaylord Hibl - University of Jamestown
Zachariah Ebsch - University of Jamestown
Dustin Homola - University of Jamestown
Isaac Mimong - University of Jamestown
Bonnie Thompson - University of Jamestown
Chandler Young - University of Jamestown

Undergraduate Hypersonics Research: the Fourth Year of the REU Site HYPER, {GT2024-121717}
Technical Paper Publication
Jeffrey Kauffman - University of Central Florida
Ali Gordon - University of Central Florida

Modelling and Optimisation of Energy Systems: Lessons Learned From Six Years of Project Work With Master's Students, Fostering a Systemic Approach, {GT2024-129148}
Technical Paper Publication
Ward De Paepe - University of Mons

06-07 Hybrid Electric Propulsion
6/27/2024
8:00 AM to 10:00 AM - SG1

Chair: ***Christina Salpingidou - Accelleron industries***
Chair: ***Ioannis Roumeliotis - Cranfield University***
Chair: ***Jinning Zhang - Leicester University***
Presentations:

Performance Improvement of a Heat Sink for Battery Thermal Management System, {GT2024-122402}
Technical Paper Publication
Faezeh Rasimarzabadi - National Research Council Canada
Hassan Azarkish - Calogy Solutions
Alexander Crain - National Research Council Canada
Steven Recoskie - National Research Council of Canada
Evgueni Bordatchev - National Research Council of Canada
Mahmood Shirazy - Calogy Solutions

Design and Simulation of eVTOL Aircraft Thermal Management System, {GT2024-125709}
Technical Paper Publication
Sangkeun Kang - Cranfield University
Chana Saias - Cranfield University
Ioannis Roumeliotis - Cranfield University
Olivier Broca - Siemens Industry Software

Navigating Technological Risks: an Uncertainty Analysis of Powertrain Technology in Hybrid-Electric Commuter Aircraft, {GT2024-127421}
Technical Paper Publication
Dimitra-Eirini Diamantidou - Mälardalen University
Jerol Soibam - ABB AB
Valentina Zaccaria - Mälardalen University
Anestis Kalfas - Aristotle University of Thessaloniki

A Fuzzy-Adaptive ECMS Based Energy Management Strategy for Series Hybrid Electric Aircraft, {GT2024-129036}
Technical Paper Publication
Yaowei Zhai - Tsinghua University
Xiangyang Wang - Tsinghua University
Houwu Zhang - Aero Engine Academy of China

01-14 Thermal Management and Aero-engine Oil Systems II
6/27/2024
8:00 AM to 10:00 AM - SG20/SG21

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Vasilis Gkoutzamanis - Aristotle University of Thessaloniki***
Chair: ***Kevin Lowe - Virginia Tech***
Chair: ***Alexander Görtz - German Aerospace Center (DLR)***
Presentations:

Thermodynamic Modelling of Air Management System for Commercial Aircraft Environmental Control Systems, {GT2024-122353}
Technical Paper Publication
Subramanya Spurthy - Safran Tech
Aleksandar Joksimović - Institut Supérieur de l'Aéronautique et de l'Espace
Xavier Carbonneau - Institut Supérieur de l'Aéronautique et de l'Espace
Sarah Rebholz - Safran Tech
Frederic Tong-Yette - Safran Tech

Integrated Power and Thermal Management System for a Hybrid-Electric Aircraft: Integrated Modelling and Passive Cooling Analysis, {GT2024-121232}
Technical Paper Publication
Zeyu Ouyang - Cranfield University
Theoklis Nikolaidis - Cranfield University
Soheil Jafari - Cranfield University

Analysis of NH3 Powered Turbofan Engine With sCO2 Waste Heat Recovery System, {GT2024-126643}
Technical Paper Publication
William Andress - Purdue University
Guillermo Paniagua - Purdue University
Ladislav Vesely - University of Central Florida
Marcel Otto - University of Central Flordia
Jayanta Kapat - University of Central Florida

Liquid Cooling of Fuel Cell Powered Aircraft: The Effect of Coolants on Thermal Management, {GT2024-128907}
Technical Paper Publication
Adam Frey - University of Bath
David Bosak - GKN Aerospace
Joseph Stonham - GKN Aerospace
Carl Sangan - University of Bath
Oliver Pountney - University of Bath

01-06 Inlet Distortion and Engine Operability II
6/27/2024
8:00 AM to 10:00 AM - SG19

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Tamara Guimaraes Bucalo - Penn State - University***
Chair: ***Maximilian Mennicken - German Aerospace Center (DLR)***
Chair: ***Kevin Lowe - Virginia Tech***
Presentations:

Analysis of Complex Total Pressure Distortion Screens Using 1-Dimensional Loss Data, {GT2024-124103}
Technical Paper Publication
John Gillespie - Virginia Tech
Andrew Hayden - Virginia Tech
Todd Lowe - Virginia Tech
Alexandrina Untaroiu - Virginia Tech
Chase Nessler - Air Force Research Laboratory

Characterization of the Upgraded NASA GRC Single Stage Axial Compressor and Fan Facility, {GT2024-129439}
Technical Paper Publication
Julia Stephens - NASA
Barbara Lucci - NASA Glenn Research Center
Arman Mirhashemi - NASA Glenn Research Center

Reverse Thrust Aerodynamics of Variable Pitch Fans With Inlet Distortion, {GT2024-121728}
Technical Paper Publication
Kwun Yeung Ma - Whittle Laboratory, University of Cambridge
Cesare A. Hall - Whittle Laboratory, University of Cambridge
Tianhou Wang - Whittle Laboratory, University of Cambridge
Tim S. Williams - Whittle Laboratory, University of Cambridge

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20-03 Gas Turbine Degradation, Modeling, and Inlet Filtration
6/27/2024
8:00 AM to 10:00 AM - SG3

Chair: ***Jason Wilkes -***

Chair: ***Rick Tomlinson -***
Presentations:

Status of Gas Turbine Performance Degradation, {GT2024-122216}
Technical Paper Publication
Rainer Kurz - Solar Turbines
Klaus Brun - Elliott Group
Michele Pinelli - Universita degli Studi di Ferrara
Alessio Suman - Universita degli Studi di Ferrara

An Innovative Filtering Apparatus for Gas Turbines, {GT2024-128568}
Technical Paper Publication
Nicola Zanini - University of Ferrara
Alessio Suman - University of Ferrara
Mattia Piovan - University of Ferrara
Michele Pinelli - University of Ferrara
Stefano Rossin - Baker Hughes
Stefano Minotti - Baker Hughes

Unsupervised Methodology for the Prognostics of Gas Turbine Abrupt Faults, {GT2024-122163}
Technical Paper Publication
Enzo Losi - Università degli Studi di Ferrara
Mauro Venturini - Università Degli Studi Di Ferrara
Lucrezia Manservigi - Università degli Studi di Ferrara
Giovanni Bechini - Siemens Energy

30-02 Oxy-Fuel Combustion
6/27/2024
8:00 AM to 10:00 AM - SG11

Chair: ***Francesco Di Sabatino -***
Chair: ***R V Manikantachari Kancherla - Cadence***
Chair: ***Timothy Allison - SWRI***
Presentations:

Optimization of a CO2-Free Offshore Power Plant Using Supercritical CO2, {GT2024-127613}
Technical Paper Publication
Kjartan Pedersen - Aker Solutions AS
Marcin Pilarczyk - Aker Solutions AS
Rainer Quinkertz - Siemens Energy
Stefan Glos - Siemens Energy
Martin Kuhn - Siemens Energy

Impact of Different Equations of State in the Turboexpander Design for Allam Cycle, {GT2024-127937}
Technical Paper Publication
Emanuela Alfarano - Baker Hughes
Vittorio Michelassi - Baker Hughes
Francesco Fantozzi - Università degli studi di Perugia

Experimental Investigation on Laser Ignition and Flame Stabilization in an Oxygen/Methane CO2-Diluted Combustor at Elevated Pressures, {GT2024-128985}
Technical Paper Publication
Francesco Di Sabatino - Southwest Research Institute
Kendyl Partridge - Southwest Research Institute
Brian Connolly - Southwest Research Institute
Steve White - Southwest Research Institute

Real Gas Effects on Autoignition Delay and Laminar Flame Speed Predictions for Direct-Fire sCO2 Combustion, {GT2024-129111}
Technical Paper Publication
Cory Kinney - University of Central Florida
Carlos Velez - University of Central Florida
Scott Martin - Embry-Riddle Aeronautical University
Annalisa Forte - Baker Hughes
Pier Carlo Nassini - Baker Hughes
Alessandro Zucca - Baker Hughes
Subith Vasu - University of Central Florida

03-03 Hydrogen Applications 1
6/27/2024
8:00 AM to 10:00 AM - SG6

Chair: ***Marcel Otto - University of Central Florida***
Chair: ***Pietro Bartocci - crbnet***
Chair: ***Angela Serra - Baker Hughes***
Chair: ***Marina Braun-Unkhoff - DLR***
Chair: ***Rachele Orlandi - Baker Hughes***
Chair: ***Marzuqa Ahmed - University of Central Florida***
Presentations:

Numerical Investigation on the Geometrical Scaling of Hydrogen Micromix Injectors, {GT2024-128859}
Technical Paper Publication
Xiaoxiao Sun - Cranfield University
Mohamed Morsy - Cranfield University
Charith Wijesinghe - Cranfield University
Gaurav Singh - Cranfield University
Vishal Sethi - Cranfield University
John Rimmer - Rolls-Royce plc
Kenneth Young - Rolls-Royce plc

Combustion Computational Fluid Dynamics Simulations of a Range of Experimental Lean Hydrogen/Natural Gas Blend Flames, {GT2024-129104}
Technical Paper Publication
Pierre Gauthier - Siemens
Malika Zghal - Siemens Energy
Antoine Durocher - NRC
Patrizio Vena - NRC
Luming Fan - NRC
Benjamin Francolini - McGill University
Jeffrey . Bergthorson - McGill University
Sean Sean - NRC

Numerical Investigation of Lean Hydrogen-Air Flame Stabilization Regimes Using Large-Eddy Simulations, {GT2024-129230}
Technical Paper Publication
Ishan Verma - Ansys
Rakesh Yadav - Ansys Inc
Stefano Orsino - Ansys Inc
Sourabh Shrivastava - Ansys Software Pvt
Yuxin Zhang - GE Aviation
Vasudevarao K - GE Aviation
Vijayaraj Sukumar - GE Aviation

Experimental Investigation of a Physisorption-Based Hydrogen Storage System, {GT2024-129410}
Technical Paper Publication
Marcel Otto - University of Central Florida
Yakym Khlyapov - University of Central Florida
Erik Fernandez - University of Central Florida
Joshua Schmitt - Southwest Research Institute
Adam Swanger - NASA Kennedy Space Center
Jayanta Kapat - University of Central Florida

02-03 Environmental Degradation of EBCs and TBCs I
6/27/2024
8:00 AM to 10:00 AM - SG2

Chair: ***Spencer Jeffs - Swansea University***
Chair: ***Stefan Fritz - DLR***
Presentations:

Foreign Object Damage of Environmental Barrier Coatings Subjected to CMAS Attack, {GT2024-125928}
Technical Paper Publication
Leland Hoffman - HX5, LLC.
Jamesa Stokes - NASA Glenn Research Center
John Setlock - University of Toledo

Effects of CMAS Application on the Isothermal and Gradient Thermal Cycling Behavior of a Yb2Si2O7 EBC, {GT2024-121782}
Technical Paper Publication
Michael J. Presby - NASA Glenn Research Center
Jamesa L. Stokes - NASA Glenn Research Center
Bryan J. Harder - NASA Glenn Research Center
John A. Setlock - University of Toledo
Jeffrey R. Hammel - Jacobs Technology

A Dynamic Testing Approach for Particulate Erosion-Corrosion for Gas Turbine Coatings, {GT2024-121703}
Technical Paper Publication
Jamesa Stokes - NASA Glenn Research Center
Michael Presby - NASA Glenn Research Center

34-17 Turbine design methods 2
6/27/2024
8:00 AM to 10:00 AM - Pod 7- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Bao Nguyen -***
Chair: ***Jeremy Nickol -***
Presentations:

A Digital Engineering Analysis of an Additively Manufactured Turbine Vane, {GT2024-128894}
Technical Paper Publication
Reid A. Berdanier - The Pennsylvania State University
Leland Tien - Penn State University
Karen A. Thole - The Pennsylvania State University

Thermohydraulic Performance Analysis in Square Duct Featuring Novel High-Performance Broken Ribs and Ribs With Fins for High Reynolds Number Gas Turbine Blade Internal Cooling, {GT2024-129536}
Technical Paper Publication
Naimish Pandya - North Carolina State University
Srinath Ekkad - North Carolina State University

An Automatic Film Cooling Hole Mesh Generation System Based on Matrix Dividing Strategy, {GT2024-127065}
Technical Paper Publication
Jiazheng Fan - Department of Mechanical Engineering, City University of Hong Kong
Xiaotong Jia - Department of Mechanical Engineering, City University of Hong Kong
Chuang Han - Suzhou NuFlux Technology Co., Ltd
Weihong Li - Department of Mechanical Engineering, City University of Hong Kong
Penghao Duan - Department of Mechanical Engineering, City University of Hong Kong

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13-10 Heat Transfer in Rig Testing
6/27/2024
8:00 AM to 10:00 AM - SG27/SG28

Chair: ***Stephen Lynch -***
Chair: ***James Heidmann -***
Chair: ***Paul Giel -***
Chair: ***Guillermo Paniagua -***
Chair: ***Robert Krewinkel -***
Chair: ***Lesley Wright -***
Presentations:

Transient Shutdown Cooling Simulation of a Gas Turbine Test Rig Configuration Under Ventilated Natural Convection, {GT2024-127999}
Technical Paper Publication
Zixiang Sun - UNiversity of Surrey
Dario Amirante - University of Surrey
Chris Barnes - Rolls-Royce plc
Nick Hills - University of Surrey
Daniel Fahy - University of Oxford

Unique High-Resolution Temperature Mapping of Stage 1 Turbine Vane in a Long-Term Engine Test, {GT2024-126737}
Technical Paper Publication
Jim Hickey - Sensor Coating Systems
Jaebin Lee - Doosan Enerbility
Joseph Counte - Sensor Coating Systems
Kieron Rai - Sensor Coating Systems
Kidon Lee - Doosan Enerbility
Younggi Mun - Doosan Enerbility
Silvia Araguas Rodriguez - Sensor Coating Systems
Solon Karagiannopoulos - Sensor Coating Systems
Giwon Hong - Doosan Enerbility
Jörg Feist - Sensor Coating Systems

Effect of Geometry and Heat Flux on Turbine Over-Tip Flow Power Extraction, {GT2024-126598}
Technical Paper Publication
Lukas Benjamin Inhestern - Purdue University
Dieter Peitsch - Technische Universität Berlin
Guillermo Paniagua - Purdue University

High Speed Rotating HPT Blade Thermal Imaging of a Full Scale Cooled 1+1/2 Stage Turbine in a Short Duration Transient Test Facility, {GT2024-128430}

Technical Paper Publication
Richard Anthony - Air Force Research Lab
Neil Vanasse - True Focus Engineering
Scott Mcclaren - True Focus Engineering

13-09 Surface Effects (II)
6/27/2024
8:00 AM to 10:00 AM - SG29

Chair: ***Stephen Lynch -***
Chair: ***Jens Fridh -***
Chair: ***Lesley Wright -***
Chair: ***Guillermo Paniagua -***
Chair: ***Robert Krewinkel -***
Chair: ***Jan Ostlund -***
Presentations:

Effects of Localized Non-Gaussian Roughness on High Pressure Turbine Aero-Thermal Performance: Convective Heat Transfer, Skin-Friction and the Reynolds' Analogy, {GT2024-121839}
Technical Paper Publication
Thomas Jelly - University of Melbourne
Massimiliano Nardini - University of Melbourne
Richard Sandberg - University of Melbourne
Paul Vitt - GE Aerospace
Greg Sluyter - GE Aerospace

Film Cooling Effectiveness Measurements on a CMC-Simulated Flat Plate, {GT2024-128208}
Technical Paper Publication
Douglas Thurman - NASA Glenn
Philip Poinsatte - NASA Glenn Research Center

Thermodynamic Potential of Aluminum Oxide Ceramic Matrix Composite Application in the 1st Stage Vanes of Industrial Gas Turbines, {GT2024-128648}
Technical Paper Publication
Dieter Bohn - RWTH Aachen University
Johannes Götte - B&B-AGEMA GmbH
Karsten Kusterer - B&B-AGEMA GmbH
Yiou Liu - B&B-AGEMA GmbH

36-08 Multi-Disciplinary and Collaborative Optimization applications (2)
6/27/2024
8:00 AM to 10:00 AM - Pod 6- Entrance S5 & S6

Chair: ***Marcus Meyer -***
Chair: ***Peter Flassig - Uni Brandenburg***
Chair: ***Lieven Baert - CENAERO***
Presentations:

Collaborative Design in Context for Whole Engine Mechanical Design, {GT2024-125853}
Technical Paper Publication
Leran Wang - University of Southampton
David Toal - University of Southampton
Alessandro Anobile - Rolls-Royce Plc.

Felix Stanley - Rolls-Royce Plc.

