GT India
Gas Turbine India Conference
7th - 8th December, 2023
Infosys, Electronic City, Bengaluru

Power and Propulsion – A Sustainable Future

FINAL PROGRAM

https://event.asme.org/GT-India
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Message from the Conference Chair

The ASME is proud to present the eighth biennial ASME Gas Turbine (GT) India Conference being held at the Infosys Campus, Bengaluru this year from December 7-8, 2023. This two-day event attracts the industry’s leading professionals, key decision makers and scholars from academia whose innovation and expertise are shaping the next generation technologies related to power and propulsion.

Post COVID-19 pandemic, there has been an increasing demand for better power and air traffic management worldwide in growing economies including India. At the same time, there is a strong commitment from OEMs and policy makers for decarbonization and net zero carbon emissions. Hence, technologies driving power and propulsion are undergoing a transformation and hence there is a need for technologies to go beyond higher output and efficiency for a sustainable future. Appropriately, the theme of ASME GT India Conference 2023 is ‘Power and Propulsion – A Sustainable Future.’ We are hosting this conference to focus on stimulating topics such as alternate fuels and efficient combustion designs, novel materials and manufacturing techniques, innovative thermodynamic cycles, predictive maintenance through digital solutions, hybrid-electric propulsion, advances in renewables and multi-disciplinary design optimization.

We sincerely thank all the authors and speakers who devoted valuable time to present their papers and perspectives to the turbomachinery community in the region. We appreciate the dedicated efforts of all the turbomachinery professionals across academia, industry and national labs who have extended their support as review chairs, vanguard chairs and session organizers. I would like to truly recognize the diligent efforts of the conference core team members - Ms. Harmeet Kaur from Boeing, Prof. A.M. Pradeep of IIT Bombay, and Ms. Hiral Shah from Siemens. I would also like to express my gratitude to the ASME staff and ASME GT India Executive Committee for their dedicated support and guidance in making this conference a reality. We sincerely acknowledge all sponsoring organizations for their generous contributions. ASME GT India is indebted to Infosys for hosting this conference at their prestigious Bengaluru campus with excellent infrastructure facilities to make this conference a success.

While the last edition of ASME GT India Conference 2021 was held virtually, this is our first conference post pandemic in an in-person mode. On behalf of the entire team, I would like to welcome you all to the conference and hope that it will provide a platform for all the participants to network and help build collaborative partnerships to continue to push the boundaries of technologies in power and propulsion.

Best wishes for an insightful and enriching conference experience to help embark towards sustainable future!

Mr. Hiteshkumar Mistry
Conference Chair, ASME
Engineering Development & Learning Leader
GE Aerospace, Bengaluru
Sponsors and Exhibitors

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**Platinum**

*GE Aerospace*  
*Siemens Energy*

**Silver**

*Honeywell*  
*Quest Global*

**Exhibitors**

*Ace Instruments*  
*IC International*  
*Simerics Technology by Design*
## Schedule at a Glance

### Thursday, 7 December, 2023

<table>
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<th>Event</th>
<th>Time</th>
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<tbody>
<tr>
<td>Inauguration &amp; Opening Plenary</td>
<td>09:30 AM - 10:00 AM</td>
</tr>
<tr>
<td>Keynote Session</td>
<td>10:00 AM - 10:45 AM</td>
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<tr>
<td>Tea/Coffee break &amp; Expo Visit</td>
<td>10:45 AM - 11:15 AM</td>
</tr>
<tr>
<td>Leadership Panel Discussion : Power &amp; Propulsion - A Sustainable Future</td>
<td>11:15 AM - 12:45 PM</td>
</tr>
<tr>
<td>Lunch &amp; Expo visit</td>
<td>12:45 PM - 1:35 PM</td>
</tr>
<tr>
<td>Invited Talks and Technical Sessions</td>
<td>1:45 PM - 3:45 PM</td>
</tr>
<tr>
<td>Tea/Coffee Break</td>
<td>3:45 PM - 4:00 PM</td>
</tr>
<tr>
<td>Tutorial and Technical Session</td>
<td>4:00 PM - 6:00 PM</td>
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</tbody>
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### Friday, 8 December, 2023

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
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<tbody>
<tr>
<td>Keynote Session</td>
<td>9:00 AM - 9:45 AM</td>
</tr>
<tr>
<td>Tea/Coffee break &amp; Expo Visit</td>
<td>9:45 AM - 10:00 AM</td>
</tr>
<tr>
<td>Panel Discussion : Contribution of Women Engineers in Power &amp; Propulsion Industry</td>
<td>10:05 AM - 11:20 AM</td>
</tr>
<tr>
<td>Tutorials, Invited Talk and Technical Session</td>
<td>11:30 AM - 1:00 PM</td>
</tr>
<tr>
<td>Lunch &amp; Expo visit</td>
<td>1:00 PM - 1:45 PM</td>
</tr>
<tr>
<td>Invited Talk, Tutorial and Technical Sessions</td>
<td>2:00 PM - 4:00 PM</td>
</tr>
<tr>
<td>Closing Plenary &amp; Vote of Thanks</td>
<td>4:15 PM - 5:00 PM</td>
</tr>
<tr>
<td>Hi Tea &amp; Networking</td>
<td>5:00 PM - 5:30 PM</td>
</tr>
</tbody>
</table>
Conference Leadership