Optimization of a Propeller Fan for Noise and Efficiency by Using 3D Inverse Design Method, {GT2024-129188}
Technical Paper Publication
Luying Zhang - Advanced Design Technology Ltd
Thien Xuan Dinh - Advanced Design Technology Japan
Kenji Kawakita - Advanced Design Technology Japan
Alfred Riddell - Advanced Design Techonology
Akira Goto - Ebara Corporation
Mehrdad Zangeneh - University College London

31-03 Compressor Airfoil Optimization
6/27/2024
10:30 AM to 12:00 PM - Pod 2- Entrance S5 & S6

Chair: ***Lisa Brilliant - RTX/Pratt & Whitney***
Chair: ***Anton Streit -***
Chair: ***Philip Athayde - Rolls-Royce***
Chair: ***Vasudevan Kanjirakkad - University of Sussex***
Presentations:

Understanding the Flow Field in a Highly Loaded Tandem Compressor Cascade, {GT2024-122461}
Technical Paper Publication
Thanh-Son Tran - von Karman Institute
Cedric Babin - von Karman Institute
Fabrizio Fontaneto - von Karman Institute
Gregory Coussement - University of Mons
Tom Verstraete - von Karman Institute

Aerodynamic Design Methodology for High-Load Compressor Blade Profiles at Low Reynolds Numbers, {GT2024-127222}
Technical Paper Publication
Huafeng Xu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Mingyang Wang - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Shengfeng Zhao - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Xiaoying Sheng - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Xingen Lu - Institute of Engineering Thermophysics, Chinese Academy of Sciences

A Novel Design Concept for Highly Loaded Compressor Airfoils, {GT2024-129018}
Technical Paper Publication
Alexander Hergt - German Aerospace Center (DLR), Institute of Propulsion Technology
Oliver Reutter - German Aerospace Center (DLR), Institute of Propulsion Technology
Sebastian Grund - German Aerospace Center (DLR), Institute of Propulsion Technology

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12-09 Effects of film cooling geometry on cooling performance (II)
6/27/2024
10:30 AM to 12:00 PM - SG25/SG26

Chair: ***Changmin Son - Virginia Tech***
Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***

Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Brett Barker -***
Presentations:

A Combined LES and PIV Investigation of Trenched Fan-Shaped Hole Aerodynamics, {GT2024-122510}
Technical Paper Publication
Giovanna Barigozzi - University of Bergamo
Ali Zamiri - Korea University
Stefano Gamba - University of Bergamo
Ilaria Spozio - University of Bergamo
Jin Taek Chung - Korea University

Film Cooling Performance on Rotating Blade Leading Edge With Various Rotating Speed and Film Hole Structures, {GT2024-121830}
Technical Paper Publication
yan jiang - Beihang University
Yi Huang - Research Institute of Aero-Engine, Beihang University
Haiwang Li - Research Institute of Aero-Engine, Beihang University
Zhiyu Zhou - Research Institute of Aero-Engine, Beihang University
Gang Xie - Flying College of Beihang University, Beihang University

Effects of Trench Structural Features on the Film Cooling Effectiveness and Particle Deposition Performances of a Fan-Shaped Hole, {GT2024-123285}
Technical Paper Publication
Siyu Chen - Beihang University
Haiwang Li - Beihang University
Gang Xie - Beihang University
Zhiyu Zhou - Beihang University
Long Meng - Beihang University

15-03 Pin Fins & Trailing Edge
6/27/2024
10:30 AM to 12:00 PM - SG29

Chair: ***Zhirui Dong -***
Chair: ***Hongzhou Xu -***
Chair: ***Ardeshir Riahi -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Ibrahim Sezer - GE Vernova***
Presentations:

Experimental Study on Friction Coefficient and Heat Transfer Characteristics of Elliptical Pin Fin Channel at Rotating State, {GT2024-123791}
Technical Paper Publication
Xuejiao Zhang - Beihang University
Ruquan You - Beihang University
Wenbin Chen - Beihang University
Haiwang Li - Beihang University

Entry Region Heat Transfer Augmentation With Pins, Fins, and Turbulators in Circular Channels, {GT2024-123526}
Technical Paper Publication
Evan Lundburg - Pennsylvania State University
Stephen Lynch - Pennsylvania State University
Michael Lyall - Air Force Research Laboratory

Numerical Study of Flow and Heat Transfer Characteristics in Channel With Dumbbell Pin-Fin, {GT2024-129023}
Technical Paper Publication
Shuangjie Yan - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Jianjun Liu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Baitao An - Institute of Engineering Thermophysics, Chinese Academy of Sciences

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25-02 Crack Behavior
6/27/2024
10:30 AM to 12:00 PM - SG15

Chair: ***Sanna F. Siddiqui - Florida Polytechnic University***
Chair: ***Karl Michael Kraemer -***
Chair: ***Amrita Basak -***
Presentations:

Fatigue Crack Growth of Turbine Disc Part Considering Effect of Shotpeen Nonlinear Stress Gradients Using Finite Element Based and Numerical Methods, {GT2024-126595}
Technical Paper Publication
Sevket Ertekin - TUSAS ENGINE INDUSTRIES, INC
Adem Yilmaz - TUSAS ENGINE INDUSTRIES, INC

11-04 Numerical investigations of combustor heat transfer
6/27/2024
10:30 AM to 12:00 PM - SG27/SG28

Chair: ***Antonio Andreini - University of Florence***
Chair: ***Cosimo Bianchini -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Nagaraja Rudrapatna -***
Chair: ***Thomas Bronson -***
Presentations:

LES Investigation of Film Cooling in Rotating Detonation Combustors, {GT2024-123796}
Technical Paper Publication
Shreyas Ramanagar Sridhara - University of Florence
Antonio Andreini - University of Florence
Marc D Polanka - Air Force Institute of Technology
Myles D Bohon - Technical University Berlin

Wall-Modeled Large Eddy Simulation and Conjugate Heat Transfer for Combustor Aerothermal Applications, {GT2024-129227}
Technical Paper Publication
Naseem Ansari - Ansys, Inc
Carlo Arguinzoni - ANSYS, Inc
Stefano Orsino - Ansys, Inc
Reza Farokhi - Ansys Canada Ltd.
Ishan Verma - Ansys Software Pvt. Ltd.

Assessment of a Simplified Conjugate Heat Transfer Perforated Wall Model for the Effusion Cooling by LES Method, {GT2024-128480}
Technical Paper Publication
Mengming Wang - Tongji University

Chenzhen Ji - Tongji University
Shikang Lu - Tongji University
Wentao Shi - Tongji University
Tong Zhu - Tongji University

04-08 Ammonia Combustion I
6/27/2024
10:30 AM to 12:00 PM - SG20/SG21

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Janith Samarasinghe - GE***
Chair: ***Dr. Wenting Sun - Georgia Institute of Technology***
Chair: ***Keith McManus - GE Aerospace***
Chair: ***Carlo Arguinzoni - Ansys***
Presentations:

In-Situ Species Concentration Measurements in Ammonia-Mix Flames Using FTIR Spectroscopy, {GT2024-128167}
Technical Paper Publication
Clinton Bedick - U.S. Department of Energy National Energy Technology Laboratory
Andrew Tulgestke - U.S. Department of Energy National Energy Technology Laboratory
Wesley Boyette - U.S. Department of Energy National Energy Technology Laboratory

Combustion Optimization and Burnout of Ammonia-Based Gaseous Fuels in the Constant Pressure Sequential Combustion System Operated in Rich-Quench-Lean Mode, {GT2024-128946}
Technical Paper Publication
Tarjei Heggset - SINTEF Energy Research
Ole Meyer - SINTEF Energy Research
Andrea Gruber - SINTEF Energy Research
Luis Tay-Wo-Chong - Ansaldo Energia Switzerland
Andrea Ciani - Ansaldo Energia Switzerland

Experimental and Numerical Study of a Premixed Two Stage Ammonia Combustor at High Pressure, {GT2024-128081}
Technical Paper Publication
Brandon Esquivias - University of California, Irvine
Vincent Mc Donell - UC Irvine
Hassan Abdul Sater - Creative Power Solutions (USA), Inc
Stefan Tschirren - Creative Power Solutions (USA), Inc
Stefano Piffaretti - Creative Power Solutions (USA), Inc
Majed Toqan - Creative Power Solutions (USA), Inc

04-22 Combustor Design IV
6/27/2024
10:30 AM to 12:00 PM - SG12

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Wajid Chishty -***
Chair: ***Lance Smith - RTX***
Presentations:

Characterization of a Premixed Gas Turbine Injector for Light-Duty and Low Emissions Applications, {GT2024-129169}
Technical Paper Publication
Salvatore Carusotto - Politecnico di Torino
Simone Salvadori - Politecnico di Torino
Alberto Cavalli - EthosEnergy Italia S.p.A.
Elisabetta Casto - EthosEnergy Italia S.p.A.
Francesco Cardile - EthosEnergy Italia S.p.A.
Daniela Anna Misul - Politecnico di Torino

Effect of Swirling Number and Direction on Flame Morphology and Combustion Performance in a Centrally Staged Swirl Combustor, {GT2024-127266}
Technical Paper Publication
Honghao Xu - Harbin Engineering University
Zongfu Li - Harbin Engineering University
Liyao Pang - Harbin Engineering University
Dr. Ningbo Zhao - Harbin Engineering University
Hongtao Zheng - Harbin Engineering University

Performance Analysis of a Self-Decarbonizing Combustor, {GT2024-128128}
Technical Paper Publication
Kartikeya S. Akojwar - University of Toronto
Samadhan A. Pawar - University of Toronto
Swetaprovo Chaudhuri - University of Toronto

04-25 Atomization and Spray Combustion I
6/27/2024
10:30 AM to 12:00 PM - SG11

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Brandon Sforzo - ANL***
Chair: ***Angela Kimber - Woodward***
Presentations:

Break-Up and Atomization Characteristics of N-Dodecane in High-Temperature Crossflow, {GT2024-122860}
Technical Paper Publication
Tom Johny - Indian Institute of Technology Kanpur
Bharat Batia - Eindhoven University of Technology
Ashoke De - Indian Institute of Technology Kanpur

Effect of Cracking Pressure and Flow Split Ratio on the Atomization Performance of Dual-Orifice Injectors, {GT2024-125240}
Technical Paper Publication
Hıdır Yankı Kılıçgedik - Tusaş Engine Industries
Refik Alper Tuncer - Tusaş Engine Industries

Effects of a 3D-Printed Atomizer Component on Fuel-Spray and Flame Characteristics of a Jet-Stabilized Compact Gas Turbine Combustor Fed With Liquid Fuels, {GT2024-123979}
Technical Paper Publication
Haisol Kim - German Aerospace Center (DLR)
Jhon Pareja - German Aerospace Center (DLR)
Oliver Lammel - German Aerospace Center (DLR)

41-01 Vertical-Axis Wind Turbines
6/27/2024
10:30 AM to 12:00 PM - SG8

Chair: ***Giacomo Persico - Politecnico di Milano***
Chair: ***Alessandro Bianchini -***
Chair: ***Lorenzo Ferrari - University of Pisa – DESTEC, Italy***
Presentations:

Effect of Flexible Rotor Bucket Design on Savonius Turbine Performance, {GT2024-121002}
Technical Paper Publication
Aki Gronman - Lappeenranta-Lahti University of Technology
Srijit Bashyal - Lappeenranta-Lahti University of Technology

A CFD Study on the Performance of Modified H-Shaped VAWTs for Tilted Operation Condition, {GT2024-124830}
Technical Paper Publication
Otman Kouaissah - University of Bergamo
Nicoletta Franchina - Univerisity of Bergamo
Giacomo Persico - Politecnico di Milano

32-11 Flow Control 2
6/27/2024
10:30 AM to 12:00 PM - Pod 1- Entrance S5 & S6

Chair: ***Marcel Oettinger - MTU Aero Engines***
Chair: ***Emil Goettlich -***
Chair: ***Ravikanth Avancha - GE Aerospace***
Chair: ***Francesco Bertini - Avio Aero***
Presentations:

Air Jets to Modulate Flow in a Nozzle Vane Passage Within a Linear Cascade, {GT2024-123586}
Technical Paper Publication
Tyson Ferguson - Solar Turbines
Jim Mohr - Solar Turbines
Greg Heitland - Solar Turbines
Dan Burnes - Solar Turbines
Alberto Martel Matos - Solar Turbines

The Study of Unsteady Plasma Excitation to Control Vortex Shedding Appears in the Turbine Cascade, {GT2024-126572}
Technical Paper Publication
Yu Jianyang - Harbin Institute of Technology
Xie Weixiao - Harbin Institute of Technology University
Zhang Yining - Harbin Institute of Technology
Guo Qifan - Harbin Institute of Technology
Shen Jinsong - Harbin Institute of Technology

Control of Secondary Flow Losses in a Turbine Stage via Stator Endwall Fence at a Low Reynolds Number, {GT2024-126313}
Technical Paper Publication
Hang Yuan - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Xingen Lu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Yunfeng Wu - Institute of Engineering Thermophysics, Chinese Academy of Sciences

Jianshe Zhang - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Yanfeng Zhang - Institute of Engineering Thermophysics, Chinese Academy of Sciences

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37-08 Radial Turbomachinery Experimental Analysis
6/27/2024
10:30 AM to 12:00 PM - Pod 5-Entrance S5 & S6

Chair: ***Bob Mischo -***
Chair: ***Friedrich Froehlig -***
Chair: ***Teng Cao - Imperial College London***
Presentations:

Analysis of the Flow-Field Distortions Induced by Pneumatic Pressure Probes in Test Bench Experiments on Centrifugal Compressors: Are We Testing Right?, {GT2024-124021}
Technical Paper Publication
Alberto Baroni - Università degli Studi di Firenze
Luca Romani - Università degli Studi di Firenze
Francesco Balduzzi - Università degli Studi di Firenze
Lorenzo Toni - Baker Hughes
Angelo Grimaldi - Baker Hughes
Elisabetta Belardini - Baker Hughes
Davide Biliotti - Baker Hughes
Alessandro Bianchini - Università degli Studi di Firenze
Giovanni Ferrara - Università degli Studi di Firenze

Effects of the Blade Tip Loading Distribution on Transonic Centrifugal Impeller Stability, {GT2024-127434}
Technical Paper Publication
Bijie Yang - Imperial College London
Teng Cao - Imperial College London
Yoshihiro Hayashi - Mitsubishi Heavy Industries Ltd.
Tadashi Kanzaka - Mitsubishi Heavy Industries Ltd.
Isao Tomita - Mitsubishi Heavy Industries Ltd.

Unsteady Flow Development and Reynolds Stress Measurements in a Centrifugal Compressor Vaned Diffuser, {GT2024-125827}
Technical Paper Publication
Matthew Meier - GE Aerospace
William Gooding - Purdue University
Nicole Key - Purdue University

27-06 Rub Effects in Rotordynamics
6/27/2024
10:30 AM to 12:00 PM - SG16

Chair: ***Theodore Brockett -***
Chair: ***Rasish Khatri -***
Chair: ***Steven Chatterton - Politecnico di Milano***
Presentations:

Rotor Rubbing Fault Diagnosis Method Based on Deep Learning, {GT2024-122707}
Technical Paper Publication
Zhenyu Tao - Northwestern Polytechnical University
Yafeng Wu - Northwestern Polytechnical University

Zezhong Chong - Northwestern Polytechnical University
Jin Li - Northwestern Polytechnical University

Methodology for Modeling Non Linear Thermomechanical Response With Wear at High-Speed Interactions: Application to a Pin-Disk Configuration, {GT2024-126280}
Technical Paper Publication
Soufiane Pontonnier - Ecole Centrale Lyon
Samuel Quaegebeur - Ecole Centrale de Lyon
Fabrice Thouverez - Ecole Centrale de Lyon
Patricio Almeida - Safran Helicopter Engines

Experimental Investigation of Rotor Vibration Induced by Rotor-Stator Rubbing With Soft Coating, {GT2024-129585}
Technical Paper Publication
Ruixian Ma - Northwestern Polytechnical University
Xinliang Lei - AECC CGTE
Wen Wang - AECC Commercial Aircraft Engine Co., Ltd
Mingfu Liao - Northwestern Polytechnical University

03-01 Hydrogen
6/27/2024
10:30 AM to 12:00 PM - SG6

Chair: ***Pierre Gauthier - Siemens Energy***
Chair: ***Angela Serra - Baker Hughes***
Chair: ***Pietro Bartocci - crbnet***
Chair: ***Marina Braun-Unkhoff - DLR***
Presentations:

Development of Hydrogen and Micromix Combustor for Small and Medium Size Gas Turbine of Kawasaki, {GT2024-121073}
Technical Paper Publication
Shigeki Aoki - Kawasaki Heavy Industries, Ltd.
Takahiro Uto - Kawasaki Heavy Industries, Ltd.
Nobuaki Takahashi - Kawasaki Heavy Industries, Ltd.
Kunio Okada - Kawasaki Heavy Industries, Ltd.
Daniel Kroniger - Kawasaki Heavy Industries, Ltd.
Hiromu Kamiya - Kawasaki Heavy Industries, Ltd.
Masato Yamaguchi - Kawasaki Heavy Industries, Ltd.
Yuki Ishimura - Kawasaki Heavy Industries, Ltd.
Manfred Wirsum - RWTH Aachen University
Harald Funke - Aachen University of Applied Sciences
Karsten Kusterer - B&B-AGEMA GmbH

A Gas Flow Network Model for Predicting Ring Dynamics and Leakage in Dry-Running Pistons Seals for High-Pressure Hydrogen Storage, {GT2024-126694}
Technical Paper Publication
Andrea Sassoli - University of Florence
Sandro Raspanti - University of Florence
Luca Romani - University of Florence
Alessio Capanni - Baker Hughes
Simone Bassani - Baker Hughes
Giovanni Ferrara - University of Florence
Francesco Balduzzi - University of Florence

06-08 Hydrogen for Aviation
6/27/2024
10:30 AM to 12:00 PM - SG1

Chair: ***Theoklis Nikolaidis - Cranfield University***
Chair: ***Thierry Sibilli - Airbus***
Presentations:

Evaluation of Air Supply Conditioning Architectures for PEM Fuel Cell Systems in Aviation, {GT2024-121340}
Technical Paper Publication
Patrick Meyer - Institute of Jet Propulsion and Turbomachinery, Technische Universität Braunschweig
Sebastian Lück - Institute of Jet Propulsion and Turbomachinery, Technische Universität Braunschweig
Jan Goeing - Institute of Jet Propulsion and Turbomachinery, Technische Universität Braunschweig
Jens Friedrichs - Institute of Jet Propulsion and Turbomachinery, Technische Universität Braunschweig

On Leakage Flows in a Liquid Hydrogen Multi-Stage Pump for Aircraft Engine Applications, {GT2024-128734}
Technical Paper Publication
Dimitrios Lamprakis - Cranfield University
David John Rajendran - Cranfield University
Mani Santhanakrishnan - Cranfield University
Seyfettin Coskun - Cranfield University
Ioannis Roumeliotis - Cranfield University
Vassilios Pachidis - Cranfield University
Martin Yates - Rolls-Royce plc.

Using Hydrogen for the Generation of Non-Propulsive Energy in Civil Aviation - Design and Performance of Combined Micro Gas Turbine and Organic Rankine Cycle Systems, {GT2024-128906}
Technical Paper Publication
Alejandro Arenas-Fernández - University of Seville
Pablo Rodríguez-De Arriba - University of Seville
Antonio Escamilla-Perejón - University of Seville
Rafael González-Almenara - University of Seville
David Sanchez - University of Seville

01-01 Aero-engine Control and Diagnostics I
6/27/2024
10:30 AM to 12:00 PM - SG19

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Donald Simon - NASA***
Chair: ***Kevin Lowe - Virginia Tech***
Chair: ***Oscar Kogenhop - EPCOR***
Presentations:

Attention-Based Model With Component Embedding for Aero-Engine Performance Estimation, {GT2024-124074}
Technical Paper Publication
Yufeng Liang - Northwestern Polytechnical University
Hong Xiao - Northwestern Polytechnical University
Shuo Song - Northwestern Polytechnical University
Rui You - Northwestern Polytechnical University

A Literature Review on Data Sources and Methodologies for Enriching Gas Path Analysis With Earth Observation Data, {GT2024-122772}
Technical Paper Publication
Erik Seume - Institute of Jet Propulsion and Turbomachinery

Jan Göing - Institute of Jet Propulsion and Turbomachinery
Jens Friedrichs - Institute of Jet Propulsion and Turbomachinery

Remaining Useful Life Prediction of Aircraft Engine Based on Bi-LSTM Network Integrated With Attention Mechanism, {GT2024-123637}
Technical Paper Publication
Guixian Qu - Beihang University
Tian Qiu - Beihang University
Shuiting Ding - Beihang University
Long Ma - Beihang University
Qiyu Yuan - Beihang University
Qinglin Ma - Beihang University
Yang Si - Beijing Wuzi University

20-05 - Advanced Manufacturing
6/27/2024
10:30 AM to 12:00 PM - SG3

Chair: ***Jason Wilkes -***
Chair: ***Anand Srinivasan -***
Presentations:

Dilution Rate Analysis of Repairing 316L Stainless Steel Pump Impeller by Laser Cladding Inconel 625 Powder, {GT2024-121724}
Technical Paper Publication
Rakan Ahmed - Saudi Aramco
Raja Khan - Saudi Aramco
Mohammed Qahtani - Saudi Aramco
Abduljabar Alsayoud - King Fahd University of Petroleum & Minerals
Abdulhameed Bukhari - King Fahd University of Petroleum & Minerals.

Design and Verification of a Fully Interchangeable Additively Manufactured Production Injector, {GT2024-122064}
Technical Paper Publication
Ryan Ehlig - Solar Turbines
Tony Fahme - Solar Turbines
Daniel Ryan - Solar Turbines
Timothy Evans - Solar Turbines

Steam Turbine Diaphragms Re-Design and Manufacturing Challenges, {GT2024-124949}
Technical Paper Publication
Abdullah Alamoudi - Saudi Aramco Oil Company
Dr. Raja Khan - Saudi Aramco Oil Company
Javeed Shaik - Saudi Aramco Oil Company
Mohammed Alqahtani - Saudi Aramco Oil Company

04-49 Kinetics II
6/27/2024
10:30 AM to 12:00 PM - SG13

Chair: ***Samir Rida - GE Vernova***
Chair: ***Khawar Syed -***
Chair: ***Ali Benim -***
Chair: ***Santosh Hemchandra - Indian Institute of Science***

Presentations:

Towards Low NOx Emissions Performance of a 65kW Recuperated Gas Turbine Operated on 100% Hydrogen, {GT2024-127996}
Technical Paper Publication
Walther Villatoro - University of California, Irvine
John Slope - University of California, Irvine
Vincent Mc Donell - UC Irvine
Ray Hu - Capstone Green Energy
Rob Steele - EPRI

Development of Detailed and Reduced Chemical Kinetic Models for Ammonia Combustion Under Gas Turbine Operating Conditions, {GT2024-129277}
Technical Paper Publication
Ramees Khaleel Rahman - University of Central Florida
Michael Pierro - University of Central Florida
Mark Winquist - GTI Energy
Ganesan Subbaraman - GTI Energy
Wenting Sun - Georgia Institute of Technology
Robert Steele - Electric Power Research Institute
John Vega - GTI Energy
Subith Vasu - University of Central Florida

34-19 Solver methods 3
6/27/2024
10:30 AM to 12:00 PM - Pod 4- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Penghao Duan -***
Chair: ***Bill Holmes -***
Presentations:

Applications and Recent Developments of the Open-Source Computational Fluid Dynamics High-Fidelity Spectral/Hp Element Framework Nektar++ for Turbomachinery Configurations, {GT2024-125039}
Technical Paper Publication
Guglielmo Vivarelli - Imperial College London
Joao Anderson Isler - Imperial College London
Francesco Montomoli - Imperial College London
Chris Cantwell - Imperial College London
Spencer J. Sherwin - Imperial College London
Yuri Frey Marioni - Rolls-Royce plc
Raul Vazquez Diaz - Rolls-Royce plc

A High-Performance Code for Analyzing Loss Transport Equations in High-Fidelity Simulations, {GT2024-127953}
Technical Paper Publication
Daniele Biassoni - Università degli Studi di Genova
Matteo Russo - Università degli Studi di Genova
Paolo Viviani - LINKS Foundation
Giacomo Vitali - LINKS Foundation
Davide Lengani - Università degli Studi di Genova

Investigation of the Sigma Approximation Technique for the Solution of the Time Spectral Equation System, {GT2024-125788}
Technical Paper Publication
Yuze Zhu - Northwestern Polytechnical University
Yuxuan Zhang - Northwestern Polytechnical University
Sen Zhang - Northwestern Polytechnical University

Dingxi Wang - Northwestern Polytechnical University

36-10 Uncertainty Quantification & Sensitivity Analysis (2)
6/27/2024
10:30 AM to 12:00 PM - Pod 6- Entrance S5 & S6

Chair: ***Marcus Meyer -***
Chair: ***Robin Schmidt - Rolls-Royce***
Presentations:

Uncertainty Quantification Analysis on the Cooling Flow Rate of the Cooled Turbine in a Novel H2/O2 Cycle, {GT2024-124431}
Technical Paper Publication
Bangyan Ma - Shanghai Jiao Tong University
Lei Shi - Shanghai Jiao Tong University School of Mechanical Engineering
Xiaocheng Zhu - Shanghai Jiao Tong University School of Mechanical Engineering
Zhaohui Du - Shanghai Jiao Tong University School of Mechanical Engineering

Efficient Quantification of Aerodynamic Performance Uncertainty due to Geometric Variability Using an Adjoint Method, {GT2024-127703}
Technical Paper Publication
Qian Zhang - Northwestern Polytechnical University
Shenren Xu - Northwestern Polytechnical University
Dejun Meng - Northwestern Polytechnical University
Dingxi Wang - Northwestern Polytechnical University
Xiuquan Huang - Northwestern Polytechnical University

Impact of Manufacturing Variability From Different Compressor Stages on Aerodynamic Uncertainty: An Interchangeability Study, {GT2024-128577}
Technical Paper Publication
Mingzhi Li - Beihang University
Xianjun Yu - Beihang University
Dejun Meng - AECC Shenyang Engine Research Institute
Guangfeng An - Beihang University
Baojie Liu - Beihang University

35-01 Compressor Transition Ducts
6/27/2024
1:30 PM to 3:30 PM - Pod 4- Entrance S5 & S6

Chair: ***A Duncan Walker -***
Chair: ***Markus Brettschneider - MTU Aero Engines***
Chair: ***Panagiota Tsifourdaris -***
Chair: ***Dimitra Tsakmakidou - Rolls-Royce***
Presentations:

A Numerical Investigation of Active Flow Control Strategies for the Suppression of Aerodynamic Flow Separations in a Very Aggressive Intermediate Compressor Duct, {GT2024-122250}
Technical Paper Publication
Ananthakrishnan Kaliyaperumal - KTH Royal Institute of Technology
Nenad Glodic - KTH Royal Institute of Technology
Mauricio Gutierrez Salas - KTH Royal Institute of Technology
Jonathan Bergh - GKN Aerospace Engine Systems

Stefan Fritz - Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)
Alexander Hergt - Deutsches Zentrum für Luft- und Raumfahrt (DLR)

Numerical Study on Separation Flows of a Compressor Transition Duct, {GT2024-125755}
Technical Paper Publication
Zhenliang Liu - Shanghai Jiao Tong University
Yadong Wu - Shanghai Jiao Tong University
Xinze Zhang - Shanghai Jiao Tong University
Hua Ouyang - Shanghai Jiao Tong University

Experimental and Numerical Study on the Effect of OGV Clocking on ICD Performance, {GT2024-123733}
Technical Paper Publication
Isak Jonsson - Chalmers University of Technology
Alexandre Capitao Patrao - Fluid Dynamics
Petter Miltén - Fluid Dynamics
Carlos Xisto - Fluid Dynamics
Marcus Lejon - GKN Aerospace Sweden

31-05 Compressor Design
6/27/2024
1:30 PM to 3:30 PM - Pod 2- Entrance S5 & S6

Chair: ***Julia Stephens -***
Chair: ***Joshua Cameron - University of Notre Dame***
Presentations:

A Rapid Test Facility for Transonic Compressors and Fans, {GT2024-121459}
Technical Paper Publication
Tianhou Wang - Whittle Laboratory
James Taylor - Whittle Laboratory
Robert Miller - Whittle Laboratory

Effect of Operational Pressure Reduction on Axial Compressor Performance by Means of 3D CFD Modeling at Nominal Operating Speeds, {GT2024-124093}
Technical Paper Publication
José Galindo - CMT - Clean Mobility & Thermofluids, Universitat Politècnica de València
Roberto Navarro - CMT - Clean Mobility & Thermofluids, Universitat Politècnica de València
Borja Pallás - CMT - Clean Mobility & Thermofluids, Universitat Politècnica de València
Germán Torres - Zeleros Global S.L.
Federico Lluesma-Rodríguez - Zeleros Global S.L.
Antonio Antoranz - ITP Aero

Meanline Design and Aerodynamic 3D RANS Investigations of a Multistage Helium Axial Compressor, {GT2024-128129}
Technical Paper Publication
Arvind Prabhakar - Siemens DISW

Study on Integrated Through-Flow Method for Variable Cycle Compression System, {GT2024-127447}
Technical Paper Publication
Shuying Zhang - Institute for Aero Engine, Tsinghua University
Teng Fei - Institute for Aero Engine, Tsinghua University
Jiabin Li - Institute for Aero Engine, Tsinghua University
Lucheng Ji - Institute for Aero Engine, Tsinghua University

15-07 Numerical Studies of Internal Cooling
6/27/2024
1:30 PM to 3:30 PM - SG25/SG26

Chair: ***Lamyaa El-Gabry - GE Aerospace***
Chair: ***Hongzhou Xu -***
Chair: ***Ardeshir Riahi -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Ali Ameri - Ohio State University***
Presentations:

Computational Study of Additively Manufactured Internally Cooled Airfoils for Industrial Gas Turbine Applications, {GT2024-123502}
Technical Paper Publication
Matthew Krull - Pennsylvania State University
Stephen Lynch - Pennsylvania State University
Matthew Searle - National Energy Technology Laboratory
Timothy Floyd - National Energy Technology Laboratory
Forrest E. Ames - National Energy Technology Laboratory
Douglas Straub - National Energy Technology Laboratory

Direct Numerical Simulation of Air-Cooled and Air-Heated Channels, {GT2024-122883}
Technical Paper Publication
Davide Modesti - TU Delft
Sergio Pirozzoli - Sapienza Universit`a di Roma

Flow and Heat Transfer in a Ribbed Converging-Diverging U-Duct Under Rotating and Non-Rotating Conditions, {GT2024-124526}
Technical Paper Publication
Wanjae Kim - Purdue University
Tom Shih - Purdue University
Kenneth Bryden - Iowa State University
Richard Dalton - National Energy Technology Laboratory
Sung Yong Chang - Korea Electric Power Research Institute
Gyu Sang Park - Korea Electric Power Research Institute

Investigation of Predictive Methods for Flow Resistance in Channel With Asymmetric Rib Arrangements Under Rotating Condition, {GT2024-124237}
Technical Paper Publication
Yunteng Xu - Reserach Institute of Areo-Engine, Beihang University
Ruquan You - Reserach Institute of Areo-Engine, Beihang University
Junxin Che - Reserach Institute of Areo-Engine, Beihang University
Haiwang Li - Reserach Institute of Areo-Engine, Beihang University

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15-08 General Internal Cooling
6/27/2024
1:30 PM to 3:30 PM - SG29

Chair: ***Mauro Carnevale - University of Bath***
Chair: ***Hongzhou Xu -***
Chair: ***Ardeshir Riahi -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Simone Salvadori -***

Chair: ***Mauro Carnevale -***
Presentations:

A Reduced-Order Model for Predicting Flow and Temperature in a Rotating Tapered Duct Under Constant Thermal Loading, {GT2024-124534}
Technical Paper Publication
Wanjae Kim - Purdue University
Tom Shih - Purdue University
Kenneth Bryden - Iowa State University
Richard Dalton - National Energy Technology Laboratory

Heat Transfer and Flow Field Characteristics of Variable Aspect Ratio, Serpentine Passages, {GT2024-128056}
Technical Paper Publication
Hanlin Wang - Texas A&M University
Denali Klein - Texas A&M University
Lesley M. Wright - Texas A&M Univeristy

Effect of Turning Vane on Tip Wall Heat Transfer in a Rotating Two-Pass Rectangular Channel, {GT2024-126984}
Technical Paper Publication
Szu-Chi Huang - National Yang Ming Chiao Tung University
Kai-Chieh Chia - National Yang Ming Chiao Tung University
Je-Wei Yeh - National Yang Ming Chiao Tung University
Yao-Hsien Liu - National Yang Ming Chiao Tung University

Investigation of Heat Transfer and Flow Characteristics in Rotating Combined Three-Pass Channels, {GT2024-121021}
Technical Paper Publication
Che Junxin - National Key Laboratory of Science and Technology on Aero Engines Aero-thermodynamics, Beihang University
Ruquan You - National Key Laboratory of Science and Technology on Aero Engines Aero-thermodynamics, Beihang University
Wenbin Chen - Hunan Key Laboratory of Turbomachinery on Small and Medium Aero-Engine, AECC Hunan Aviation Powerplant Research Institute
Haiwang Li - National Key Laboratory of Science and Technology on Aero Engines Aero-thermodynamics, Beihang University

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13-04 - Transients, Unsteadiness and Swirl
6/27/2024
1:30 PM to 3:30 PM - SG27/SG28

Chair: ***James Heidmann -***
Chair: ***Robert Krewinkel -***
Chair: ***Guillermo Paniagua-Perez - Purdue University***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Arnab Roy - GE Vernova***
Chair: ***Shuo Mao - Virginia Tech***
Presentations:

Transient Simulation and Characterization of Conjugate Heat Transfer at Hydro Generator Polewindings, {GT2024-120895}
Technical Paper Publication
Thilo Dauch - Voith Hydro Holding GmbH & Co. KG
Bastian Diebel - Voith Hydro Holding GmbH & Co. KG
Roland Jester-Zuerker - Voith Hydro Holding GmbH & Co. KG

Study of the Total Temperature Redistribution in the Complex Swirling Flows, {GT2024-120961}

Technical Paper Publication
Artem Karpenko - SE IVCHENKO-PRROGRESS
Yurii Kukhtin - SE IVCHENKO-PROGRESS

Heat Transfer Enhancement in Pulsating Flows: A Bayesian Approach to Experimental Correlations, {GT2024-123876}
Technical Paper Publication
Matei Cristian Ignuta-Ciuncanu - Imperial College London
Chris Noon - Imperial College London
Ricardo Martinez-Botas - Imperial College London

Investigation of Conjugate Heat Transfer in Wall-Modeled Large Eddy Simulation of High-Speed Compressible Wall-Bounded Flows, {GT2024-127902}
Technical Paper Publication
Julia Muller - Georgia Institute of Technology
Meghna Dutta - Georgia Institute of Technology
Joshua Boisvert - Georgia Institute of Technology
Joseph Oefelein - Georgia Institute of Technology

04-30 Emissions - hydrogen/ammonia III
6/27/2024
1:30 PM to 3:30 PM - SG13

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Antoine Durocher - NRC Canada***
Presentations:

Large Eddy Simulations for the Prediction of Fuel-Bound NOx Emissions: Application to NH3 and NH3-CH4 Blends at Different Operating Conditions, {GT2024-123875}
Technical Paper Publication
Roberto Meloni - Baker Hughes
Luca Mazzotta - Sapienza University of Rome - Baker Hughes
Egidio Pucci - Baker Hughes
Steve Morris - Cardiff University School of Enginering
Burak Goktepe - Cardiff University School of Engineering
Syed Mashruk - Cardiff University School of Engineering
Domenico Borello - Sapienza University of Rome
Agustin Valera-Medina - Cardiff University School of Enginnering

Large-Eddy Simulation of a Non-Premixed Ammonia-Hydrogen Flame: NOx Emission and Flame Characteristics Validation, {GT2024-129248}
Technical Paper Publication
Dr. Naseem Ansari - Ansys Inc
Stefano Orsino - Ansys Inc
Roberto Meloni - Baker Hughes
Egidio Pucci - Baker Hughes
Simone Castellani - University of Florence
Antonio Andreini - University of Florence
A. Valera-Medina - Cardiff University School of Engineering

Micro Gas Turbine Fed With Ammonia As Fuel: Performance Analysis and NOx Emissions Reduction, {GT2024-121302}
Technical Paper Publication
Mohsen Fatehi - Free university of Bolzano
Graziano Campaldini - Free University of Bolzano

Massimiliano Renzi - Free University of Bolzano

Predicting NOx Emissions of a Lean Hydrogen Flame Using High and Low Order CFD Models, {GT2024-128988}
Technical Paper Publication
Matteo Amerighi - University of Florence
Antonio Andreini - University of Florence
Stefano Orsino - ANSYS
Ishan Verma - ANSYS
Rakesh Yadav - ANSYS
Thoralf Reichel - Technische Universität Berlin
Tom Tanneberger - Technische Universität Berlin
Oliver Paschereit - Technische Universität Berlin

36-01 Preliminary and structural optimization
6/27/2024
1:30 PM to 3:30 PM - Pod 6- Entrance S5 & S6

Chair: ***Lieven Baert - CENAERO***
Chair: ***Marcus Meyer -***
Chair: ***Marc Nagel - MTU***
Presentations:

Feasibility Study of Decentralized Lubrication System Design Through Branch and Bound and Genetic Algorithm for Turbomachinery Trains, {GT2024-123728}
Technical Paper Publication
Yuzheng Chen - McGill University
Bill Maier - Siemens Energy
Andy Buckenberger - Siemens Energy
Yaoyao Fiona Zhao - McGill University

Digital Value Tool for Gas Turbine Digitized Cross Section, {GT2024-124314}
Technical Paper Publication
Marigrazia Moscardini - Baker Hughes
Valentina Filice - Baker Hughes
Gianni Cini - Baker Hughes
Libero Tapinassi - Baker Hughes
Matteo Berti - Baker Hughes
Riccardo Brogelli - Baker Hughes
Paolo Del Turco - Baker Hughes
Giacomo Ragni - Baker Hughes

Design of a Relational Database for Turbine Center Frames With Application for Geometry Optimization, {GT2024-126557}
Technical Paper Publication
Marian Staggl - Graz University of Technology
Wolfgang Sanz - Graz University of Technology
Thomas Sterner - Graz University of Technology

Topology Optimization of Centrifugal Compressor Exhaust Volute With Discrete Adjoint Method, {GT2024-128939}
Technical Paper Publication
Huiying Zhang - Dalian University of Technology
Siyuan Wan - Dalian University of Technology
Mindi Jiang - Dalian University of Technology
Xi Xi - Dalian University of Technology
Shengli Xu - Dalian University of Technology

34-15 Solver methods 2
6/27/2024
1:30 PM to 3:30 PM - Pod 5-Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Roque Corral -***
Chair: ***Mehdi Vahdati -***
Presentations:

Scale-Resolving Simulations of Turbulent Flow Retaining The Exact Blade Count With the Time-Inclined Method, {GT2024-125689}
Technical Paper Publication
Miguel Montiel - Universidad Politécnica de Madrid
Roque Corral - Universidad Politécnica de Madrid

Numerical Modelling Approach for Wet Humid Air Flows in Hydrogen E-Turbos, {GT2024-122095}
Technical Paper Publication
Adem Tosun - University of Stuttgart
Christopher Fuhrer - University of Stuttgart
Stephen Hughes - Cummins Turbo Technologies
Damian M. Vogt - University of Stuttgart

Lattice-Boltzmann Modelling of Internal Compressible Flows: Application to the Transonic LS89 Cascade, {GT2024-123051}
Technical Paper Publication
Iason Tsetoglou - Aix Marseille Univ, CNRS, Centrale Marseille, M2P2, Marseille, France
Song Zhao - Aix Marseille Univ, CNRS, Centrale Marseille, M2P2, Marseille, France
Jérôme Jacob - Aix Marseille Univ, CNRS, Centrale Marseille, M2P2, Marseille, France
Pierre Boivin - Aix Marseille Univ, CNRS, Centrale Marseille, M2P2, Marseille, France

Dimaxer: A Fast High Order Unsteady Simulating System on GPUs for Turbomachinery, {GT2024-123784}
Technical Paper Publication
Boyang Liu - Rankyee Technology Co.,Ltd
Jun Peng - Research Institute of Tsinghua University in Shenzhen
Yi Lu - Research Institute of Tsinghua University in Shenzhen
Kai Liu - Rankyee Technology Co.,Ltd
Yang Zhang - Research Institute of Tsinghua University in Shenzhen

04-26 Atomization and Spray Combustion II
6/27/2024
1:30 PM to 3:30 PM - SG12

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Vincent McDonell - UCI***
Presentations:

Temperature Field Measurements in Swirl Spray Flames Using Two-Line Planar Laser Induced Fluorescence Thermometry, {GT2024-123973}
Technical Paper Publication
Chao Tao - Beihang University
Chi Zhang - Beihang University