Organizing Committee

<table>
<thead>
<tr>
<th>Conference Chair</th>
<th>Technical Program Chair</th>
<th>Review Chair</th>
<th>Review Vice Chair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hiteshkumar Mistry</td>
<td>SS</td>
<td>A M Pradeep</td>
<td>Hiral Shah</td>
</tr>
<tr>
<td>EEDP &amp; Learning Leader, GE Aerospace, Bengaluru</td>
<td>Senior Manager Production Engineering Boeing India</td>
<td>Professor IIT Mumbai</td>
<td>Siemens</td>
</tr>
</tbody>
</table>

Executive Committee

Chair
Dr. Shraman Goswami
Honeywell

Vice Chair
Dr. Kali Charan Nayak
Infosys

Past Chair
Mr. Hitesh Kumar Mistry
EEDP & Learning Leader, GE Aerospace, Bengaluru

Chair, Professional Seminar
Mr. Abdul Nassar
DESiM Innovations (OPC) Private Limited

Vice Chair, Professional Seminar
Ms. Harmeet Kaur
Boeing India

Chair, Student Seminar
Dr. Chetan Mistry
IIT Kharagpur

Vice Chair Student Seminar
Dr. Nagabhushana Rao Vadlamani
IIT Madras
Mr. Nandan Nilekani is the Co-Founder and Chairman of the tech giant Infosys Limited.

Mr. Nilekani served as the Chairman of the Unique Identification Authority of India (UIDAI), a cabinet ranking position that he joined upon the invitation of the former Prime Minister of India, Dr. Manmohan Singh. As the chairman of UIDAI, he was responsible for implementing a multi-purpose National Identity Card or Unique Identity Card (UID) project in India.

He is currently the chairman of EkStep Foundation, a not-for-profit literacy and numeracy platform. EkStep looks at solving the learning problem by creating a technology-led platform to help children improve their learning outcomes, early in their life.

Mr. Nilekani is also the Chairman of the Governing Body of the New Delhi-based National Council of Applied Economic Research (NCAER), India’s largest and oldest non-profit economic research think tank. He has also invested in many tech start-ups. In 2006, he was awarded the Padma Bhushan and was named Businessman of the Year by Forbes Asia. In 2006 and 2009, Time Magazine placed Nilekani in the Time 100 list of World’s Most Influential People. India Today ranked him 12th in India’s 50 Most Powerful People of 2017 list.
John Intile is the Vice President of Engineering for Gas Power, leading the engineering teams responsible for the life-cycle design execution of heavy-duty gas turbines, steam turbines, generators, and all associated plant systems. John oversees approximately 4,000 of the most talented, innovative professionals in the industry, focused on a relentless pursuit of innovation for a better tomorrow with cleaner, more flexible power.

John is a 23-year veteran of GE who has served in multiple leadership roles within combustion, systems engineering, conceptual design, and Global Research Center. In his previous role as a Global Gas Turbine Engineering Leader, he has been responsible for designing and supporting gas turbines, including both the 7HA and 9HA. He has focused on executing product development for our new units and services businesses, supporting our manufacturing and product management teams, and resolving technical challenges for our fleet of gas turbines.

Prior to joining GE, John worked at CD-adapco where he led design teams with Computational Fluid Dynamics specialty performing services and consultant work with to Power Generation and Automotive industry.

John is a graduate of the State University of New York - Stony Brook, with bachelor’s and master’s degree in mechanical engineering.
Invited Speaker

Advanced Computational Methods
Thursday, 7th December 2023, 01:45-2:45 pm
Rosabeth Moss Kanter Room, 2nd floor, Right Wing BLDG #11

Prof. Joseph Mathew (IISc)
Professor and Chair, Department of Aerospace Engineering, Indian Institute of Science Bangalore

Contribution of Propulsion to Sustainable Aviation
Thursday, 7th December 2023, 02:45-3:45 pm
Rosabeth Moss Kanter Room, 2nd floor, Right Wing BLDG #11

Andrew Gwynne
Engineering Executive, Hot End CoE, Rolls-Royce PLC

Engine Structural Integrity: Requirements & Challenges
Friday, 8th December 2023, 11:30 am -12:30 pm
* Isabel Myers Room, 1st floor, Left Wing BLDG #11

Venkat Ganji
Director Engineering, Honeywell Technology Solutions, Bangalore

Engine Nacelle Structures for Commercial Airplanes
Friday, 8th December 2023, 02:00-3:00 pm
Rosabeth Moss Kanter Room, 2nd floor, Right Wing BLDG #11

Jaspreet Singh
Engineering Manager, Propulsion Structures- Design Team, Boeing India, Bangalore
Tutorial

Compressor Design
Thursday, 7th December 2023, 04:30 pm – 06:00 pm
Rosabeth Moss Kanter Room, 2nd floor, Right Wing BLDG #11

Chetan Mistry
Professor, Department of Aerospace Engineering,
IIT Kharagpur

Combustor Design
Friday, 8th December 2023, 11:30 am – 01:00 pm
Rosabeth Moss Kanter Room, 2nd floor, Right Wing BLDG #11

Dalton Maurya
Scientist F, Combustion, Gas Turbine Research Establishment, DRDO, Bengaluru

Turbine Design
Friday, 8th December 2023, 02:30 pm – 04:00 pm
Katherine Briggs Room, 1st floor, Left Wing BLDG #11