Qiang An - Beihang University
Xin Xue - Beihang University

A Modal Analysis of Spray Structures From a Transversely Injected Liquid Jet in Subsonic and Supersonic Crossflows, {GT2024-125052}
Technical Paper Publication
Aubrey McKelvy - Purdue University
James Braun - North Carolina State University
Guillermo Paniagua - Purdue University
Etienne Choquet - MBDA
Thierry Andre - MBDA
Francois Falempin - MBDA

Low Swirl Effect on Compact Spray and Combustion Systems Using Additive Manufactured Dual Airblast Injectors, {GT2024-125618}
Technical Paper Publication
Yeonse Kang - Institute of Combustion Technology for Aerospace Engineering (IVLR), University of Stuttgart
Jihwan Ahn - Institute of Combustion Technology for Aerospace Engineering (IVLR), University of Stuttgart
Fabian Hampp - Institute of Combustion Technology for Aerospace Engineering (IVLR)

An Enhanced Predictive Method for Large Droplet Breakage Based on the Discrete Particle Model, {GT2024-126587}
Technical Paper Publication
Ju Hongyu - Northwestern Polytechnical University
Suo Jianqin - Northwestern Polytechnical University
Li Yue - Northwestern Polytechnical University

23-02, Bearing Modeling II
6/27/2024
1:30 PM to 3:30 PM - SG15

Chair: ***Kostandin Gjika -***
Chair: ***Jürg Schiffmann -***
Presentations:

Combined Effects of Fluid Inertia and Gas Rarefaction on The Performance of Textured Gas Bearings, {GT2024-124993}
Technical Paper Publication
Kefan Xu - School of Energy Science and Engineering
Guanghui Zhang - School of Energy Science and Engineering, Harbin Institute of Technology
Yiken Lu - School of Energy Science and Engineering, Harbin Institute of Technology
Jiazhen Han - School of Energy Science and Engineering, Harbin Institute of Technology
Zhongwen Huang - Nanjing Engineering Institute of Aircraft Systems
Wenjie Gong - School of Energy Science and Engineering, Harbin Institute of Technology

The Role of the Working Fluid and Non-Ideal Thermodynamic Effects on Performance of Gas Lubricated Bearings, {GT2024-127645}
Technical Paper Publication
Wessel de Waart - TU Delft Aerospace Engineering
Matteo Pini - TU Delft Aerospace Engineering

Dynamic Response of a Rotor Supported on Hybrid Bearings in Air, Water, and Liquid Nitrogen: Measurements and Comparisons to Predictions, {GT2024-129423}
Technical Paper Publication
Howon Yi - Hanyang University
Kyuman Kim - Hanyang University
Hyunsung Jung - Hanyang University

Keun Ryu - Hanyang University

The Impact of Friction in Lube Oil Feed Grooves on Power Loss in High-Speed Journal Bearings, {GT2024-127952}
Technical Paper Publication
Daniel Vetter - Institute of Tribology and Energy Conversion Machinery, Clausthal University of Technology
Thomas Hagemann - Institute of Tribology and Energy Conversion Machinery, Clausthal University of Technology
Hubert Schwarze - Institute of Tribology and Energy Conversion Machinery, Clausthal University of Technology

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24-03 Advances in Design & Analyses
6/27/2024
1:30 PM to 3:30 PM - SG16

Chair: ***Partha Das -***
Chair: ***Bernd Beirow -***
Chair: ***Ibrahim A. Sever - Rolls Royce***
Presentations:

Multi-Stage Cyclic Symmetry Analysis of an Industrial High Pressure Turbine Assembly – Comparing Structural, Modal, and Solve Statistics, {GT2024-121385}
Technical Paper Publication
Jeffrey Bronson - ANSYS Inc

A New Experimental Facility for the Study of Blade Tip Rubs at Engine Relevant Temperatures, {GT2024-129413}
Technical Paper Publication
Noah Broski - The Ohio State University
Christopher Keener - The Ohio State University
Theodore Loizos - The Ohio State University
Randall Mathison - The Ohio State University
Kiran D'Souza - The Ohio State University
Thomas Kasprow - Pratt & Whitney
Agnieszka M. Wusatowska-Sarnek - Pratt & Whitney

Generative Deep Learning on Images of Thermo-Mechanical Simulation Results, {GT2024-126867}
Technical Paper Publication
Adele Nasti - Rolls-Royce Deutschland Ltd & Co KG
Ivan Voutchkov - Rolls-Royce Plc
Andy Keane - University of Southampton

Compressor Blade Vibrations of Next Generation of Turbocharger With Focus on Damping: Simplified Prediction and AI-Based Evaluation, {GT2024-127151}
Technical Paper Publication
Robby Weber - Turbo Systems Switzerland Ltd
Matthias Glatt - Turbo Systems Switzerland Ltd

28-09 Modeling & Simulation
6/27/2024
1:30 PM to 3:30 PM - SG23/SG24

Chair: ***Jeffrey Brown - AFRL***
Chair: ***Azzedine Dadouche -***
Chair: ***Daniel Gillaugh -***

Presentations:

A Bladed Disk Reduction Technique That Captures Variation in Blade Stiffness and Blade Root Joint Contacts, {GT2024-129039}
Technical Paper Publication
Troy Krizak - The Ohio State University
Christian Maria Firrone - Politecnico di Torino
Giuseppe Battiato - Politecnico di Torino
Kiran D'souza - The Ohio State University

Application of Interface Reduction Methods to Rotordynamic Casing Models, {GT2024-121370}
Technical Paper Publication
Martin Paehr - Institute of Dynamics and Vibration Research, Leibniz Universität Hannover
Lars Panning-Von Scheidt - Institute of Dynamics and Vibration Research, Leibniz Universität Hannover

On a New Cyclic Symmetry Formulation Accounting for Boundaries Undergoing Nonlinear Forces, {GT2024-124453}
Technical Paper Publication
Samuel Quaegebeur - Ecole Centrale de Lyon
Fabrice Thouverez - Ecole Centrale de Lyon

Effects of the Geometric Uncertainties of Bladed Disks Through the Analytical Derivatives of the Finite Element Matrices, {GT2024-124889}
Technical Paper Publication
Abdelhakim Bouras - Univertità di Genova
Luigi Carassale - Università di Genova

05-09 Advanced Diagnostics & Data Analytics II
6/27/2024
1:30 PM to 3:30 PM - SG7

Chair: ***Craig Davison - National Research Council, Canada***
Chair: ***Igor Loboda -***
Chair: ***Elias Tsoutsanis - Technology Innovation Institute, UAE***
Presentations:

Deep Learning Based Crack Detection in Inhomogeneous X-Ray Images for High Pressure Turbine Blades in Aviation, {GT2024-123663}
Technical Paper Publication
Timo Kuhlgatz - Leibniz University Hanover
Sontje Ihler - Leibniz University Hanover
Marius Bonhage - MTU Maintenance
Thomas Seel - Leibniz University Hanover

Application of Ultrasound Gas Detectors in Gas Turbine Package, {GT2024-124247}
Technical Paper Publication
Viola Sorrentino - Baker Hughes
Riccardo Viti - Baker Hughes
Stefano Minotti - Baker Hughes
Giovanni Tonno - Baker Hughes
Francesco Azzini - Baker Hughes

Low Data Prognostic Model for Rolling Element Bearing Remaining Useful Life, {GT2024-127841}
Technical Paper Publication
Edoardo Gheller - Politecnico di Milano
Sivachakaravarthy Natarajan - Politecnico di Milano
Abyjith Pazhoor - Politecnico di Milano

Steven Chatterton - Politecnico di Milano
Andrea Vania - Politecnico di Milano
Paolo Pennacchi - Politecnico di Milano

A Systematic Approach to Sensor Selection for Gas Turbine Exhaust Gas Temperature Prediction, {GT2024-128583}
Technical Paper Publication
Jiasen Xu - Tsinghua University
Fangyuan Lou - Tsinghua University

33-04 Compressor erosion and deposition effects
6/27/2024
1:30 PM to 3:30 PM - Pod 7- Entrance S5 & S6

Chair: ***Sergio Lavagnoli - von Karman Institute for Fluid Dynamics***
Chair: ***Stefano Bianchi - Airbus***
Chair: ***Filippo Merli - von Karman Institute for Fluid Dynamics***
Presentations:

Investigation of Particle Deposition and Erosion Characteristics of Axial Compressor Blades, {GT2024-126898}
Technical Paper Publication
Chuanliang Guo - Harbin Institute of Technology
Shaowen Chen - Harbin Institute of Technology
Shuaitong Chen - Harbin Institute of Technology
Cong Zeng - Harbin Institute of Technology

Effect of Leading Edge Erosion on the Tip Leakage Flow in a Compressor Cascade, {GT2024-126569}
Technical Paper Publication
Thomas Stein - Institute of Aircraft Propulsion Systems (University of Stuttgart)
Markus Leitner - Institute of Aircraft Propulsion Systems (University of Stuttgart)
Stephan Staudacher - Institute of Aircraft Propulsion Systems (University of Stuttgart)

The Effect of Additive 'Depositional' Reprofiling of Compressor Blade Leading Edges on Engine Performance, {GT2024-128846}
Technical Paper Publication
Drew Mullaney - University of Manchester
Merren Jones - University of Manchester
Nicholas Bojdo - University of Manchester
Stephen Covey-Crump - University of Manchester
Alison Pawley - University of Manchester

CFD Study on the Effect of Rotor Leading Edge Erosion on the Performance of Single Stage Compressor, {GT2024-129004}
Technical Paper Publication
Jin-Sol Jung - Virginia Polytechnic Institute and State University
Changmin Son - Virginia Polytechnic Institute and State University

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41-07 Floating Off-shore Wind Turbines
6/27/2024
1:30 PM to 3:30 PM - SG8

Chair: ***Giacomo Persico - Politecnico di Milano***
Chair: ***Lorenzo Ferrari - University of Pisa – DESTEC, Italy***
Presentations:

Investigation on the Effect of Resolving Waves Motion in the Simulation of Offshore Wind Farms, {GT2024-124860}
Technical Paper Publication
Filippo De Girolamo - Sapienza University of Rome
Alessio Castorrini - Sapienza University of Rome
Vincenzo Morici - Sapienza University of Rome
Lorenzo Tieghi - Sapienza University of Rome
Franco Rispoli - Sapienza University of Rome

Aerodynamic Study of a Horizontal Axis Wind Turbine in Surge Motion Under Angular Speed and Blade Pitch Controls, {GT2024-129321}
Technical Paper Publication
Agnese Firpo - Politecnico di Milano
Andrea G. Sanvito - Politecnico di Milano
Vincenzo Dossena - Politecnico di Milano
Giacomo Persico - Politecnico di Milano

07-02 Educational tools
6/27/2024
1:30 PM to 3:30 PM - SG4

Chair: ***Ioanna Aslanidou - Mälardalen University***
Chair: ***Prashant Khare - University of Cincinnati***
Chair: ***Stavros Vouros - Mälardalen University***
Presentations:

A Comprehensive Educational App for Propulsion Systems, {GT2024-122280}
Technical Paper Publication
Spyros Tsentis - Cranfield University
Aggelos Gaitanis - Université Catholique de Louvain
Vasilis Gkoutzamanis - Aristotle University of Thessaloniki
Anestis Kalfas - Aristotle University of Thessaloniki

Teaching Aero-Engine Performance: From Analytics to Hands-on Exercises Using Gas Turbine Performance Software, {GT2024-123953}
Technical Paper Publication
Peter Jeschke - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Wolfgang Koschel - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Christian Klumpp - Institute of Jet Propulsion and Turbomachinery, RWTH Aachen University
Daniel Weintraub - GasTurb GmbH

Gas Turbine Design Point Definition Using Economics, Environmental and Optimization Aspects, {GT2024-128892}
Technical Paper Publication
Carlos Henrique De Paiva Pinheiro - GE
Cleverson Bringhenti - Aeronautics Institute of Technology
Jesuino Takachi Tomita - Aeronautics Institute of Technology
Franco Jefferds Dos Santos Silva - Aeronautics Institute of Technology
Alexandre Roma - Aero Concepts
Mayara Lopes Salgado - Aeronautics Institute of Technology

06-06 Micro-Gas Turbine: Technologies and Applications
6/27/2024
1:30 PM to 3:30 PM - SG1

Chair: ***Mohsen Ghavami - City, University of London***
Chair: ***Jafar Alzaili - City, University of London***
Presentations:

The Use of Artificial Neural Networks With a Systems Engineering Approach for Data Enhancement in Humidified Micro-Gas Turbine Application, {GT2024-124906}
Technical Paper Publication
Ahmad Jamil - University of Stavanger
Tina Dinh - Schneider Electric
Ward De Paepe - University of Mons
Homam Nikpey Somehsaraei - University of Stavanger

Thermodynamic Performance Assessment of a Combined Micro Humid Air Turbine and Organic Rankine Cycle System for Maritime Application, {GT2024-128136}
Technical Paper Publication
Mohsen Mosayebnezhad - Thomassen Energy
Eglantin Gjoni - Thomassen Energy BV

Humidification Impact on the Performance Improvement of a Novel Two-Shaft Micro Gas Turbine: Thermodynamic Cycle Performance Assessment, {GT2024-128549}
Technical Paper Publication
Ali Baghernejad - UMONS
Danish Rehman - MITIS
Michel Delanaye - MITIS
Ward De Paepe - UMONS

Laboratory Tests in Cyber-Physical Mode for an Energy Management System Including Renewable Sources and Industrial Symbiosis, {GT2024-128015}
Technical Paper Publication
Mario Luigi Ferrari - University of Genoa
Lorenzo Gini - University of Genoa
Matteo Pascenti - SIT Technologies

01-04 Inlet Distortion and Engine Operability III
6/27/2024
1:30 PM to 3:30 PM - SG19

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Curtis Flack - NASA***
Chair: ***Kevin Lowe - Virginia Tech***
Chair: ***Judith Van Zante - NASA***
Presentations:

Simulation of Sand Erosion in a Transonic Fan Stage, {GT2024-121812}
Technical Paper Publication
Adel Ghenaiet - Faculty of Mechanical Engineering and Process Engineering, University of Science and Technology Houari Boumediene

A Coupling Model of Ice Crystal Icing in a Three-Stage Compressor, {GT2024-123553}
Technical Paper Publication
Haoran Zheng - Shanghai Jiao Tong University
Xianda Cheng - Shanghai Jiao Tong University
Wei Dong - Shanghai Jiao Tong University

Aerodynamic Characterization of an Industrial Inlet Particle Separator for Turboshaft and Turboprop Engines, {GT2024-127364}
Technical Paper Publication
Carlo Sanapo - von Karman Institute for Fluid Dynamics
Marco Castaldi - von Karman Institute for Fluid Dynamics
Ignacio Mayo Yague - Safran Aircraft Engines
Jacques Demolis - Safran Helicopter Engines
Frank Eulitz - von Karman Institute for Fluid Dynamics

Numerical Simulation and Prediction Using Neural Network for Internal Flow Field and Outlet Distortion Contour of S-Shape Inlet Ducts, {GT2024-128513}
Technical Paper Publication
Shixuan Wang - University of Chinese Academy of Sciences
Min Zhang - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Juan Du - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Dun Ba - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Chaoqun Nie - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Yangyang Wang - Institute of Engineering Thermophysics, Chinese Academy of Sciences

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20-04 Emissions Reduction and Safety Containment
6/27/2024
1:30 PM to 3:30 PM - SG3

Chair: ***Jason Wilkes -***
Chair: ***Rainer Kurz -***
Presentations:

Design Options for GHG Reduction of Gas Turbine Driven LNG Plants, {GT2024-129296}
Technical Paper Publication
Matt Taher - Bechtel Energy
Cyrus Meher-Homji - Bechtel Energy Inc.
S. Can Gülen - Bechtel Infrastructure and Power Inc

Numerical vs Experimental Investigation on Fuel Gas Leak Dispersion in a Real Scale GT Enclosure, {GT2024-128705}
Technical Paper Publication
Gabriele Lucherini - Baker Hughes
Elena De Leo - Baker Hughes
Stefano Minotti - Baker Hughes
Valentina Presotto - Baker Hughes
Rajnish Kumar Singh - Baker Hughes
Jegan Vishnu Raju Susila - Adarsh Solutions

CFD Study for Mitigation of H2 Explosion Inside Gas Turbine Enclosure, {GT2024-128720}
Technical Paper Publication
Elena De Leo - Baker Hughes
Eugenio Quartieri - Baker Hughes
Stefano Minotti - Baker Hughes
Stefano Rossin - Baker Hughes

Experimental Study of Fuel Gas Leak in a Real Scale GT Enclosure, {GT2024-128879}
Technical Paper Publication
Alessandro Ricco - Baker Hughes
Gabriele Lucherini - Baker Hughes
Stefano Minotti - Baker Hughes
Francesco Azzini - Baker Hughes
Valentina Presotto - Baker Hughes
Stefano Vanghi - Baker Hughes

30-04 Compressors 2
6/27/2024
1:30 PM to 3:30 PM - SG11

Chair: ***Jayanta Kapat -***
Chair: ***Paolo Gaetani -***
Chair: ***Timothy Allison - SWRI***
Presentations:

Blade Designs for Improved Multi-Phase Performance in sCO2 Compressors: Part I - Design and Numerical Evaluation at Application Relevant Conditions, {GT2024-122297}
Technical Paper Publication
Ashvin Hosangadi - Craft Tech
Timothy Weathers - CRAFT Tech
Antonio Cepero - CRAFT Tech
Paul Cooper - Self
Erik Fernandez - University of Central Florida
Jayanta Kapat - University of Central Florida

Numerical Method for Investigating Non-Ideal Flow Demonstrated on a Centrifugal Compressor Operating Near the Critical Point of CO2, {GT2024-124068}
Technical Paper Publication
Katharina Tegethoff - University of Duisburg-Essen
Carolina Borges De Almeida - University of Duisburg-Essen
Sebastian Schuster - University of Duisburg-Essen
Dieter Brillert - University of Duisburg-Essen

Compressor Development for CO2-Based Pumped Thermal Energy Storage (PTES) Systems, {GT2024-124070}
Technical Paper Publication
Timothy Held - Echogen Power Systems
Jason Miller - Echogen Power Systems
Kyle Sedlacko - Echogen Power Systems
Joshua Cameron - University of Notre Dame
Scott Morris - University of Notre Dame
Jeongseek Kang - University of Notre Dame
Mark Turner - University of Cincinnati

Blade Designs for Improved Multi-Phase Performance in sCO2 Compressors; Part II - Optical Diagnostics in sCO2 and Experimental Evaluation With Particle Image Velocimetry, {GT2024-129119}
Technical Paper Publication
Erik Fernandez - University of Central Florida
Emmanuel Gabriel-Ohanu - University of Central Florida
Ladislav Vesely - University of Central Florida
Jayanta Kapat - University of Central Florida
Ashvin Hosangadi - Combustion Research and Flow Technology, Inc. (CRAFT Tech)
Paul Cooper - Consultant to Combustion Research and Flow Technology, Inc (CRAFT Tech)

02-04 Environmental Degradation of EBCs and TBCs II
6/27/2024
1:30 PM to 3:30 PM - SG2

Chair: ***Michael Presby -***

Chair: ***Spencer Jeffs - Swansea University***
Chair: ***Jun Shi - Rolls Royce***
Presentations:

Understanding EBC Lifetimes and Performance for Industrial Gas Turbines, {GT2024-125954}
Technical Paper Publication
Mackenzie Ridley - Oak Ridge National Laboratory
Michael Lance - Oak Ridge National Laboratory
Trevor Aguirre - Oak Ridge National Laboratory
Kenneth Kane - The Johns Hopkins University Applied Physics Laboratory
Bruce Pint - Oak Ridge National Laboratory