Debasish Biswas
Chief Research Scientist, Toshiba Research and Development Center,
Mechanical Systems Laboratory, Kawasaki, Japan

Multi-disciplinary Multi-Point Optimization of a Turbocharger Compressor Wheel
Friday, 8th December 2023, 03:00 pm – 04:00 pm
Rosabeth Moss Kanter Room, 2nd floor, Right Wing BLDG #11

Mr. Vinayak Rajan
Principal Engineer,
Cadence Design Systems
Panel Session

Leadership Panel Discussion: Power & Propulsion – A Sustainable Future

Thursday, 7th December 2023, 11:15 am – 12:45 pm
* Convention Centre Auditorium 1st floor BLDG #50

Panelists

- John Intile
  Vice President, Engineering @GE Vernova Gas Power

- Andrew Gwynne
  Engineering Executive for Hot End Centre of Excellence, Rolls-Royce, UK

- Kallappa Pattada
  Director, Boeing Research and Technology, Boeing, India

- Sasikumar Muthusamy
  Engineering Director, Adv. Structures, Collins Aerospace, India

Panelists

- Maximilian Meimerstorf
  Head Product Engineering, Siemens Energy, Germany

- Ramakrishnan Parusuraman
  Senior Director, Engines & Power System, Honeywell Technology Solutions

- Rakesh Gollapalli
  Vice President - Automotive, Aerospace, & Defense, Infosys

- Nagaraj Joshi
  Vice President, Aerospace & Defense, Infosys Ltd
Panel Session

Contribution of Women Engineers in “Power & Propulsion’ Industry

Friday, 8th December 2023, 10:05 am – 11:20 am
* Convention Centre Auditorium 1st floor BLDG #50

Panelists

Padmini Ramesh
GE Aerospace Engineering
Operations Leader, Bangalore

Shobhavathy MT
Principal Scientist, Propulsion Division, CSIR-NAL Bangalore

Padmaja Tiwari
Transformation Head, Industry and Sustainable Energy Systems, Siemens Energy India

Seema Chopra
Technical Fellow-AI-ML, Chief Data Scientist, Boeing India

Moderator

Harmeet Kaur
Senior Manager, Production Engineering, Boeing, India
The future is our starting point

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THURSDAY, 7 DECEMBER, 2023

Track 01-01 Compressors, Fans and Pumps
1:45 PM to 3:45 PM Katherine Briggs Room, 1st floor, Left Wing BLDG #11

Presentations:

The Variational Principle of a Rotor Passage Shock in the Circumferential Average Through Flow Inverse Problem of the Axial Compressors and Applications
Technical Paper Publication #117883
- Tianyi Luo - School of Energy and Power Engineering, Beihang University
- Peng Shan - School of Energy and Power Engineering, Beihang University
- Xiaohe Yang - AECC Commercial Aircraft Engine Co., Ltd.

Study of Tandem Rotor Dual Wake Interaction with Downstream Stator Under Unsteady Numerical Approach
Technical Paper Publication #118399
- Arul Prakash R - Kumaraguru College of Technology
- Senthil Kumar Madasamy - Kumaraguru College of Technology

Improving the Stage Efficiency of Axial Compressors by Vane Rotation
Technical Paper Publication #118396
- Akhila Ajith Pisharam - Kumaraguru College of Technology
- Vijayanandh Raja - Kumaraguru College of Technology

Aerodynamic Design Aspects for Small-Size Transonic Contra-Rotating Fan Stage
Technical Paper Publication #118442
- Manideep Pasupula - IIT Kharagpur
- Chetankumar Mistry - Indian Institute of Technology Kharagpur

Track 02-01 Turbines
1:45 PM to 3:45 PM Charles Handy Room, 2nd floor, Left Wing BLDG #11

Presentations:

Gas Turbine Instrumented Exhaust System Structural Assessment
Technical Paper Publication #118361
- Manoharan Sambandam - Baker Hughes
- Marco Simoncini - Baker Hughes Company
- Zielaskowski Michal - Baker Hughes
- Michal Michonski - Baker Hughes

Effects of Vane Trailing Edge Deterioration on Flow Phenomena: A CFD Simulation of Broken Scenarios
Technical Paper Publication #117532
- Benyapa Thammachote - King Mongkut’s Institute of Technology Ladkrabang
- Jitlada Premyothin - King Mongkut’s Institute of Technology Ladkrabang
- Ditthaphat Tanpradit - Rajamangala University of Technology Krungthep
- Atikorn Wongsatanawarid - King Mongkut’s University of Technology Thonburi
- Daniele Dipasquale - King Mongkut’s Institute of Technology Ladkrabang
- Prasert Prapamonthon - King Mongkut’s Institute of Technology Ladkrabang
Effect of Variable Tip Clearance at the Inlet and Exit of a Radial In-Flow Turbine

**Technical Paper Publication #118424**
- D Harish - Gas Turbine Research Establishment
- R D Bharathan - Gas Turbine Research Establishment
- C Kishore Kumar - Gas Turbine Research Establishment
- Sharad Kapil - Gas Turbine Research Establishment
- Jatin Kumar Jehoash - Jain University

Turbo-Rotor Balancing and Optimization Using Groove-Geometry Simulation Approach

**Technical Paper Publication #118681**
- Nitin Pagar - MIT Art, Design & Technology University

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**Track 04-01 Combustion, Fuels and Emissions**

1:45 PM to 3:45 PM  
Joseph Luft Room, 1st floor, Left Wing BLDG #11

**Presentations:**

Accuracy Improvement of Flamelet Generated Manifold (FGM) Model in Modeling Partially Premixed Combustion Systems by Combining Machine Learning

**Technical Paper Publication #117326**
- Sourabh Shrivastava - Ansys Inc.
- Shitanshu Gohel - Ansys Inc
- Mohan Srinivasa - Ansys Inc
- Hemesh Patil - Ansys Inc
- Pravin Nakod - Ansys Inc.

Stability and Combustion Characteristics of Stratified Oxy-Methane Flames in a Dual Swirl Burner: Effect of Swirl, {}

**Technical Paper Publication #117620**
- Medhat Nemitallah - King Fahd University of Petroleum and Minerals
- ANAS Alhazmi - King Fahd University of Petroleum and Minerals

Reactor Network Analysis of a Novel Rich-Quench-Lean Combustion Concept for Hydrocarbon Fuels

**Technical Paper Publication #118362**
- Fernando Biagioli - Infosys
- Holger Luebcke - Infosys
- Khawar Syed - Infosys

Spray Combustion Study of Biofuel-Blended Aviation-Grade Fuel in an Annular Air-Swirl Burner

**Technical Paper Publication #118425**
- Nandhakumar Pandurangan - Indian Institute of Technology Madras
- Srikrishna Sahu - Indian Institute of Technology Madras
Track 05-01 Structures and Dynamics
1:45 PM to 3:45 PM
Harold Ingham Room, 1st floor, Left Wing BLDG #11

Presentations:

Creep Behaviour of the Gas Turbine Parts With the Dissimilar Materials
Technical Paper Publication #118307
- Manoharan Sambandam - Baker Hughes Company
- Simone Colantoni - Baker Hughes Company

Turning Vane FE Model Validation Using Ping Test
Technical Paper Publication #118346
- Aparna Satheesh - Baker Hughes
- Babu Santhana Gopalakrishnan - Baker Hughes
- Anil Chippa - Baker Hughes

Performance Enhancement Kit for Frame 51 Machine With DLN Combustor

Technical Paper Publication #118365
- Abhimanyu Soman - Baker Hughes
- Lorenzo Cocchi - Baker Hughes
- Mallikarjuna P - Baker Hughes
- Nikunj Avaiya - Baker Hughes
- Ravindra Devi - Baker Hughes
- Babu Santhana Gopalakrishnan - Baker Hughes

Structural Validation of Portable Compressor Trailer Under Dynamic Conditions
Technical Paper Publication #118377
- Mehul Bhirud - Ingersoll Rand India Ltd
- Bharatkumar Valand - Ingersoll Rand India Ltd
- Ankit Rathod - Ingersoll Rand India Ltd

Track 06-01 Renewable Energy (Solar, Wind)
1:45 PM to 3:45 PM
Isabel Myers Room, 1st floor, Left Wing BLDG #11

Presentations:

Influence of Concentrated Augmenter on the Performance of a Two-Bladed Savonius Wind Rotor Composed of Arc-Elliptical Profile
Technical Paper Publication #118292
- Nur Alom - National Institute of Technology Meghalaya, India
- Parag K. Talukdar - Jorhat Engineering College
- Bikash Kumar Sarkar - National Institute of Technology Meghalaya
- Ujjwal K. Saha - Indian Institute of Technology Guwahati

Diameter-to-Chord Ratio Effect on the Aerodynamic Performance of Small-Scale Darrieus-Type Straight-Bladed Vertical Axis Wind Turbine
Technical Paper Publication #118458
- Kabita Naik - Indian Institute of Technology Guwahati
- Niranjan Sahoo - Indian Institute of Technology Guwahati

Numerical Simulation of an S-Shaped Hydrofoil to Study the Influence of Turbulence Over Cavitation in the Flow
Technical Paper Publication #118494
- Micha Premkumar Thomai - Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam
- Divya Zindani - Sri Sivasubramaniya Nadar College of Engineering
- Seralathan Sivamani - Hindustan Institute Of Technology And Science
Wind Tunnel Assisted Analysis on the Effect of Span-Wise Separation of Small Wind Turbines: A Near Wake Region Study
Technical Paper Publication #118499
- Ravi Kumar - Indian Institute of Technology-Guwahati
- Ojing Siram - Indian Institute of Technology-Guwahati
- Ujjwal K. Saha - Indian Institute of Technology-Guwahati
- Niranjan Sahoo - Indian Institute of Technology-Guwahati

Track 11-02 Analytics & Digital Solutions (incl. AI/ML) for Gas Turbines/Rotating Machinery
1:45 PM to 3:45 PM Brahmaputra Audi, Ground floor, BLDG #12
Presentations:
Development of Machine Learning Model for Maximum Creep Strain Prediction in Gas Turbine Blades, {}
Technical Paper Publication #118331
- Rishabh Shrivastava - Siemens Limited
- Vidit Mehrotra - Siemens Limited
- Amit Singh - Siemens Limited
- Amit Yadav - Siemens Limited
- Debdukal Das - Siemens Limited

Technical Paper Publication #118372
- Pugalenthi Nandagopal - Siemens Energy
- Manjunath More - Siemens India Ltd