Expanding the Capability of a Legacy Combustion Flametube to Test High Temperature Engine Materials in Relevant Environments, {GT2024-123449}
Technical Paper Publication
Bryan Harder - NASA Glenn Research Center
Carl Liebfried - NASA Glenn Research Center
Thomas Luginbuhl - NASA Glenn Research Center
Andrew Smith - NASA Glenn Research Center
Amy Stalker - NASA Glenn Research Center
Michael Presby - NASA Glenn Research Center

Systems-Based Approach to Predicting TBC Delamination due to CMAS Infiltration, {GT2024-129393}
Technical Paper Publication
Matei Teglas - University of Manchester
Nicholas Bojdo - University of Manchester
Jacob Elms - University of Manchester
Alison Pawley - University of Manchester
Stephen Covey-Crump - University of Manchester
Merren Jones - University of Manchester

03-12 Hydrogen applications 2
6/27/2024
1:30 PM to 3:30 PM - SG6

Chair: ***Marcel Otto - University of Central Florida***
Chair: ***Pietro Bartocci - crbnet***
Chair: ***Angela Serra - Baker Hughes***
Chair: ***Marina Braun-Unkhoff - DLR***
Chair: ***Marzuqa Ahmed - University of Central Florida***
Chair: ***Rachele Orlandi - Baker Hughes***
Presentations:

Centrifugal Compressor Preliminary Design Optimization for a Hydrogen Pipeline Compression Station, {GT2024-123827}
Technical Paper Publication
Samuel Jottrand - ULB
Patrick Hendrick - ULB

Shear-Driven Hydrogen-Air Mixing in OP16 DLE Combustor: A Comparative Study Between URANS and LES, {GT2024-123831}
Technical Paper Publication
Teja Donepudi - Delft University of Technology
Rene Pecnik - Delft University of Technology
Jurriaan W. R. Peeters - Delft University of Technology
Sikke Klein - Delft University of Technology

Thijs Bouten - Destinus Energy
Lars-Uno Axelsson - Destinus Energy

HYFLEXPOWER Project: Demonstration of an Industrial Power-to-H2-to-Power Advanced Plant Concept With Up to 100% H2 in an SGT-400 Gas Turbine, {GT2024-124016}
Technical Paper Publication
Nishant Parsania - Siemens Energy
Sebastian Hermeth - Siemens Energy
Benjamin Witzel - Siemens Energy
Ertan Yilmaz - Siemens Energy
Stéphane Fourcade - Engie
Sami Garmadi - ENGIE
Harry Trump - Centrax Ltd
Peter Mccaig - Centrax Ltd

Flame Characteristics of a Piloted Single-Nozzle Hydrogen Lean Direct Injection (LDI) Burner, {GT2024-124597}
Technical Paper Publication
Rojhat Dere - University College London
Chinonso Ezenwajiaku - University College London
Ramanarayanan Balachandran - University College London
Midhat Talibi - University College London

32-12 Leakage Flows 2
6/27/2024
1:30 PM to 3:30 PM - Pod 1- Entrance S5 & S6

Chair: ***Stephen Donnelly - GE Aerospace***
Chair: ***Emil Goettlich -***
Chair: ***Marios Patinios - GE Aerospace***
Presentations:

Control of Shroud Leakage Loss and Windage Torque in a Low-Pressure Turbine Stage, {GT2024-122130}
Technical Paper Publication
Loizos Christodoulou - University of Nottingham
Zhihui Li - Imperial College
Stephen Ambrose - University of Nottingham
Richard J Jefferson-Loveday - King's College London
Richard Jackson - University of Bath
Gary Lock - University of Bath
Carl Sangan - University of Bath
James Scobie - University of Bath

A Numerical Study on the Aerodynamic Performance of a Shrouded Low-Pressure Turbine With Solid and Honeycomb Lands, {GT2024-122584}
Technical Paper Publication
Min Seok Hur - Inha University
Tong Seop Kim - Inha University
Dong Hyun Kim - Hanwha Aerospace Co. Ltd
Il Young Jung - Hanwha Aerospace Co. Ltd

Aerodynamic Characterization of LPBF Manufactured Honeycomb Like Sealing Designs Within a Labyrinth Sealing, {GT2024-128745}
Technical Paper Publication
Timo Heitmann - Siemens Energy Global Gmbh & Co. KG
Fabian Goebel - Siemens Energy Global GmbH & Co. KG
Andreas Bardenhagen - Technische Universitaet Berlin

01-17 Modelling, Simulation and Validation IV
6/27/2024
1:30 PM to 3:30 PM - SG20/SG21

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Kevin Lowe - Virginia Tech***
Chair: ***Wilfried Visser - TU Delft***
Chair: ***Oscar Kogenhop - EPCOR***
Presentations:

Development of a Modular Engine Performance Calculation Tool for Prediction of Conventional and Hybrid-Electric Aircraft Engines, {GT2024-125821}
Technical Paper Publication
Marcus Wiegand - Technische Universität Dresden, Institute of Fluid Mechanics, Chair of Turbomachinery and Flight Propulsion
Lukas Schuchard - Technische Universität Dresden, Institute of Fluid Mechanics, Chair of Turbomachinery and Flight Propulsion
Tony Krüger - Technische Universität Dresden, Institute of Fluid Mechanics, Chair of Turbomachinery and Flight Propulsion
Ronald Mailach - Technische Universität Dresden, Institute of Fluid Mechanics, Chair of Turbomachinery and Flight Propulsion

A Modelica Based Integrated Air Vehicle - Novel Propulsor Architecture for Sustainable Aviation, {GT2024-129038}
Technical Paper Publication
Indi Tristanto - Rolls-Royce PLC
Joseph Thorpe - Rolls-Royce PLC
Nunzio Palumbo - Rolls-Royce PLC
Andrea Cino - Rolls-Royce PLC

Toward Net Zero: an Engine Electrification Strategy Approach of Fuel Cell and Steam Injection, {GT2024-121342}
Technical Paper Publication
Zhengfei He - Cranfield University
Evangelia Pontika - Cranfield University
Panagiotis Laskaridis - Cranfield University

An Aero Engine Disk Sizing and Weight Estimation Approach With Improved Temperature Profiles, {GT2024-126351}
Technical Paper Publication
Ioannis Zaimis - Technische Universität München
Elias Carpentari - MTU Aero Engines AG
Tim Begiebing - MTU Aero Engines AG
Volker Gümmer - Technische Universität München

31-07 Compressor Off-Design Impacts & Stall Inception
6/27/2024
4:00 PM to 5:30 PM - Pod 2- Entrance S5 & S6

Chair: ***Hien Phan -***
Chair: ***Lisa Brilliant - RTX/Pratt & Whitney***
Chair: ***Cleopatra Cuciumita - Imperial College London***
Presentations:

Effect of Blade Damage on Low Pressure Ratio Fan Windmill Aerodynamics, {GT2024-122107}

Technical Paper Publication
Sofia Medina Cassillas - University of Cambridge
Alejandro Castillo Pardo - University of Cambridge
Cesare Hall - University of Cambridge
Benjamin Mohankumar - Rolls-Royce

Sensitivity Analysis for Flow Stability of Axial Compressor Based on Meridional Flow, {GT2024-128643}
Technical Paper Publication
Haoyu Ni - School of Energy and Power Engineering, Beihang University
Yibo Fang - Beijing Institute of Astronautical Systems Engineering
Dengke Xu - School of Energy and Power Engineering, Beihang University
Hengyi Zhu - School of Energy and Power Engineering, Beihang University
Dakun Sun - School of Energy and Power Engineering, Beihang University
Xiaofeng Sun - School of Energy and Power Engineering, Beihang University

Unsteady Flow Mechanism of Non-Synchronized Disturbance During Gas Turbine Compressor Start-Up, {GT2024-121637}
Technical Paper Publication
Ryosuke Seki - Mitsubishi Heavy Industries, Ltd.
Sho Bonkohara - Mitsubishi Heavy Industries, Ltd.
Hidetaka Okui - Mitsubishi Heavy Industries, Ltd.

31-14 Flow Control - Riblet & Turbercles
6/27/2024
4:00 PM to 5:30 PM - Pod 4- Entrance S5 & S6

Chair: ***Nick Nolcheff - Honeywell***
Chair: ***Matthew Meier -***
Presentations:

Optimal Riblets Applied to Gas Turbine Compressor Blades Studied via Direct Numerical Simulation, {GT2024-122305}
Technical Paper Publication
Melissa Kozul - University of Melbourne
Massimiliano Nardini - University of Melbourne
Pawel J. Przytarski - University of Melbourne
William Solomon - GE Aerospace
Aamir Shabbir - GE Aerospace
Richard D. Sandberg - University of Melbourne

Design and Optimization of Leading-Edge Tubercles for a Transonic Axial Compressor, {GT2024-122611}
Technical Paper Publication
Yannik Schulz - Leibniz Universität Hannover
Joop Moritz Kohl - Leibniz Universität Hannover
Christoph Kuestner - Leibniz Universität Hannover
Joerg R. Seume - Leibniz Universität Hannover

Influence of the Tip Winglet Structure Modeling on Leakage Flow at a High-Load Compressor Stage, {GT2024-124540}
Technical Paper Publication
Jingjun Zhong - Shanghai Maritime University
Ao Zhao - Shanghai Maritime University
Yi Hu - Shanghai Maritime University
Wanyang Wu - Shanghai Maritime University

40-05 Applications of Machine Learning for Compressors

6/27/2024
4:00 PM to 5:30 PM - Pod 5-Entrance S5 & S6

Chair: ***Reid A. Berdanier - Penn State - University***
Chair: ***Fangyuan Lou - Tsinghua University***
Chair: ***Fangyuan Lou - Tsinghua University***
Chair: ***Baotong Wang - Tsinghua University***
Presentations:

The Development of Machine Learning Models for Radial Compressor Monitoring With Instability Detection, {GT2024-126818}
Technical Paper Publication
Lorenzo Carrattieri - DIME - University of Genoa
Carlo Cravero - DIME - University of Genoa
Davide Marsano - DIME - University of Genoa
Emiliano Valenti - DIME - University of Genoa
Vishnu Sishtla - Carrier Corporation
Chaitanya Halbe - Carrier Corporation

Guideline for Large-Scale Analysis of Centrifugal Blower Using Wall-Resolved Large Eddy Simulation, {GT2024-128659}
Technical Paper Publication
Kazuhiro Tsukamoto - Hitachi, Ltd. Research & Development Group
Chisachi Kato - NIHON University

Reconstruction of Two-Dimensional to Three-Dimensional Flow Transition Fields Using Neural Network-Based Generative Adversarial Networks, {GT2024-128663}
Technical Paper Publication
Ruiling Xu - Xi'an Jiaotong University
Song Gao - Xi'an Jiaotong University
Zhiheng Wang - Xi'an Jiaotong University
Guang Xi - Xi'an Jiaotong University

32-02 Leakage Flows 1
6/27/2024
4:00 PM to 5:30 PM - Pod 1- Entrance S5 & S6

Chair: ***Marios Patinios - GE Aerospace***
Chair: ***Emil Goettlich -***
Chair: ***Stephen Donnelly - GE Aerospace***
Presentations:

Introduction of Axisymmetric Grooves As a Tip Seal Treatment for Small-Core Turbines, {GT2024-121398}
Technical Paper Publication
Connor Wiese - Pennsylvania State University
Reid Berdanier - Pennsylvania State University
Karen Thole - Pennsylvania State University

Optimization of Tip Seal Grooves for Aerodynamic and Durability Improvements of Small-Core Turbines, {GT2024-124299}
Technical Paper Publication
Connor Wiese - Pennsylvania State University
Reid Berdanier - Pennsylvania State University
Karen Thole - Pennsylvania State University

Aerothermal Optimization and Sensitivity Analysis of a Turbine Rotor Tip With a Circumferential Casing Groove Configuration, {GT2024-128823}
Technical Paper Publication
Weiqi Li - Xian Jiaotong University
Zhi Tao - Xiao Jiaotong University
Liming Song - Xian Jiaotong University
Jun Li - Xian Jiaotong University
Zhenping Feng - Xian Jiaotong University

14-03 Turbine Cavities 1
6/27/2024
4:00 PM to 5:30 PM - SG29

Chair: ***Arnd Reichert -***
Chair: ***Mike Barringer -***
Chair: ***Stephen Lynch -***
Chair: ***Carl Sangan -***
Chair: ***Lesley Wright -***
Chair: ***Alessio Picchi -***
Presentations:

Comparison of Rim Sealing Effectiveness in Different Geometrical Configurations, {GT2024-128735}
Technical Paper Publication
Lorenzo Orsini - University of Florence
Alessio Picchi - University of Florence
Bruno Facchini - University of Florence
Alessio Bonini - Baker Hughes
Luca Innocenti - Baker Hughes

On the Relationship Between Swirl and Unsteadiness Within Turbine Rim Seals, {GT2024-129016}
Technical Paper Publication
Simon Vella - University of Bath
Hui Tang - University of Bath
Mauro Carnevale - University of Bath
James Scobie - University of Bath
Gary Lock - University of Bath
Francesco Salvatori - Safran Aircraft Engines
Carl Sangan - University of Bath

The Effect of Rotor Leakage Flows on Hot Gas Ingestion, {GT2024-129257}
Technical Paper Publication
Michael Dawson - University of Cambridge
Nicholas Atkins - Cambridge University

04-39 Combustion dynamics - flame response II
6/27/2024
4:00 PM to 5:30 PM - SG12

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Abdulla Ghani -***

Chair: ***André Fischer - Rolls Royce***
Presentations:

Application of an Improved Workflow for the Identification of Flame Dynamics to Swirl Stabilized Wet Combustion, {GT2024-125057}
Technical Paper Publication
Marcel Désor - Technical University of Munich, School of Engineering and Design
Matthias Haeringer - MTU Aero Engines AG
Marian Hiestermann - MTU Aero Engines AG
Korbinian Niebler - Technical University of Munich, School of Engineering and Design
Camilo F. Silva - Technical University of Munich, School of Engineering and Design
Wolfgang Polifke - Technical University of Munich, School of Engineering and Design

Burner and Flame Transfer Matrices of Jet Stabilized Flames: Influence of Jet Velocity and Fuel Properties, {GT2024-124934}
Technical Paper Publication
Philipp Zur Nedden - TU Berlin
Mattias Ettore Giulio Eck - TU Berlin
Finn Lückoff - TU Berlin
Christian Oliver Paschereit - TU Berlin
Alessandro Orchini - TU Berlin

23-05, Rolling Element Bearings
6/27/2024
4:00 PM to 5:30 PM - SG16

Chair: ***Jürg Schiffmann -***
Presentations:

Ball Bearing Dynamic Stiffness Prediction Considering an Uncertain Position of Rolling Elements, {GT2024-127790}
Technical Paper Publication
Roman Kochurov - Softinway Inc.
Volodymyr Martynenko - SoftInWay, Inc
Leonid Moroz - SoftInWay, Inc
Yuriy Govorushchenko - SoftInWay, Inc

Experimental Research on the Lubrication Cooling Performance and Durability of High-Speed Bearings Under Axial Overload Conditions, {GT2024-128371}
Technical Paper Publication
Yujie Han - Institute of Engineering Thermophysics, Chinese Academy of Sciences; Innovation Academy for Light-duty Gas Turbine, Chinese Academy of Sciences; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences
Binbin Liu - Institute of Engineering Thermophysics, Chinese Academy of Sciences; Innovation Academy for Light-duty Gas Turbine, Chinese Academy of Sciences
Wei Zhao - Institute of Engineering Thermophysics, Chinese Academy of Sciences; Innovation Academy for Light-duty Gas Turbine, Chinese Academy of Sciences; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences
Long Hao - Institute of Engineering Thermophysics, Chinese Academy of Sciences; Innovation Academy for Light-duty Gas Turbine, Chinese Academy of Sciences
Yingqun Ma - Institute of Engineering Thermophysics, Chinese Academy of Sciences; Innovation Academy for Light-duty Gas Turbine, Chinese Academy of Sciences
Qingjun Zhao - Institute of Engineering Thermophysics, Chinese Academy of Sciences; Innovation Academy for Light-duty Gas Turbine, Chinese Academy of Sciences; School of Aeronautics and Astronautics, University of Chinese Academy of Sciences; Beijing Key Laboratory of Distributed Combined Cooling Heating and Power System, Institute of Engineering Thermophysics, Chinese Academy of Sciences

05-14 Instrumentation III: High Temperature Applications
6/27/2024
4:00 PM to 5:30 PM - SG7

Chair: ***Tamara Guimaraes Bucalo - Penn State - University***
Chair: ***Igor Loboda -***
Chair: ***Lorenzo Ferrari - University of Pisa – DESTEC, Italy***
Presentations:

Real Time, Spatially Resolved Methodology for Flame Dynamics Investigation by Means of Fast Imaging and Image Processing, {GT2024-120883}
Technical Paper Publication
Antonio Ferrante - Centro Combustione Ambiente Spa

Analysis of Irreversible Thermochromic Paints for High Temperature Applications Using Specular Reflectance and Roughness Measurement, {GT2024-121206}
Technical Paper Publication
Robert Kossakowski - Rolls-Royce
Stefan Gier - Rolls-Royce
Benjamin Endrulat - Technische Universität Dresden
Matthias Voigt - Technische Universität Dresden
Ronald Mailach - Technische Universität Dresden

Quantification of Combustion Inhomogeneity Based on Sparsely Arranged Thermal Couples at the Outlet of Multi-Stage Turbines, {GT2024-125429}
Technical Paper Publication
Qingfu He - Shanghai Jiao Tong University
Jingwei Huang - Shanghai Jiao Tong University
Zhongran Chi - Shanghai Jiao Tong University
Shuocheng Xia - AECC Commercial Aircraft Engine Co., Ltd
Shusheng Zang - Shanghai Jiao Tong University

41-08 Off-shore Wind Farms
6/27/2024
4:00 PM to 5:30 PM - SG8

Chair: ***Giacomo Persico - Politecnico di Milano***
Presentations:

A Multi Objective Optimization Framework for Offshore Wind Farm Design in Deep Water Seas, {GT2024-126008}
Technical Paper Publication
Valerio Francesco Barnabei - Sapienza University of Rome
Tullio Carlo Maria Ancora - Sapienza University of Rome
Michela Conti - Sapienza University of Rome
Alessio Castorrini - Sapienza University of Rome
Giovanni Delibra - Sapienza University of Rome
Franco Rispoli - Sapienza University of Rome
Alessandro Corsini - Sapienza University of Rome

Comparative Analysis of the Effect of Two Tower Geometries on Offshore Wind Turbine Wake Aerodynamics, {GT2024-128992}
Technical Paper Publication
Albanese Simone - Sapienza University of Rome
Valerio Francesco Barnabei - Sapienza University of Rome

Vincenzo Morici - Sapienza University of Rome
Alessandro Corsini - Sapienza University of Rome
Alessio Castorrini - Sapienza University of Rome

01-15 Thermal Management and Aero-engine Oil Systems III
6/27/2024
4:00 PM to 5:30 PM - SG19

Chair: ***Mavroudis Kavvalos - German Aerospace Center (DLR)***
Chair: ***Kevin Lowe - Virginia Tech***
Chair: ***Theoklis Nikolaidis - Cranfield University***
Chair: ***Antonio Ficarella -***
Presentations:

Compact Heat Exchangers With Curved Fins for Hydrogen Turbofan Intercooling, {GT2024-125591}
Technical Paper Publication
Alexandre Capitao Patrao - Department of Mechanics and Maritime Sciences, Chalmers University of Technology
Carlos Xisto - Department of Mechanics and Maritime Sciences, Chalmers University of Technology
Isak Jonsson - Department of Mechanics and Maritime Sciences, Chalmers University of Technology