Track 03-01 Heat Transfer
4:00 PM to 6:00 PM Harold Ingham Room, 1st floor, Left Wing BLDG #11
Presentations:
Conjugate Heat Transfer Approach to Gas Turbine Engine Modeling
Technical Paper Publication #117608
- Jaasim Mulla - Defence Institute of Advanced Technology
- R K Satpathy - Defense Institute of Advanced Technology, Pune
- Fiyanshu Kaka - Defense Institute of Advanced Technology, Pune
Design of Cooling Air Flow and Thermal Analysis for an Afterburner V-Gutter
Technical Paper Publication #118371

- Azith Aadhithya - IIAEM, Jain (Deemed-to-be University)
- Kvl Narayana Rao - Hindustan Aeronautics Ltd
- Antonio Davis - IIAEM, Jain (Deemed-to-be University)
- Girish K Degaonkar - Hindustan Aeronautics Ltd

Improving Film Cooling Effectiveness Using Sister Holes With Primary Hole Through Adverse Compound Angle Orientations
Technical Paper Publication #118457

- Seralathan Sivamani - Hindustan Institute of Technology and Science
- Sri Vamsi Krishna P - Hindustan Institute of Technology and Science
- Micha Premkumar T - Sri Sivasubramaniam Nadar College of Engineering

Vortex Characterization of Rotor-Stator Cavities Dominated With Radial Flows
Technical Paper Publication #118670

- Dileep Bushan Reddy S N - Infosys Limited
- Praveen Kumar Singh - Infosys Limited
- Kali Charan Nayak - Infosys Limited
- Tim Scanlon - Rolls-Royce plc

Track 11-01 Analytics & Digital Solutions (incl. AI/ML) for Gas Turbines/ Rotating Machinery
4:00 PM to 6:00 PM

Towards Use of Structural Equation Modelling in Enumerating Correlation of Qualitative and Quantitative Factors With Manufacturing Part Deviation
Technical Paper Publication #118037

- Karthik Srinivasan - Infosys
- Ravi Kumar Gvv - Infosys

Method to Backout Load From Strain Gauges Using Machine Learning
Technical Paper Publication #118279

- Srinivas Chinthapally - Honeywell Technology solutions lab pvt ltd
- Sidhardha Nuli - Honeywell Technology Solutions Lab Pvt ltd
- Arnab Das - Honeywell Technology Solutions Lab Pvt ltd
- Akshay Hedao - Honeywell Technology Solutions Lab pvt ltd

Data Synthesis Through Deep Generative Models and its Effectiveness in Improving Defect Inspection Models
Technical Paper Publication #118325

- Ninad Kulkarni - Infosys Ltd.
- Rahul Gupta - Infosys Ltd.
- Vijayasri Kalyan - Infosys Ltd.
- Ujwal Bhate - Infosys Ltd.

A Deep Learning Approach to Build Surrogate Model for Steady State and Transient Metal Temperature Prediction in Gas Turbine
Technical Paper Publication #118326

- Raj Kumar Soni - Siemens Limited
- Avyakt Ojha - Siemens Ltd
- Vishal Verma - Siemens Ltd
- Yi Niu - Siemens Energy
Track 01-02 Compressors, Fans and Pumps
4:00 PM to 6:00 PM
Katherine Briggs Room, 1st floor, Left Wing BLDG #11

Presentations:

Inlet Distortion Studies on a Centrifugal Compressor
Technical Paper Publication #118322
- Sujeet Kumar Jaiswal - Indian Institute of Technology Dharwad
- Sadashiv Bubanale - Indian Institute of Technology Dharwad
- M. C. Keerthi - Indian Institute of Technology Dharwad

High Speed Centrifugal Compressor Performance Evaluation With Leaning Diffuser Vane Configurations
Technical Paper Publication #118405
- Porika Niveditha - IIT Madras
- Shyama Prasad Das - Indian Institute of Technology Madras

Design of a Facility for Testing Centrifugal Compressors
Technical Paper Publication #118456
- Kishore Kumar C - Gas Turbine Research Establishment
- Jaiprakash Anand - Indian Institute of Science Bangalore
- Ganesan S - Gas Turbine Research Establishment
- Raghuraman N Govardhan - Indian Institute of Science, Bangalore

Aerodynamic Design Improvement of Centrifugal Compressor for Turbocharger Application
Technical Paper Publication #118476
- Kirubakaran Purushothaman - Gas Turbine Research Establishment
- David Varghese - Gas Turbine Research Establishment
- Kishore Kumar Chandramohan - Gas Turbine Research Establishment
- Vidyadheesh Pandurangi - Gas Turbine Research Establishment
- Ajay Pratap - Gas Turbine Research Establishment
- Kishore Prasad D - Gas Turbine Research Establishment

Track 02-02 Turbines
4:00 PM to 6:00 PM
Charles Handy Room, 2nd floor, Left Wing BLDG #11

Presentations:

Implementation of Flow Control Methods for Design of Connecting Duct of Annular Sector Cascade Tunnel
Technical Paper Publication #118407
- Hardikumar Bhavasar - Indian Institute of Technology Kharagpur
- Chetankumar Mistry - Indian Institute of Technology Kharagpur

Non-Axisymmetric Stator Hub Endwall Contouring for Tandem Bladed Axial Compressor Stage
Technical Paper Publication #118437
- Priyanka S - IIT Kharagpur
- Chetan Mistry - IIT Kharagpur
- Arnab Roy - IIT Kharagpur

Studies on Unsteady Turbulence Flow Characteristics Associated With Stator-Rotor Interaction Originated Thermal Flow Phenomena Using a High Order LES Model
Technical Paper Publication #118641
- Debasis Biswas - Toshiba Corporation
- Tomohiko Jimbo - Toshiba Corporation
Computational Investigations of Effect of Reynolds Number on Secondary Losses and Flow Behavior in Linear Turbine Cascade
Technical Paper Publication #118451
- Anand Darji - Sardar Vallabhbhai National Institute Of Technology, Surat
- Beena Baloni - Sardar Vallabhbhai National Institute of Technology, Surat
- Chetan Mistry - Indian Institute of Technology, Kharagpur

Track 04-02 Combustion, Fuels and Emissions
4:00 PM to 6:00 PM
Joseph Luft Room, 1st floor, Left Wing BLDG #11

Presentations:

Experimental and Numerical Investigation of Velocity Flow Field in a Novel 3D Printed Triple Swirler Burner
Technical Paper Publication #118421
- Mahesh R Thombare - Indian Institute of Technology Hyderabad
- Sidharth K Pillai - Indian Institute of Technology Hyderabad
- Raju Murugan - Indian Institute of Technology Hyderabad
- Madhushankar Pillai - Indian Institute of Technology Delhi
- Saravanan Balusamy - Indian Institute of Technology Hyderabad

Investigation of High Thermal Intensity Porous Media Combustion in a Reverse Flow Combustor
Technical Paper Publication #118360
- Vinay Karad - IIT Kanpur
- Dr. Vaibhav K. Arghode - IIT Kanpur

Numerical Investigation on the Optimization of Angled Effusion Holes of Liner Assembly of Micro Gas Turbine Engine Combustor
Technical Paper Publication #118466
- Nivedita Shahi - Indian Institute of Technology
- Ayush Divyansh - Indian Institute of Technology Jammu
- Vatsal Tyagi - Indian Institute of Technology Jammu
- Shanmugas K.P. - Indian Institute of Technology
Track 04-05 Combustion, Fuels and Emissions
4:00 PM to 6:00 PM

Isabel Myers Room, 1st floor, Left Wing BLDG #11

Presentations:

Combustion of Hydrogen and Natural Gas at Elevated Air Temperature Using 3D Printed Burner
Technical Paper Publication #118324
- Raju Murugan - SBES Technologies Private Limited
- Suresh Mvr - SBES Technologies Private Limited
- Rahul Singh Chauhan - SBES Technologies Private Limited
- Reddy Alemela - SBES Technologies Private Limited

Combined Cycle Power Plant Economic Evaluation With Hydrogen and Ammonia As Alternate Fuel
Technical Paper Publication #117904
- Muruganandam Pichandi - Siemens India Ltd
- Pugalenthi Nandagopal - Siemens India Ltd
- Matthias Duerr - Siemens Energy
- Surendra Singh - Siemens India Ltd

Design and Numerical Analysis of a Lean Burn Combustor Liner Inlet for Micro-Gas Turbine Engine Applications
Technical Paper Publication #118472
- Vatsal Tyagi - Indian Institute of Technology Jammu
- Ayush Divyansh - Indian Institute of Technology Jammu
- Preetam Jamod - Indian Institute of Technology Jammu
- Shanmugas K. P. - IIT JAMMU

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FRIDAY, 8 DECEMBER, 2023

Track 02-03 Turbines
11:30 AM to 1:00 PM
Charles Handy Room, 2nd floor, Left Wing BLDG #11

Presentations:

Effect of Pivot-Shape Modification on Part Clearance Flow Field in Variable Area Turbine Nozzle Vane
Technical Paper Publication #118444
- Goutam Mandal - IIT Kharagpur
- Hardikkumar Bhavsar - Name: Indian Institute of Technology Kharagpur
- Chetankumar Mistry - Indian Institute of Technology Kharagpur

Secondary Losses Mitigation using End-Wall Contouring for LPT Nozzle Vane Cascade
Technical Paper Publication #118408
- Shivkumar Koeri - IIT Kharagpur
- Chetan Mistry - IIT Kharagpur

Characteristics of Laminar Separation Bubble With Varying Leading-Edge Shapes and Deflections of the Trailing-Edge Flap
Technical Paper Publication #118416
- Sumit Sarvankar - Indian Institute of Technology Madras
- Drik Sarkar - Indian Institute of Technology Kharagpur
- Chetankumar Sureshbhai Mistry - Indian Institute of Technology Kharagpur
- Nagabhushana Rao Vadlamani - Indian Institute of Technology Madras

Track 04-03 Combustion, Fuels & Emissions
11:30 AM to 1:00 PM
Joseph Luft Room, 1st floor, Left Wing BLDG #11

Presentations:

Internal and External Flow Characteristics on Variation of Swirl Strength for a Fuel Flexible Injector for Micro Gas Turbine Engines
Technical Paper Publication #118470
- Abhishek Verma - IIT Jammu
- Preetam Jamod - IIT Jammu
- Shivam Uniyal - IIT Jammu
- Ayush Divyansh - IIT Jammu
- Shanmugadas k.p - IIT Jammu