Numerical and Experimental Study of Flow-Induced Vibrations in Micro-Tube Heat Exchangers, {GT2024-128747}
Technical Paper Publication
Hien Phan - Reaction Engines Ltd
Felix Newman - Reaction Engines Ltd
Connor O' Pray - Reaction Engines Ltd
Dhairya Parikh - Reaction Engines Ltd

Generalized Method for the Conceptual Design of Compact Heat Exchangers, {GT2024-123982}
Technical Paper Publication
Petter Miltén - Chalmers
Isak Jonsson - Chalmers
Anders Lundbladh - GKN Aerospace Sweden AB
Carlos Xisto - Chalmers

20-08 Subsurface - Drilling and Steam EOR
6/27/2024
4:00 PM to 5:30 PM - SG3

Chair: ***Jason Wilkes -***
Chair: ***Thomas Kerr -***
Presentations:

Techno-Economic and Environmental Evaluation of Steam Generators Availability in Enhanced Oil Recovery Applications, {GT2024-121801}
Technical Paper Publication
Dr. Waleed Albusaidi - Petroleum Development Oman

Steam Boiler Integrity Strategy for Complex Steam Generators in Thermal Operation Facility, {GT2024-121819}
Technical Paper Publication
Mohamed Al-Fazari - Petroleum Development Oman LLC
Muatasam Aulaqi - Petroleum Development Oman

04-50 Ammonia Combustion II
6/27/2024
4:00 PM to 5:30 PM - SG20/SG21

Chair: ***Samir Rida - GE Vernova***
Chair: ***Janith Samarasinghe - GE***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Carlo Arguinzoni - Ansys***
Chair: ***Tony John - GE Aerospace***
Presentations:

A Reactor-Network Framework to Model Performance and Emissions of a Longitudinally-Staged Combustion System for Carbon-Free Fuels, {GT2024-129095}
Technical Paper Publication
Harish Gopalakrishnan - Zurich University of Applied Sciences
Raj Maddipati - Indian Institute of Science
Andrea Gruber - SINTEF Energy Research
Mirko Bothien - Zurich University of Applied Sciences
Konduri Aditya - Indian Institute of Science

The Effect of Mixture Variation and Initial Temperature on the NH2 Thickness of Spherically Propagating Laminar Ammonia Flames, {GT2024-129437}*
Technical Paper Publication
Yousef M. Almarzooq - Texas A&M University
Matthew Hay - Texas A&M University
Olivier Mathieu - Texas A&M University
Waruna D. Kulatilaka - Texas A&M University
Eric L. Petersen - Texas A&M University

04-52 Ignition II
6/27/2024
4:00 PM to 5:30 PM - SG13

Chair: ***Samir Rida - GE Vernova***
Chair: ***Michael Klassen -***
Chair: ***Dr. Naseem Ansari - Ansys***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Presentations:

Complete Dynamics From Ignition to Stabilization of a Lean Hydrogen Flame With Thickened Flame Model, {GT2024-128975}
Technical Paper Publication
Matteo Amerighi - University of Florence
Giada Senatori - University of Florence
Tarik Yahou - Université de Toulouse
Thierry Schuller - Université de Toulouse
James Dawson - Norwegian University of Science and Technology
Antonio Andreini - University of Florence

Ignition Characteristics of Fully Premixed Hydrogen/Air and Methane/Air Flames With High-Speed Chemiluminescence and Schlieren Imaging, {GT2024-129264}
Technical Paper Publication

Pratik Tiwari - The University of Tennessee Space Institute (UTSI)
C P Premchand - The University of Tennessee Space Institute (UTSI)
Paul Palies - The University of Tennessee Space Institute (UTSI)

03-15 Alternative Fuels
6/27/2024
4:00 PM to 5:30 PM - SG6

Chair: ***Angela Serra - Baker Hughes***
Chair: ***Pierre Gauthier - Siemens Energy***
Presentations:

Characteristics of Premixed Ammonia/Methane/Air Blends As an Alternative Fuel in a Swirl-Stabilized Gas Turbine Combustor Under Varying Pilot Percentage, {GT2024-128437}
Technical Paper Publication
MEGHNA DAS CHAUDHURY - NORTH CAROLINA STATE UNIVERSITY
Abinash Sahoo - North Carolina State University
Kaushik Nonavinakere Vinod - North Carolina State University
Wesley Fisher - North Carolina State University
Srinath V. Ekkad - North Carolina State University
Venkateswaran Naranaswamy - North Carolina State University
Tiegang Fang - North Carolina State University

Investigation of Ammonia/Hydrogen Mixtures and Pilot-Split Strategies in a Laboratory-Scale Radial Swirl Combustor, {GT2024-129167}
Technical Paper Publication
Raad Rizza - University College London
Midhat Talibi - University College London
Benjamin Cosway - University College London
Lucas Kenny - University College London
Jadeed Beita - Siemens Energy Industrial Turbomachinery Ltd
Andrea Ducci - University College London
Suresh Sadasivuni - Siemens Energy Industrial Turbomachinery Ltd
Ramanarayanan Balachandran - University College London

A Large Eddy Simulation Study on Hydrogen Microjets in Hot Vitiated Crossflow, {GT2024-129157}
Technical Paper Publication
Mohsen Broumand - National Research Council of Canada
Sean Yun - National Research Council of Canada
Zekai Hong - National Research Council of Canada

12-14 Effects of film cooling geometry on cooling performance (III)
6/27/2024
4:00 PM to 5:30 PM - SG25/SG26

Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Lesley Wright -***
Presentations:

Response Surface Analysis of the Backward-Diffusion Elliptical Hole, {GT2024-123833}
Technical Paper Publication

Shanyou Wang - Tsinghua University
Siyuan Zhang - Tsinghua University
Xueying Li - Tsinghua University
Jing Ren - Tsinghua University

Effect of Film Cooling Hole Geometry on Thermal Stress Based on Thermo-Solid Coupled Analysis, {GT2024-124974}
Technical Paper Publication
Xiao Yan - Tsinghua University
Tong Huang - Tsinghua University
Xinrong Su - Tsinghua University
Xin Yuan - Tsinghua University

Film Cooling Efficiency Reconstruction on Turbine Blade Surfaces Based on Point Measurement Data, {GT2024-128764}
Technical Paper Publication
Fengtao Zhang - Shanghai Jiao Tong University
Hongqian Yu - Shanghai Jiao Tong University
Xing Liu - Shanghai Jiao Tong University
Li Yang - Shanghai Jiao Tong University

13-12 Internal and External Flows (II)
6/27/2024
4:00 PM to 5:30 PM - SG27/SG28

Chair: ***Stephen Lynch -***
Chair: ***John P. Clark -***
Chair: ***Matthew Bloxham -***
Chair: ***Guillermo Paniagua -***
Chair: ***Robert Krewinkel -***
Chair: ***Lesley Wright -***
Presentations:

Impact of Turbine-Strut Clocking and Turbine Outlet Swirl on the Heat Transfer and Film Cooling in an Aggressive Turbine Center Frame, {GT2024-125644}
Technical Paper Publication
Patrick R. Jagerhofer - Graz University of Technology
Tobias Glasenapp - MTU Aero Engines AG
Bastian Patzer - MTU Aero Engines AG
Emil Göttlich - Graz University of Technology

High-Fidelity Numerical Investigation of a High Pressure Turbine Cooled Vane, {GT2024-129324}
Technical Paper Publication
Furkan Gokenis - METU
Kagan Penekli̇oglu - TRMOTOR
Ozhan Oksuz - TRMOTOR
Erinc Erdem - TEI
Sinan Eyi - METU

FRIDAY, 6/28/2024

31-08 Compressor Prediction Methodology
6/28/2024
8:00 AM to 10:00 AM - Pod 2- Entrance S5 & S6

Chair: ***Richard Hollenbach -***
Chair: ***Alexander Halcoussis - MTU Aero Engines***
Presentations:

Large Eddy Simulation of an Open Fan Blade at Full-Scale Reynolds Number, {GT2024-122704}
Technical Paper Publication
Stephan Priebe - GE Research
Eduardo Jourdan - GE Research
Arash Mousavi - GE Aerospace
Ravish Karve - GE Research
Suryapratim Chakrabarti - GE Research
Luke D' Aquila - GE Research
Junsok Yi - GE Research
Mohammad Alhawwary - GE Research
Varun Bharadwaj Ananthan - GE Aerospace
Kishore Ramakrishnan - GE Research
Trevor Wood - GE Research

Decomposition of Compressible and Thermal Contributions to the Exergy-Balance-Based Analysis of the NASA Rotor 37, {GT2024-120925}
Technical Paper Publication
Ilyès Berhouni - ONERA
Ilias Petropoulos - ONERA
Didier Bailly - ONERA

An Efficient and Robust Rotor-Stator Interfacing Method Capable of Handling Reverse Flows and Variable Specific Heat Within Multistage Turbomachines, {GT2024-125677}
Technical Paper Publication
Hangkong Wu - School of Power and Energy, Northwestern Polytechnical University
Xiaopei Tian - Aeroengine Academy of China
Hao Qin - School of Power and Energy, Northwestern Polytechnical University
Xiuquan Huang - School of Power and Energy, Northwestern Polytechnical University
Dingxi Wang - School of Power and Energy, Northwestern Polytechnical University

Manufacturing and Build Variations Modelling for Multi-Stage Axial Compressors: CFD Aerodynamic Predictions, {GT2024-122636}
Technical Paper Publication
Giuseppe Bruni - Siemens Energy Industrial Turbomachinery Ltd.
Senthil K. Krishnababu - Siemens Energy Industrial Turbomachinery Ltd.

15-05 Double-Wall Internal Cooling
6/28/2024
8:00 AM to 10:00 AM - SG29

Chair: ***Gongnan Xie -***
Chair: ***Hongzhou Xu -***
Chair: ***Ardeshir Riahi -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***David Flodman -***
Presentations:

Numerical Investigation of the Heat Transfer and Discharge Coefficient of the Narrow Double Wall Cooling, {GT2024-122229}
Technical Paper Publication
Qingzong Xu - University of Chinese Academy of Sciences
Qiang Du - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Pei Wang - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Guangyao Xu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Haoyang Liu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Hongye Li - Institute of Engineering Thermophysics, Chinese Academy of Sciences

Investigation of the Heat Transfer Performance in a Double-Wall Cooling Configuration Under the Effect of Wall Curvature at Rotating Conditions, {GT2024-126582}
Technical Paper Publication
Xianyu Wang - Beihang University
Ruquan You - Beihang University
Haiwang Li - Beihang University

Numerical Analysis of Multi-Stage Impingement Cooling Structure: Flow and Heat Transfer Characteristics, {GT2024-127541}
Technical Paper Publication
Pengfei Wang - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Pei Wang - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Jun Liu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Jiajie Liu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Qiang Du - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Haoyang Liu - No.11, West Road, North Fourth Ring Road, Haidian District, Beijing
Zhiguo Wang - Research Center of Fluid Machinery Engineering and Technology, Jiangsu University
Haohan Wang - Institute of Engineering Thermophysics, Chinese Academy of Sciences

Experimental Investigation of Discharge Coefficients of Double Wall Cooling Systems, {GT2024-128679}
Technical Paper Publication
Guangyao Xu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Qiang Du - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Qingzong Xu - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Pengfei Wang - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Hongye Li - Institute of Engineering Thermophysics, Chinese Academy of Sciences
Haoyang Liu - Institute of Engineering Thermophysics, Chinese Academy of Sciences

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15-06 Internal Cooling Design Optimization
6/28/2024
8:00 AM to 10:00 AM - SG27/SG28

Chair: ***Cunliang Liu -***
Chair: ***Hongzhou Xu -***
Chair: ***Ardeshir Riahi -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Hyung-Hee Cho -***
Presentations:

Efficient Modelling of Blade Cooling Using a Hybrid 1D-3D Approach, {GT2024-123956}
Technical Paper Publication
Marc Kainz - ANSYS Germany GmbH
Vincent Britz - Flownex
Bennie Du Toit - Flownex

Juan-Carlos Morales - Ansys Inc.

Application of Internal Heat Transfer Inverse Problem Solution Method to Jet Array Impingement Cooling System, {GT2024-127486}
Technical Paper Publication
Riess Haslam - University of Florence
Tommaso Bacci - University of Florence
Alessio Picchi - University of Florence
Bruno Facchini - University of Florence

Flow and Heat Transfer Characteristics in a Rotating Wedge-Shaped Cooling Channel With Detached Guiding Pin-Fin, {GT2024-127594}
Technical Paper Publication
Jianian Chen - Shanghai Jiao Tong University
Yu Rao - Shanghai Jiao Tong University
Chao Xu - Shanghai Jiao Tong University
Li Yang - Shanghai Jiao Tong University

Heat Transfer Enhancement of Wedge-Shaped Channels Using the Interpretable Multi-Objective Generative Design Method, {GT2024-128840}
Technical Paper Publication
Hu Kaibin - Shanghai Jiao Tong University
Zhong Shengquan - Shanghai Jiao Tong University
Rao Yu - Shanghai Jiao Tong University
Yang Li - Shanghai Jiao Tong University

25-01 Creep Effects
6/28/2024
8:00 AM to 10:00 AM - SG23/SG24

Chair: ***Calvin Stewart -***
Chair: ***Karl Michael Kraemer -***
Chair: ***Benedikt Engel - CITRUS SOLUTIONS***
Presentations:

Optimum Geometrical Models for Prediction of Phase Transition of Single Crystal Nickel Based Superalloys via the Discrete Cosine Transform and the Maximum Entropy Method, {GT2024-120879}
Technical Paper Publication
Hideo Hiraguchi - The Institution of Professional Engineers, Japan

Nondestructive Creep Damage Evaluation for Ni-Base Superalloys of Controlled Solidification by Laue Method and Effect of Sample Thickness, {GT2024-121111}
Technical Paper Publication
Shinya Iwasaki - Chubu Electric Power Company, Incorporated
Daisuke Kobayashi - Chubu Electric Power Company, Incorporated
Toshikatsu Tateishi - Chubu Electric Power Company, Incorporated
Ryoichi Yokoyama - Rigaku Corporation
Kazuhiko Omote - Rigaku Corporation

Assessment of Fatigue Interaction in Coated Superalloys, {GT2024-123841}
Technical Paper Publication
Andrew Moffat - Solar Turbines
James Finley - Element Digital Engineering
Philipp Alieninov - Solar Turbines
Christopher Meyer - Solar Turbines

Verification of Nondestructive Creep Damage Evaluation of Ni-Base Superalloys of Controlled Solidification by the Laue Method and Effect of TBC on Materials, {GT2024-127216}
Technical Paper Publication
Ryoichi Yokoyama - Rigaku Corp.
Kazuhiko Omote - Rigaku Corp.
Daisuke Kobayashi - Chubu Electric Power Co. Inc.
Shinya Iwasaki - Chubu Electric Power Co. Inc.
Toshikatsu Tateishi - Chubu Electric Power Co. Inc.

13-05 - Advanced Methods
6/28/2024
8:00 AM to 10:00 AM - SG25/SG26

Chair: ***Mauro Carnevale - University of Bath***
Chair: ***Robert Krewinkel -***
Chair: ***Guillermo Paniagua-Perez - Purdue University***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Xiao He - Imperial College London***
Presentations:

Improving a Two-Equation Eddy-Viscosity Turbulence Model for High-Rayleigh-Number Natural-Convection Flows Using Machine Learning, {GT2024-121161}
Technical Paper Publication
Ali Haghiri - University of Leicester
Xiaowei Xu - Department of Mechanical Engineering, University of Melbourne
Richard Sandberg - Department of Mechanical Engineering, University of Melbourne
Koichi Tanimoto - Research & Innovation Center, Mitsubishi Heavy Industries Ltd.
Takuo Oda - Research & Innovation Center, Mitsubishi Heavy Industries Ltd.,

Spectral Heat Transfer Coefficient for Thermal Design Analysis - Part 1: Augmenting Law of Cooling for Non-Isothermal Wall, {GT2024-124468}
Technical Paper Publication
Li He - Oxford University

Spectral Heat Transfer Coefficient for Thermal Design Analysis - Part 2: Leveraging Diabatic Flow Conditioning for Nonlinear Regime, {GT2024-124471}
Technical Paper Publication
Li He - University of Oxford

Study on Segment Fitting Method of Nusselt Number on the Turbine Vane, {GT2024-122859}
Technical Paper Publication
Fan Zhang - Northwestern Polytechnical University
Cunliang Liu - Northwestern Polytechnical University School of Power and Energy
Tianliang Zhou - Northwestern Polytechnical University School of Power and Energy
Haonan Yan - Northwestern Polytechnical University School of Power and Energy
Guodong Li - Northwestern Polytechnical University School of Power and Energy

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04-18 Combustion Modeling VI
6/28/2024
8:00 AM to 10:00 AM - SG13

Chair: ***Samir Rida - GE Vernova***

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Antonio Andreini - University of Florence***
Chair: ***Stefano Puggelli - SAFRAN Tech***
Chair: ***Nicholas Treleaven - Safran***
Presentations:

GPU Accelerated LES-FGM Modelling for Industrial Combustion Applications, {GT2024-122041}
Technical Paper Publication
Liam Mcmanus - Siemens Digital Industries Software
Graham Goldin - Siemens Digital Industries Software
Yongzhe Zhang - Siemens Digital Industries Software
Ivana Veljkovic - Siemens Digital Industries Software
Suresh Sadasivuni - Siemens Energy Industrial Turbomachinery Ltd
Kexin Liu - Siemens Energy Industrial Turbomachinery Ltd

Adaptation of the Low Dissipation Low Dispersion Scheme for Reactive Multi Component Flows on Unstructured Grids Using Density-Based Solvers, {GT2024-127496}
Technical Paper Publication
Jonathan Timo Lipkowicz - German Aerospace Center
Simon Goevert - German Aerospace Center
Bertram Janus - German Aerospace Center

Verification of an Adjoint Code for FGM Combustion, {GT2024-126700}
Technical Paper Publication
Stefano Duranti - Siemens Digital Industries
Dominic Jones - Siemens Digital Industries
Yongzhe Zhang - Siemens Digital Industries
Graham Goldin - Siemens Digital Industries

04-19 Combustor Design I
6/28/2024
8:00 AM to 10:00 AM - SG12

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Veeraraghava Raju Hasti -***
Chair: ***R V Manikantachari Kancherla - Cadence***
Presentations:

Optimisation of a Hydrogen-Fuelled Parametric Strut Injector Using an Automated Workflow CFD Method, {GT2024-128828}
Technical Paper Publication
Nicholas Treleaven - Safran Tech
Guillaume J. J. Fournier - Safran Tech
Julien Leparoux - Safran Tech
Renaud Mercier - Safran Tech

Experimental Design Validation of a Swirl-Stabilized Burner With Fluidically Variable Swirl Number, {GT2024-122648}
Technical Paper Publication
Mattias E. G. Eck - Technische Universität Berlin
Philipp Zur Nedden - Technische Universität Berlin
Jakob G. R. Von Saldern - Technische Universität Berlin
Christoph Peisdersky - Technische Universität Berlin, Chair of Fluid Dynamics

Alessandro Orchini - Technische Universität Berlin
Christian Oliver Paschereit - Technische Universität Berlin

Matching Turbulence to a Target Profile in a Flexible Combustor Simulator Design, {GT2024-125726}
Technical Paper Publication
Greg Colyer - University of Oxford
Haidong Li - Rolls-Royce plc
Saturnin Richard Adoua - Rolls-Royce plc
Paul Beard - University of Oxford
Luca Di Mare - University of Oxford