The Effect of H2 Addition on CNG/H2-Air Flame Shape Topology in a Lean Premixed Swirl Stabilized Gas Turbine Combustor
Technical Paper Publication #118487
- Noorul Huda - Indian Institute of Technology Kanpur

Effects of Recess Length of Bluff Body on Lean-Premixed Swirl-Stabilized CNG-Air Flame Structure
Technical Paper Publication #118496
- Surendra Soni - Indian Institute of Technology Kanpur
- Santanu De - Indian Institute of Technology Kanpur
Track 05-02 Structures and Dynamics

11:30 AM to 1:00 PM  
Harold Ingham Room, 1st floor, Left Wing BLDG #11

Influence of Mechanical Properties on Compressor Rotor Blade Fatigue Life: A Reliability Approach

Technical Paper Publication #118412

- Ramesh K - Hindustan Aeronautics Ltd
- Esakki Muthu S - Hindustan Aeronautics Ltd
- Girish K Degaonkar - Hindustan Aeronautics Ltd
- Neeralagi C A - Hindustan Aeronautics Ltd
- Hardik Roy - Hindustan Aeronautics Ltd

Tuning of Natural Frequencies of Aeroengine Compressor Blades Using Spatial Distribution of Ceramic Reinforced Particles Composites Using Multi-Scale Modelling

Technical Paper Publication #118323

- Sreedhar Kari - TCS
- Mahesha CP - TCS

Experimental Investigation of a Concentrated Photovoltaic System Integrated with Water Sprinkler Generating Electricity and Hot Water

Technical Paper Publication #118667

- Meet Vyas - Ahmedabad University
- Devam Bhatt - Ahmedabad University
- Dev Shah - Ahmedabad University
- Lay Patel - Ahmedabad University
- Nitin D Banker - Ahmedabad University

Track 06-02 Renewable Energy (Solar, Wind)

11:30 AM to 1:00 PM  
Harold Ingham Room, 1st floor, Left Wing BLDG #11

Testing and Modeling of Generalized K-Omega Turbulence Model and Validation on Highly Efficient Centrifugal Compressor (HECC)

Technical Paper Publication #118341

- Shivani Ranjan - Honeywell
- Shailesh Kumar - Honeywell
- Mohd Qizar - Honeywell
- Mahmoud Mansour - Honeywell

Performance Prediction of a Swash Plate Piston Pump Using 3D CFD Simulation

Technical Paper Publication #118395

- Raghu Vamsee Godavarthi - Simerics Inc
- Dipak Maiti - Simerics Inc.
- Hui Ding - Simerics Inc.

Conceptualization of a Portable Vacuum Pumping System for Dead Volume Dispensing of Crude Oil From Crude Oil Storage Tanks

Technical Paper Publication #118453

- Manosh Jyoti Das - Indian Institute of Technology, Guwahati
- Niranjan Sahoo - Indian Institute of Technology, Guwahati.

A New Perspective on Measuring Compressor Characteristics

Technical Paper Publication #118691

- Zhenhao Jing - Georgia Institute of Technology
- Yedidia Neumeier - Georgia Institute of Technology
- J. V. R. Prasad - Georgia Institute of Technology
- Darrell K. James - Honeywell International, Inc.

Track 01-03 Compressors, Fans and Pumps

2:00 PM to 4:00 PM  
Katherine Briggs Room, 1st floor, Left Wing BLDG #11

Testing and Modeling of Generalized K-Omega Turbulence Model and Validation on Highly Efficient Centrifugal Compressor (HECC)

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- J. V. R. Prasad - Georgia Institute of Technology
- Darrell K. James - Honeywell International, Inc.
Track 03-02 Heat Transfer
2:00 PM to 4:00 PM
Isabel Myers Room, 1st floor, Left Wing BLDG #11

Presentations:

Evaluation of Scaling Formation on Entropy Generation of Flowing Fluid Through Circular Pipe

Technical Paper Publication #118295
- Onkar Singh - Harcourt Butler Technological Institute
- Mayank Maheshwari - Allenhouse Institute of Technology

Efficiency Assessment of Compressed Air Energy Storage System Coupled With Thermal Energy Storage Unit: Review

Technical Paper Publication #118463
- Mebratu Adamu Assegie - Indian Institute of Technology Guwahati
- Ojing Siram - Indian Institute of Technology Guwahati
- Pankaj Kalita - Indian Institute of Technology Guwahati


Technical Paper Publication #118636
- Akash Kamble - Indian Institute of Technology Guwahati
- Ambrish Singh - Indian Institute of Technology Guwahati
- Dipendra Singh - Indian Institute of Technology Guwahati
- Dudul Das - University of Glasgow
- Sajan Kapil - Indian Institute of Technology Guwahati
- Pankaj Kalita - Indian Institute of Technology Guwahati

Track 04-04 Combustion, Fuels and Emissions
2:00 PM to 4:00 PM
Joseph Luft Room, 1st floor, Left Wing BLDG #11

Presentations:

Effects of the Swirl Field on the Structure, Planner Drop Sizing and Large-Scale Instabilities of Flow-Blurring Spray