Improving Micro-Mixing Combustion Stability Using Fuel Preheating and Product Recirculation, {GT2024-122386}
Technical Paper Publication
Alexandre Landry-Blais - Université de Sherbrooke
Xavier Bellavance - Université de Sherbrooke
Mathilde Dehue - Université de Sherbrooke
Jean-Sébastien Plante - Université de Sherbrooke
Mathieu Picard - Université de Sherbrooke

04-21 Combustor Design III
6/28/2024
8:00 AM to 10:00 AM - SG19

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Gilles Bourque - McGill University***
Chair: ***Michael Hughes -***
Chair: ***Gilles Bourque - McGill University***
Chair: ***Suresh Sadasivuni - Siemens Eenergy***
Presentations:

Investigating the Influence of Non-Uniform Radial Inlet Distortion on the Performance of Counterflow Model Combustor, {GT2024-129071}
Technical Paper Publication
Yunjiao Shi - Harbin Engineering University
Shaowen Luo - Harbin Engineering Universit
Ningbo Zhao - Harbin Engineering University
Ren Yang - Harbin Engineering University
Hongtao Zheng - Harbin Engineering University

The Influence of Inlet Distortion on Combustion Performance in a Recirculation Combustor, {GT2024-127360}
Technical Paper Publication
Shaowen Luo - Harbin Engineering University
Yunjiao Shi - Harbin Engineering University
Ningbo Zhao - Harbin Engineering University
Ren Yang - Harbin Engineering University
Hongtao Zheng - Harbin Engineering University

Effect of Dilution Hole Diameter on the Outlet Temperature Distribution in a Centrally Staged Combustor, {GT2024-127653}
Technical Paper Publication
Liyao Pang - Harbin Engineering University
Honghao Xu - Harbin Engineering University
Dr. Ningbo Zhao - Harbin Engineering University
Zongfu Li - Harbin Engineering University

Hongtao Zheng - Harbin Engineering University

Experimental Evaluation of Combustor Configuration's Impact on a Swirl-Assisted Jet-Stabilized Combustor Performance, {GT2024-127693}
Technical Paper Publication
Saeed Izadi - German Aerospace Center (DLR), Institute of Combustion Technology
Jan Zanger - German Aerospace Center (DLR), Institute of Combustion Technology
Hannah Seliger-Ost - German Aerospace Center (DLR), Institute of Combustion Technology
Peter Kutne - German Aerospace Center (DLR), Institute of Combustion Technology
Manfred Aigner - German Aerospace Center (DLR), Institute of Combustion Technology

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04-27 Atomization and Spray Combustion III
6/28/2024
8:00 AM to 10:00 AM - SG20/SG21

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Adrian Spencer -***
Chair: ***Murthy Ravikanti - Rolls Royce***
Presentations:

Characterization of the Swirl Velocity Field and Atomization Processes of a Lean Burn Gas Turbine Fuel Injector, {GT2024-129150}
Technical Paper Publication
VIVEK SAHU - Indian Institute of Technology Jammu
Preetam Jamod - Indian Institute of Technology Jammu
Shanmugadas K. P. - Indian Institute of Technology Jammu

Analysis of Liquid Fuel Effect on Swirl-Assisted Jet-Stabilized Combustor Performance, {GT2024-127721}
Technical Paper Publication
Saeed Izadi - German Aerospace Center (DLR), Institute of Combustion Technology
Hannah Seliger-Ost - German Aerospace Center (DLR), Institute of Combustion Technology
Jan Zanger - German Aerospace Center (DLR), Institute of Combustion Technology
Peter Kutne - German Aerospace Center (DLR), Institute of Combustion Technology
Manfred Aigner - German Aerospace Center (DLR), Institute of Combustion Technology

Investigation of Methanol Spray Combustion in a Swirling Hot Coflow, {GT2024-122858}
Technical Paper Publication
Zafar Alam - Indian Institute of Technology Kanpur
Riya Patel - Indian Institute of Technology Kanpur
Bharat Batia - Eindhoven University of Technology
Ashoke De - Indian Institute of Technology Kanpur

Advancements in Wall Film Thickness Measurement Under High Pressure and High Temperature Conditions for Gas Turbine Applications, {GT2024-123836}
Technical Paper Publication
Zhiyao Yin - German Aerospace Center (DLR)
Oliver Lammel - German Aerospace Center (DLR)
Rainer Lückerath - German Aerospace Center (DLR)
Holger Ax - German Aerospace Center (DLR)
Dennis Poulios - German Aerospace Center (DLR)

41-06 Wind Turbine Monitoring
6/28/2024
8:00 AM to 10:00 AM - SG6

Chair: ***Giacomo Persico - Politecnico di Milano***
Chair: ***Lorenzo Ferrari - University of Pisa – DESTEC, Italy***
Chair: ***Lorenzo Tieghi - Sapienza University of Rome***
Chair: ***Stavros Vouros - Mälardalen University***
Presentations:

Techno-Economic Analysis of Offshore Wind Power Resources in the Gulf of Aqaba, {GT2024-125596}
Technical Paper Publication
Shafiqur Rehman - King Fahd University of Petroleum and Minerals
Nasiru Ibrahim - King Fahd University of Petroleum and Minerals
Kashif Irshad - King Fahd University of Petroleum and Minerals
Mohamed A. Mohandes - King Fahd University of Petroleum and Minerals
Abdul Baseer Mohammed - American International University

SCADA-Based Long-Term Wind Turbine Performance Degradation Analysis Based on Deep Learning Techniques, {GT2024-128709}
Technical Paper Publication
Dandan Peng - KU Leuven
Ludovico Terzi - ENGIE Italia
Wim Desmet - KU Leuven
Konstantinos Gryllias - KU Leuven

A Wind Turbine Power Forecasting Method Based on MTGP Transfer Learning, {GT2024-126273}
Technical Paper Publication
Huaiyu Hui - Dalian University of Technology
Xiaomo Jiang - Dalian University of Technology
Huize Chen - Dalian University of Technology
Kexin Zhang - Dalian University of Technology

A Wind Speed Forecasting Method Using a Gaussian Process Regression Model Considering Data Uncertainty, {GT2024-126988}
Technical Paper Publication
Huize Chen - Dalian University of Technology
Xiaomo Jiang - Dalian University of Technology
Huaiyu Hui - Dalian University of Technology
Kexin Zhang - Dalian University of Technology

37-06 Radial Turbomachinery Flow Control
6/28/2024
8:00 AM to 10:00 AM - Pod 6- Entrance S5 & S6

Chair: ***Thorsten Hansen -***
Chair: ***Bob Mischo -***
Chair: ***Yiming Liu - Trinity College Dublin***
Presentations:

Reduction of the Excitation of Volute on Turbine Rotor by a Groove Treatment, {GT2024-124527}
Technical Paper Publication
Yv Wang - Dalian Maritime University
Hua Chen - Dalian Maritime University

Centrifugal Compressor Casing Treatment Design for a Turbocharged Hydrogen Combustion Engine, {GT2024-127906}
Technical Paper Publication
Lee Gibson - IHI Charging Systems International GmbH
Thomas Leonard - IHI Charging Systems International GmbH
Georgios Iosifidis - IHI Charging Systems International GmbH
Dario-Vincenzo Di Modica - IHI Charging Systems International GmbH
Johannes Ratz - IHI Charging Systems International GmbH
Takahiro Ueno - IHI Corporation

Innovative Cavity Modeling for Centrifugal Compressors Aeromechanical Analysis, {GT2024-128815}
Technical Paper Publication
Marco Batisti - University of Florence
Lorenzo Pinelli - University of Florence - Department of Industrial Engineering
Lorenzo Toni - Baker Hughes
Alberto Guglielmo - Baker Hughes
Michele Marconcini - University of Florence
Andrea Arnone - University of Florence

Development of Transonic Centrifugal Compressor With an Inducer Casing Bleed System, {GT2024-129310}
Technical Paper Publication
Erinc Erdem - TEI
Gulsevim Sepetci Kutmaral - TEI
Seyfullah Cay - TEI
Ozan Alican - TEI
Bora Yazgan - TEI
Ahmet Arslan - TEI

27-01 Controls, Optimization, and Probability in Rotordynamics
6/28/2024
8:00 AM to 10:00 AM - SG16

Chair: ***Theodore Brockett -***
Chair: ***Devesh Kumar - Boeing***
Chair: ***Phil Varney -***
Presentations:

Neural Network Application to Rotordynamic Predictions of an Overhung Flexible Rotor, {GT2024-121854}
Technical Paper Publication
Giulio Deiana - Università degli studi di Firenze
Giuseppe Vannini - Baker Hughes
Giulia Meazzini - Baker Hughes
Francesco Cangioli - Baker Hughes
Enrico Meli - Università degli studi di Firenze

Prediction of a Crack Propagation in a Steam Turbine Rotor, {GT2024-127943}
Technical Paper Publication
Steven Chatterton - Politenico di Milano - Dept. of Mech. Eng.
Paolo Pennacchi - Politecnico di Milano - Dept. of Mech. Eng.
Andrea Vania - Politecnico di Milano - Dept. of Mech. Eng.
Ludovico Dassi - Politecnico di Milano - Dept. of Mech. Eng.

Study on Dynamic Characteristics of Single-Span Rotor Under Cross-Coupling Stiffness Control on Non-Drive End, {GT2024-127689}
Technical Paper Publication
Yuhang Ma - Beijing University of Chemical Technology
Qihang Li - Beijing University of Chemical Technology

Bowen Yang - Beijing University of Chemical Technology
Rui Zhang - Beijing University of Chemical Technology
Weimin Wang - Beijing University of Chemical Technology
Jianfei Yao - Beijing University of Chemical Technology

28-10 Vibration Behavior in Turbomachinery
6/28/2024
8:00 AM to 10:00 AM - SG15

Chair: ***Christoph Schwingshackl -***
Chair: ***Azzedine Dadouche -***
Chair: ***Ludovic Renson - Imperial College***
Presentations:

A Fretting Wear Test Rig With Time-Varying Normal Force Based on Closed-Loop Controlled Piezoelectric Actuator, {GT2024-125428}
Technical Paper Publication
Yu Fan - Beihang Univ
Jing Wang - Beihang Univ
Huiru Fan - AECC Commercial Aircraft Engine Co., Ltd.
Yekai Sun - AECC Commercial Aircraft Engine Co., Ltd.
Qian Gao - Beihang Univ
Jiale Liu - Beihang Univ
Yaguang Wu - Beihang University

A Static/Dynamic Coupled Harmonic Balance Method for Dry Friction Systems Containing Rigid Body Modes, {GT2024-125447}
Technical Paper Publication
Jiale Liu - Beihang Univ
Yu Fan - Beihang Univ
Jian Wu - AECC Sichuan Gas Turbine Research Establishement
Yaguang Wu - Beihang University
Qingyang Shen - AECC Sichuan Gas Turbine Research Establishement
Dayi Zhang - Beihang Univ

Synchronous Response of Rotor Components by Rotated Wavelet Probing, {GT2024-128883}
Technical Paper Publication
Davide Iaffaldano - University of Genoa
Roberto Guida - Ansaldo Energia
Luigi Carassale - Università degli studi di Genova

Few Common Observations From a Vibration Test Data, {GT2024-122426}
Technical Paper Publication
Avinash Kumar - Honeywell
Praveen Iyappan - Honeywell Tech Sol Pvt Ltd.
Krishna Mohan Kumbham - Honeywell Tech Sol Pvt Ltd

05-16 Instrumentation IV: AI-based Improvements
6/28/2024
8:00 AM to 10:00 AM - SG7

Chair: ***Lorenzo Ferrari - University of Pisa – DESTEC, Italy***
Chair: ***Igor Loboda -***

Chair: ***Tamara Guimaraes Bucalo - Penn State - University***
Presentations:

Prediction of High-Speed Hydraulic Dynamometer Safety Envelope Base on Deep Learning Neural Network, {GT2024-124927}
Technical Paper Publication
Guo Chen - Northwestern Polytechnical University
Hong Xiao - School of Power and Energy, Northwestern Polytechnical University
Li Zhou - School of Power and Energy, Northwestern Polytechnical University
Rui You - School of Power and Energy, Northwestern Polytechnical University

Neural Network Based Digital Twin for Performance Prediction of Water Brake Dynamometer, {GT2024-126589}
Technical Paper Publication
Shuo Song - Northwestern Polytechnical University
Hong Xiao - Northwestern Polytechnical University
Leibo Jiang - Northwestern Polytechnical University
Yufeng Liang - Northwestern Polytechnical University

An Active Turbulence Grid for Turbomachinery Flow Experiments, {GT2024-128565}
Technical Paper Publication
Federico Bertelli - von Karman Institute for Fluid Dynamics
Mizuki Okada - von Karman Institute for Fluid Dynamics
Sergio Lavagnoli - von Karman Institute for Fluid Dynamics
Koen Hillewaert - University of Liege

Numerical Assessment of an Aerodynamic Probe to Enable Short Focal Length Laser Diagnostics in High Temperature Supersonic Flows Based on Flow Disturbance, {GT2024-129207}
Technical Paper Publication
Ignacio Lasala - Purdue University
Aubrey Mckelvy - Purdue University
James Braun - Purdue University
Guillermo Paniagua - School of Mechanical Engineering, Purdue University
Etienne Choquet - MBDA
Thierry André - MBDA
Francois Falempin - MBDA

33-01 Modeling water and icing effects
6/28/2024
8:00 AM to 10:00 AM - Pod 1- Entrance S5 & S6

Chair: ***Filippo Merli - von Karman Institute for Fluid Dynamics***
Chair: ***Sergio Lavagnoli - von Karman Institute for Fluid Dynamics***
Chair: ***Bruce Varney - Rolls-Royce Corporation***
Presentations:

Numerical Simulations and Sensitivity Analysis of Ice Formation on Fan Blades, {GT2024-125715}
Technical Paper Publication
Katja Müller - Technische Hochschule Brandenburg / Brandenburg University of Applied Sciences
Peter Flassig - Technische Hochschule Brandenburg / Brandenburg University of Applied Sciences
Robert Flassig - Technische Hochschule Brandenburg / Brandenburg University of Applied Sciences

Numerical Implementation of Electrostatic Solver Within OpenFOAM for GT Intake Filtration, {GT2024-128641}
Technical Paper Publication
Michele Pinelli - University of Ferrara
Mattia Piovan - University of Ferrara
Alessio Suman - University of Ferrara

Nicola Zanini - University of Ferrara
Stefano Rossin - Baker Hughes Srl
Stefano Minotti - Baker Hughes Srl

Numerical Simulations of Ice Particle Transport at Representative Turbofan Compressor Conditions, {GT2024-121461}
Technical Paper Publication
Liam Parker - Oxford University
Matthew Mcgilvray - University of Oxford
David Gillespie - University of Oxford
Geoffrey Jones - Rolls Royce Plc.

07-03 New approaches to education and learning
6/28/2024
8:00 AM to 10:00 AM - SG4

Chair: ***Stavros Vouros - Mälardalen University***
Chair: ***Ioanna Aslanidou - Mälardalen University***
Presentations:

Lessons Learned From Pandemic-Driven Remote Learning and Sustaining Best Practices in Turbomachinery Laboratory Experiences, {GT2024-126965}
Technical Paper Publication
David Reeping - University of Cincinnati
Rodrigo Villalva - University of Cincinnati
Kishan Bellur - University of Cincinnati
Daniel Cuppoletti - University of Cincinnati
Prashant Khare - University of Cincinnati

Propelling Education: Introducing and Examining the "English-to-Engineering" Multi-Year Undergraduate Research Program, {GT2024-127873}
Technical Paper Publication
Karen Martinez Soto - Virginia Tech
Charles Haldeman - Pratt & Whitney
Samuel Teolis - Virginia Tech
David Gray - Virginia Tech
Todd Lowe - Virginia Tech

Air Cycle Machine Modeling Applied to Aeronautical Air Conditioning Unit, {GT2024-128785}
Technical Paper Publication
Marcelo Merzvinskas - Embraer
Cleverson Bringhenti - Aeronautics Institute of Technology
Jesuino Takachi Tomita - Aeronautics Institute of Technology
Franco Jefferds Dos Santos Silva - Aeronautics Institute of Technology
Luiz Vitor Tozi - Aeronautics Institute of Technology
Mayara Lopes Salgado - Aeronautics Institute of Technology

06-13 Advanced Cycles
6/28/2024
8:00 AM to 10:00 AM - SG1

Chair: ***Ioannis Roumeliotis - Cranfield University***
Chair: ***PAVLOS ROMPOKOS - CRANFIELD UNIVERSITY***
Chair: ***Marco Astolfi - Politecnico di Milano***

Presentations:

Design and Performance Analysis of a Fuel Cell Propulsion System Driven by a Hydrogen-Fired Micro Gas-Turbine, {GT2024-124062}
Technical Paper Publication
Sebastian Lück - Technische Universität Braunschweig
Jan Göing - Technische Universität Braunschweig
Philipp Nachtigal - Leibniz Universität Hannover
Dajan Mimic - Leibniz Universität Hannover
Jens Friedrichs - Technische Universität Braunschweig

Synergetic and Performance Characteristics of a High-Speed Pre-Cooled Propulsion Concept, {GT2024-122425}
Technical Paper Publication
Athanasios Chatzistefanou - Aristotle University of Thessaloniki
Spyros Tsentis - Cranfield University
Anestis Kalfas - Aristotle University of Thessaloniki

Joule Cycle-Based Waste Heat Recovery From Heavy-Duty Truck Engines, {GT2024-127822}
Technical Paper Publication
Kesty Yong Kenkoh - King Abdullah University of Science and Technology (KAUST)
Raghu Vamsi Kodaboina - King Abdullah University of Science and Technology (KAUST)
Sreenivasa Rao Gubba - King Abdullah University of Science and Technology (KAUST)
James W. G. Turner - King Abdullah University of Science and Technology (KAUST)

Thermodynamic Design and Analysis of Steam Rankine Cycle for Nuclear Fusion Application, {GT2024-129397}
Technical Paper Publication
Dhinesh Thanganadar - UK Atomic Energy Authority
Jack Acres - UK Atomic Energy Authority

30-03 Compressors 1
6/28/2024
8:00 AM to 10:00 AM - SG11

Chair: ***Giacomo Persico - Politecnico di Milano***
Chair: ***Sewoong Jung - Hanwha Power Systems***
Chair: ***Timothy Allison - SWRI***
Presentations:

Numerical Investigations on the Aerodynamic Performance of Supercritical Carbon Dioxide Centrifugal Compressor, {GT2024-125624}
Technical Paper Publication
Run Cao - Institute of Turbomachinery, Xi'an Jiaotong University
Rui Yang - Institute of Turbomachinery, Xi'an Jiaotong University
Qinghua Deng - Institute of Turbomachinery, Xi'an Jiaotong University
Jun Li - Institute of Turbomachinery, Xi'an Jiaotong Univ.
Liming Song - Institute of Turbomachinery, Xi'an Jiaotong University
Tieyu Gao - Institute of Turbomachinery, Xi'an Jiaotong University

Vaneless Diffuser Modelling for Real Gas Supercritical Carbon Dioxide Flows- Need for a Data Driven Approach, {GT2024-126308}
Technical Paper Publication
Lakshminarayanan Seshadri - Indian Insititute of Science Bengaluru
Pramod Kumar - Indian Institute of Science Bengaluru

Design of a Scroll-Centrifugal Compressor for Supercritical Carbon Dioxide Power Cycles, {GT2024-128413}
Technical Paper Publication

Zimu Yang - School of Vehicle and Mobility, State Key Laboratory of Intelligent Green Vehicle and Mobility, Tsinghua University
Zhenbo Lu - School of Mechanical Engineering, Beijing Institute of Technology
Hongsheng Jiang - School of Vehicle and Mobility, State Key Laboratory of Intelligent Green Vehicle and Mobility, Tsinghua University
Weilin Zhuge - School of Vehicle and Mobility, State Key Laboratory of Intelligent Green Vehicle and Mobility, Tsinghua University
Panpan Song - School of Mechanical Engineering, Beijing Institute of Technology
Yuping Qian - School of Vehicle and Mobility, State Key Laboratory of Intelligent Green Vehicle and Mobility, Tsinghua University
Yangjun Zhang - School of Vehicle and Mobility, State Key Laboratory of Intelligent Green Vehicle and Mobility, Tsinghua University

The Investigation of Inlet Condition Effect on the Surge Recovery Process of a S-CO2 Radial Compressor, {GT2024-124550}
Technical Paper Publication
Gihyeon Kim - Korea Advanced Institute of Science and Technology
Jeong Ik Lee - Korea Advanced Institute of Science and Technology

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02-05 Mechanical and Thermal Behavior of EBCs and TBCs
6/28/2024
8:00 AM to 10:00 AM - SG2

Chair: ***Michael Presby -***
Chair: ***Spencer Jeffs - Swansea University***
Presentations:

Cracking Behavior of Environmental Barrier Coatings/CMC System Using Acoustic Emission and Digital Image Correlation, {GT2024-129523}
Technical Paper Publication
RAGAVENDRA PRASAD PANAKARAJUPALLY - THE UNIVERSITY OF AKRON
Gregory Morscher - The University of Akron
Jun Shi - Rolls-Royce Corporation

In-Situ and Ex-Situ Measurement of Stresses in Environmental Barrier Coatings, {GT2024-127938}
Technical Paper Publication
Hans Hudyncia - University of Virginia
Jun Shi - Rolls-Royce Corporation
Weizhou Li - Rolls-Royce Corporation
Xiaodong Li - University of Virginia

Comprehensive Understanding of TGO Morphology Effect on the Thermal Barrier Coatings Failure Under Free Edges, {GT2024-126047}
Technical Paper Publication
Da Qiao - Institute of Engineering Thermophysics,Chinese Academy of Sciences
Wu Zeng - Institute of Engineering Thermophysics, Chinese Academy of Sciences

Development and Characterization of EB-PVD Thermal Barrier Coatings With Different Ceramic Materials for Turbine Blades, {GT2024-127411}
Technical Paper Publication
Hanifi Eray KORKMAZ - TRMOTOR PROPULSION SYSTEMS
Gökhan Guven - TRMOTOR PROPULSION SYSTEMS
Alican Dikbiyik - TRMOTOR PROPULSION SYSTEMS
Güven Yücesan - TRMOTOR PROPULSION SYSTEMS
Kürşat Kazmanli - istanbul technical university

34-16 Fan design methods 2
6/28/2024
8:00 AM to 10:00 AM - Pod 7- Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Jason Bourgeois -***
Chair: ***Peter Flassig - Uni Brandenburg***
Presentations:

Multi-Aeroelastic Phenomena Modelling Part I: the Development of Whole LPC Model for Civil Turbofan Engine, {GT2024-128191}
Technical Paper Publication
Davendu Kulkarni - Rolls-Royce plc.
Bharat Lad - Rolls Royce plc
Luca Di Mare - University of Oxford

Multi-Aeroelastic Phenomena Modelling Part II: Application for the Evaluation of Fan OGV Cyclic Pattern Designs, {GT2024-128124}
Technical Paper Publication
Davendu Kulkarni - Rolls-Royce plc.
Luca Di Mare - University of Oxford

A New Non-Linear Time-Domain Flutter Analysis Approach for Distorted Flows, {GT2024-129404}
Technical Paper Publication
Roque Corral - Universidad Politécnica de Madrid
Salvador Rodriguez-Blanco - Universidad Politecnica de Madrid
Venkata Chennuru - Universidad Politecnica de Madrid
Mehdi Vahdati - Imperial College of London
Fanzhou Zhao - Imperial College of London

34-18 Turbulence modeling methods 2
6/28/2024
8:00 AM to 10:00 AM - Pod 5-Entrance S5 & S6

Chair: ***Patricia Cargill -***
Chair: ***Gregory Herrick -***
Chair: ***Bill Holmes -***
Presentations:

Tuning of an Algebraic Model for Separated Flows by Means of Bayesian Lasso, {GT2024-128669}
Technical Paper Publication
Andrea Carlucci - University of Genova
Daniele Petronio - Università degli Studi di Genova - DIME
Dario Barsi - University of Genova
Matteo Dellacasagrande - University of Genova
Daniele Simoni - University of Genova

Influence of Varying Freestream Turbulence on Flow Transition Over Distributed Surface Roughness, {GT2024-124283}
Technical Paper Publication
Ishita Jain - Indian Institute of Technology Kanpur
S Katiyar - Indian Institute of Technology Kanpur
Subrata Sarkar - Indian Institute of Technology Kanpur

Advanced Methods for Assessing Flow Physics of the TU Darmstadt Compressor Stage: Part 1 – Transitional Delayed Detached-Eddy Simulation, {GT2024-127679}
Technical Paper Publication
Felix M. Möller - German Aerospace Center (DLR)
Paul G. Tucker - University of Cambridge
Zhong-Nan Wang - University of Birmingham
Christoph Bode - University of Braunschweig
Christian Morsbach - German Aerospace Center (DLR)
Marcel Matha - German Aerospace Center (DLR)
Pierre Sivel - German Aerospace Center (DLR)

Advanced Methods for Assessing Flow Physics of the TU Darmstadt Compressor Stage: Part 2 – Uncertainty Quantification of RANS Turbulence Modeling, {GT2024-122495}
Technical Paper Publication
Marcel Matha - German Aerospace Center (DLR)
Felix M. Möller - German Aerospace Center (DLR)
Christoph Bode - University of Braunschweig
Christian Morsbach - German Aerospace Center (DLR)
Edmund Kügeler - German Aerospace Center (DLR)

12-02 Endwall film cooling investigations
6/28/2024
10:30 AM to 12:00 PM - SG25/SG26

Chair: ***James L. Rutledge - Air Force Institute of Technology***
Chair: ***Silvia Ravelli -***
Chair: ***Stephen Lynch -***
Chair: ***Lesley Wright -***
Chair: ***Lamyaa El-Gabry - General Electric***
Chair: ***Ali Ameri - Ohio State University***
Presentations:

Study of Secondary Cooling Effect on the Endwall Region With Various Trailing Edge Cutback Configurations, {GT2024-122751}
Technical Paper Publication
Xi Yang - Xi'an Jiaotong Universtity
Wenbin He - Xi'an Jiaotong Universtity
Ke Zhang - Xi'an Jiaotong Universtity
Junmei Wu - Xi'an Jiaotong Universtity
Jiang Lei - Xian Jiaotong University

Numerical Study on the Influence of Purge Slot Shapes on the Film Cooling Performance of Endwall With the Mainstream Swirl, {GT2024-127007}
Technical Paper Publication
Jing han Zhang - Beihang University
Gang Xie - Beihang University
Yuzhu Lou - Beihang University
Haiwang Li - Beihang University

14-04 Turbine Cavities 2
6/28/2024
10:30 AM to 12:00 PM - SG29

Chair: ***James Scobie -***
Chair: ***Mike Barringer -***
Chair: ***Stephen Lynch -***
Chair: ***Carl Sangan -***
Chair: ***Lesley Wright -***
Chair: ***Jens Fridh -***
Presentations:

Flow Transition in the Wheel Side Space of a 1.5-Stage Test Turbine, {GT2024-123896}
Technical Paper Publication
Lukas Pehle - IKDG, RWTH Aachen University
Nikita Dimidziev - IKDG, RWTH Aachen University
Manfred Wirsum - IKDG, RWTH Aachen University

Transient Behavior of Boundary Layer Flows in a Prototype Rotor-Stator Cavity During an Instantaneous Spinning-Up Process, {GT2024-128436}
Technical Paper Publication
Lei Xie - institute of engineering thermophysics
Qiang Du - institute of engineering thermophysics
Guang Liu - institute of engineering thermophysics
Zengyan Lian - institute of engineering thermophysics
Yaguang Xie - institute of engineering thermophysics

04-40 Combustion dynamics - fuel effects
6/28/2024
10:30 AM to 12:00 PM - SG12

Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Samir Rida - GE Vernova***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Luis Tay Wo Chong Hilares -***
Chair: ***Fernando Biagioli -***
Presentations:

Micro-Mixing Combustion: Experimental Assessment of the Impact of Fuel Preheating on Combustion Stability, {GT2024-125090}
Technical Paper Publication
X. Bellavance - Université de Sherbrooke
A. Landry-Blais - Université de Sherbrooke
J.-S. Plante - Université de Sherbrooke
M. Picard - Université de Sherbrooke

Effect of Head-End Fuel Staging on Combustion Characteristics in a Multi-Nozzle Array Combustor, {GT2024-127382}
Technical Paper Publication
Zhigang Liu - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics, Chinese Academy of Sciences; Jiangsu Zhongke Research Center for Clean Energy and Power
Xiaopo Wei - Jiangsu Zhongke Research Center for Clean Energy and Power
Yan Xiong - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics (IET), Chinese Academy of Sciences (CAS) ； University of Chinese Academy of Sciences ； Jiangsu Zhongke Research Center for Clean Energy and Power
Xinggang Lu - Jiangsu Zhongke Research Center for Clean Energy and Power
Zhedian Zhang - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics (IET), Chinese Academy of Sciences (CAS); University of Chinese Academy of Sciences; Jiangsu Zhongke Research Center for Clean Energy and Power

Shijie Zhang - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics (IET), Chinese Academy of Sciences (CAS); University of Chinese Academy of Sciences; Jiangsu Zhongke Research Center for Clean Energy and Power
Xiang Xu - Key Laboratory of Advanced Energy and Power, Institute of Engineering Thermophysics (IET), Chinese Academy of Sciences (CAS); University of Chinese Academy of Sciences; Jiangsu Zhongke Research Center for Clean Energy and Power

Experimental Characterization and Emission Analysis of Hydrogen-Enriched Fuel Blends in Gas Turbine Applications, {GT2024-129198}
Technical Paper Publication
Sara Bonuso - university of Salento
Guido Marseglia - university of Salento
Pasquale Di Gloria - university of Salento
Ramón Antonio Otón-Martínez - Centro Universitario de la Defensa
Antonio Ficarella - University of Salento
Maria Grazia De Giorgi - University of Salento Dip. Di Ing. Inno

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04-17 Combustion Modeling V
6/28/2024
10:30 AM to 12:00 PM - SG13

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Mirko Bothien - Zurich university of applied sciences***
Chair: ***Dustin Brandt -***
Chair: ***Benjamin Akih Kumgeh -***
Presentations:

Thickened Flame Model Extension for Dual Gas GT Combustion: Validation Against Single Cup Atmospheric Test, {GT2024-122234}
Technical Paper Publication
Roberto Meloni - Baker Hughes
Giulia Babazzi - Baker Hughes
Nicola Giannini - Baker Hughes
Simone Castellani - Università degli Studi di Firenze
Pier Carlo Nassini - Università degli studi di Firenze
Alessio Picchi - Università degli studi di Firenze
Sofia Galeotti - Università degli studi di Firenze
Riccardo Becchi - Università degli studi di Firenze
Antonio Andreini - Università degli studi di Firenze

Combustion Modelling of the T100 Micro-Gas Turbine Burner Including the Influence of the Stretch and Heat Loss/Gain Effects on the Flame, {GT2024-123810}
Technical Paper Publication
Giulio Generini - University of Florence
Antonio Andreini - University of Florence
Enrico Bianchi - Ansaldo Green Tech

Modeling and Predicting Deflagration Phenomena in Hydrogen-Enriched Gas Turbine Exhausts: A CFD Approach, {GT2024-128717}
Technical Paper Publication
Gianmarco Lemmi - University of Florence, Department of Industrial Engineering (DIEF)
Pier Carlo Nassini - Baker Hughes
Matteo Cerutti - Baker Hughes
Antonio Andreini - University of Florence, Department of Industrial Engineering (DIEF)

41-02 Experimental research
6/28/2024
10:30 AM to 12:00 PM - SG6

Chair: ***Giacomo Persico - Politecnico di Milano***
Chair: ***Lorenzo Ferrari - University of Pisa – DESTEC, Italy***
Chair: ***Navid Goudarzi -***
Chair: ***Juan Jauregui - Autonomous University of Queretaro***
Presentations:

Experimental and Simulation Investigation of J-Shaped and Kammtail Virtual Airfoils in Small-Scale Horizontal Axis Wind Turbines, {GT2024-121013}
Technical Paper Publication
Saif Al Hamad - University of Wisconsin-Milwaukee
Mohamed Abousabae - University of Wisconsin-Milwaukee
Omar Shaker - University of Wisconsin-Milwaukee
Ryoichi S. Amano - University of Wisconsin-Milwaukee

Optimum Design of Scaled-Down Wind Turbines Based on Field Data, {GT2024-124372}
Technical Paper Publication
Juan Jauregui - University of Queretaro
Jesus Alejandro Franco - Escuela Nacional de Estudios Superiores Juriquilla UNAM

Design and Implementation of an Experimental Test Bench for the Study of Active Flow Control in Scale Wind Turbines, {GT2024-120981}
Technical Paper Publication
Jesus Alejandro Franco - Escuela Nacional de Estudios Superiores Unidad Juriquilla, Universidad Nacional Autónoma de Mexico
Gael Salinas-Anaya - Escuela Nacional de Estudios Superiores Unidad Juriquilla, Universidad Nacional Autónoma de Mexico

05-11 Turbine Facility Sensors & Diagnostics
6/28/2024
10:30 AM to 12:00 PM - SG7

Chair: ***Igor Loboda -***
Chair: ***Min Zhang - Praxair, Inc., a Linde Company***
Presentations:

Comprehensive Experimental Assessment of Unsteady Pressure and Heat Flux in a Small-Core Turbine Over-Tip Shroud, {GT2024-124106}
Technical Paper Publication
Antonio Castillo Sauca - Purdue University
Lakshya Bhatnagar - Purdue University
Lukas Benjamin Inhestern - Purdue University
Guillermo Paniagua - Purdue University

Dry Gas Seal Condition Monitoring With Embedded Acoustic Emissions Sensors, {GT2024-124365}
Technical Paper Publication
Christopher Palmer - John Crane
Colleen Fritz - John Crane Inc.
Chris Kotar - ExxonMobil

On the Application of Background Oriented Schlieren to a Transonic Low-Reynolds Turbine Cascade, {GT2024-127971}
Technical Paper Publication
Alexandre Halby - von Karman Institute for Fluid Dynamics
Bora Orcun Cakir - von Karman Institute for Fluid Dynamics
Lorenzo Da Valle - von Karman Insititute for Fluid Dynamics
Gustavo Lopes - von Karman Institute for Fluid Dynamics
Mizuki Okada - von Karman Institute for Fluid Dynamics
Sergio Lavagnoli - von Karman Institute for Fluid Dynamics

The Purdue High-Speed Small Core Turbine Facility, {GT2024-129316}
Technical Paper Publication
Lakshya Bhatnagar - Purdue University
Antonio Castillo Sauca - Purdue University
Diego Sanchez De La Rosa - Purdue University
Guillermo Paniagua - Purdue University
Eugene Clemens - Rolls-Royce Corporation
Matthew Bloxham - Rolls-Royce Corporation

04-48 Atomization and Spray Combustion IV
6/28/2024
10:30 AM to 12:00 PM - SG20/SG21

Chair: ***Samir Rida - GE Vernova***
Chair: ***Santosh Hemchandra - Indian Institute of Science***
Chair: ***Brandon Sforzo - ANL***
Presentations:

Experimental Study of Atomization Feature of Coaxial Parallel Flow Airspray Nozzle in Crossflow, {GT2024-128692}
Technical Paper Publication
Yue Li - Northwestern Polytechnical University
Jianqin Suo - Northwestern Polytechnical University
Hongyu Ju - Northwestern Polytechnical University

The Onset of Hydrodynamic Instability in Dual Orifice Atomizers, {GT2024-125255}
Technical Paper Publication
Hidir Yanki Kiliçgedik - TEI - Tusas Engine Industries

13-08 Heat Exchangers (II)
6/28/2024
10:30 AM to 12:00 PM - SG27/SG28

Chair: ***Stephen Lynch -***
Chair: ***Cosimo Bianchini -***
Chair: ***Guillermo Paniagua -***
Chair: ***Robert Krewinkel -***
Chair: ***Lesley Wright -***
Presentations:

Development of Heat Exchanger Modelling Capability for a Finite Volume Aeroelasticity Solver, {GT2024-127596}
Technical Paper Publication
Sam Mitchell - Imperial College London
Irene Tartaruga - Rolls-Royce

Sina Stapelfeldt - Imperial College London

An Additively Manufactured Two-Fluid Heat Exchanger Designed With Topology Optimization Tools, {GT2024-127637}
Technical Paper Publication
Claudio Caruso - Baker Hughes
Francesco Morante - Baker Hughes
Giacomo Pampaloni - Baker Hughes
Stefano Rossin - Baker Hughes
Alessandro Canova - ToffeeX
Nicola Casari - ToffeeX
Thomas Rees - ToffeeX

Modeling of Metal Matrix Concentrated Solar Receivers for sCO2 Power Blocks, {GT2024-129516}
Technical Paper Publication
Vyas Duggirala - Boeing Research & Technology
Venkatanarasimha Hegde - Indian Institute of Science
Venkateswara Reddy - Boeing Research & Technology, India
Pramod Kumar - Indian Institute of Science

30-15 Thermal Component Performance
6/28/2024
10:30 AM to 12:00 PM - SG11

Chair: ***Renaud Le Pierres - Heatric***
Chair: ***Marie Kasprzyk - Oak Ridge National Laboratory***
Chair: ***Timothy Allison - SWRI***
Presentations:

Design and Integration of a Microtube Precooler Into an Aircraft Engine Waste Heat Recovery and Fuel Systems, {GT2024-129421}
Technical Paper Publication
Claire-Phonie Bury - University of Central Florida
Ladislav Vesely - University of Central Florida
Jayanta Kapat - University of Central Florida
Mingxuan Shi - The Boeing Company
Michael Stoia - The Boeing Company

Performance and Control of the Primary Heat Exchanger in a Closed-Loop sCO2 Brayton Cycle With Solid Fuel Combustion, {GT2024-126013}
Technical Paper Publication
Brian Schooff - Brigham Young University
Rajarshi Roy - Brigham Young University
Fletcher Smith - Brigham Young University
Daniel Tree - Brigham Young University
Brian Iverson - Brigham Young University
Andrew Chiodo - Reaction Engineering International
Timothy J. Held - Echogen Power Systems
Jason Miller - Echogen Power Systems
Brett Bowan - Echogen Power Systems
Kyle Sedlacko - Echogen Power Systems
Michael Johnson - Babcock Power
Scott Montgomery - San Rafael Energy Research Center
Andrew Fry - Brigham Young University

Thermal Performance Characterization of Dry Gas Seals in a sCO2 Compressor, {GT2024-128872}
Technical Paper Publication

Rahul A. Bidkar - GE Research
Uttara Kumar - GE Research
Xiaohua Zhang - GE Research
Nora Molino - GE Research
Joshua Neveu - SwRI
John Klaerner - Southwest Research Institute
Jeremy Johnson - SwRI
J. Jeffrey Moore - Southwest Research Institute