Technical Paper Publication #118555
- Abhishek Kumar Gupta - Indian Institute of Technology Kanpur
- Keshav Yadav - Indian Institute of Technology Kanpur
- Surendra Kumar Soni - Indian Institute of Technology Kanpur
- Yogeshwar Nath Mishra - University of Gothenburg
- Santanu De - Indian Institute of Technology Kanpur

Characteristics of a Dual Fuel Diesel Engine

Technical Paper Publication #118653
- Samar Das - Indian Institute of Technology Guwahati
- Pankaj Kalita - Indian Institute of Technology Guwahati

Exploring the Effects of Synthetic Gaseous Fuels on the Performance, Combustion, and Emission

Numerical Simulation and Aerodynamics of a Fuel Flexible Injector for Micro-Gas Turbine Engines

Technical Paper Publication #118428
- Shivam Uniyal - IIT Jammu
- Preetam Jamod - IIT Jammu
- Ayush Divyansh - IIT Jammu
- Saket Singh - IIT Madras
- Shanmugadas K.P. - IIT Jammu
An Economic Evaluation of Post CO2 Capture Techniques for Natural Gas Combined Cycle Power Plants
Technical Paper Publication #117903

- surendra singh - Siemens India Ltd.
- Pugalenthi Nandagopal - Siemens India Ltd.
- Muruganandam Pichandi - Siemens India Ltd.
- Matthias Duerr - Siemens Energy

Track 09-01 GT Operation and Maintenance (Services, predictive maintenance, remote diagnostics)

Track 10-01 Additive & advanced Manufacturing (including material, Coatings, Composites, CMCs)

2:00 PM to 4:00 PM  Charles Handy Room, 2nd floor, Left Wing BLDG #11
Presentations:

A Solution for Improving Gas Turbine Performance Degradation and Emissions: The "GT Auto Tuner" Product
Technical Paper Publication #117887
- Mayur Gagnani - SIEMENS India Ltd.
- Pugalenthi Nandagopal - SIEMENS India Ltd.
- Kai Sueselbeck - SIEMENS Energy

Inlet Air Filtration Effects on Degradation and Life Cycle Costs in Gas Turbine Combined Cycle Power Plants: A Comparative Study
Technical Paper Publication #117900
- Pertik kamboj - Siemens India Limited
- Pugalenthi Nandagopal - Siemens India Limited
- Matthias Duerr - Siemens Energy Global GMBH

- Ole Fahrendorf - Siemens Energy GMBH

Spray Interaction in Flat-Fan Injectors and its Effect on Cleaning Effectiveness of Gas Turbine Online Water Washing System
Technical Paper Publication #118386
- Kiran Kumar - IITM
- Srikrishna Sahu - IITM
- Ravindra G Devi - Baker Hughes

Gas Turbine Nozzle Repair by Additive Manufacturing
Technical Paper Publication #118314
- Mihir Patel - BakerHughes
- Pradeep Kraleti - BakerHughes
- Rahul Wagh - BakerHughes
Track 08-01 Emerging Technologies (Hybrid Electric Propulsion, UAV,...)

Track 11-03 Analytics & Digital Solutions (incl. AI/ML) for Gas Turbines/ Rotating Machinery
2:00 PM to 4:00 PM Harold Ingham Room, 1st floor, Left Wing BLDG #11

Presentations:

A Strategic Design Approach for Future Fuselage BLI Engine Based Hybrid Propulsion Engine
Technical Paper Publication #118409
Chetankumar Mistry - Indian Institute of Technology Kharagpur
  • Surendra Kiran Kolhe - IIT Kharagpur
  • Harsh Raj - IIT Kharagpur
  • Aditya Bharade - IIT Kharagpur
  • Jay Anantwar - IIT Kharagpur
  • Goutam Mandal - IIT Kharagpur
  • Abhishek Agrawal - IIT Kharagpur

Design and Multi-Perspective Investigations on Aeroacoustic Noise Reduction Technologies for Anti-Drone Propeller
Technical Paper Publication #117639
  • Vijayanandh Raja - Kumaraguru College of Technology
  • Shyam Sundar Jayakumar - Kumaraguru College of Technology
  • Haribalan Saravana Mohan - Kumaraguru College of Technology
  • Parvathy Rajendran - Universiti Sains Malaysia
  • Beena Stanislaus Arputharaj - Saveetha School of Engineering, SIMATS
  • Senthil Kumar Madasamy - Kumaraguru College of Technology

An Innovative Approach for the Validation of Computational Structural Outcomes of Octocopter’s Connection Arms Through Advanced Finite Element Methods
Technical Paper Publication #115175
  • Sabareesh Muniswaran - Kumaraguru College of Technology
  • Vijayanandh Raja - Kumaraguru College of Technology
  • Rajkumar R - Kumaraguru College of Technology
  • Parvathy Rajendran - Universiti Sains Malaysia
  • Ramesh Mageswaran - SNS College of Technology
  • Senthil Kumar Madasamy - Kumaraguru College of Technology
  • Beena Stanislaus Arputharaj - Saveetha School of Engineering, SIMATS

Application of Advanced Sampling Techniques to Handle Class Imbalance in GT Blade Failure Prediction
Technical Paper Publication #118387
  • Rishabh Shrivastava - Siemens Limited
  • Rohan Lalchandani - Siemens Limited
  • Advait Pohekar - Siemens Limited
  • Krishnandu Sharma - Siemens Limited
  • Pavan Kumar Vodnala - Siemens Limited
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