Power 2021 Paper Schedule

TUESDAY, JULY 20

11:05AM–12:20PM
01-01 Fuels/Combustion

Chair: Ashwani Gupta - University of Maryland
Chair: Jeongmin Ahn - Syracuse University

Publications/Presentations:

Evaluation of Gas Turbine Combustors Running on Renewable Fuels Produced From Carbon Dioxide Aimed for Greenhouse Emission Reduction
11:10AM – 11:23AM
Technical Paper Publication: POWER 2021-60860
Boris Chudnovsky - Israel Electric Corporation
Ilya Chatsky - Israel Electric Corporation
Alex Lazebnikov - Israel Electric Corporation

Application of a Mechanistic Erosion and Abrasion Model to Pulverized Coal (PC) Injections
11:23AM – 11:36AM
Technical Paper Publication: POWER 2021-63620
Lawrence Berg - SAS, Inc.
Soroor Karimi - University of Tulsa
Siamack Shirazi - University of Tulsa

11:36AM – 11:49AM
Technical Paper Publication: POWER 2021-64122
Mehar Bade - Enginuity Power Systems
Vince Meyers - Enginuity Power Systems
Influence of Some Emulsifiers in Improving the Biofuel Characteristics
11:49AM – 12:02PM
Technical Paper Publication: POWER 2021-64223
Victorita Radulescu - University Politehnica of Bucharest

Classification of Microchannel Flame Regimes Based on Convolutional Neural Networks
12:02PM – 12:15PM
Technical Paper Publication: POWER 2021-64437
Seyed Navid Roohani Isfahani - Louisiana State University
Vinicius M. Sauer - California State University
Ingmar M. Schoegl - Louisiana State University

11:05AM–12:20PM
07-01 Wind Energy
Chair: David W. Macphee - The University of Alabama
Chair: Gopal Singh - Siemens Gamesa Renewable Energy/University of Central Florida
Chair: Anthony Di Carlo - Merrimack College

Development of an Actuator Line Model for Simulation of Floating Offshore Wind Turbines
11:10AM – 11:23AM
Technical Paper Publication POWER 2021-60098
Alireza Arabgolarcheh - University of Padova
Ernesto Benini - University of Padova
Morteza Anbarsooz - Quchan University of Technology

Common Mode Current Effects and Challenges for Wind Turbine Generator Application
11:23AM – 11:36AM
Technical Paper Publication: POWER 2021-63236
Gopal Singh - University of Central Florida
Kalpathy Sundaram - University of Central Florida

Through-Building Ducts for Mounting Wind Turbines: A Numerical Study
11:36AM – 11:49AM
Technical Paper Publication: POWER 2021-64181
Hadi Mirian - Quchan university of technology
Morteza Anbarsooz - Quchan University of Technology
Abbas Hoshyar - Quchan University of Technology
Alireza Arabgolarcheh - University of Padova
Short-Term Wind Characteristics Forecasting Using Stacked LSTM Networks  
11:49AM – 12:02PM  
Technical Paper Publication: POWER 2021-65866  
Navid Goudarzi - UNC Charlotte  
Dorsa Ziaei - University of Maryland, Baltimore County

Automatic Electronic Braking System for Commercial Micro Wind Turbine  
12:02PM – 12:15PM  
Technical Paper Publication: POWER 2021-65883  
Gretchell M. Hiraldo-Martinez - Universidad Ana G. Mendez  
Alex D. Santiago - Universidad Ana G. Mendez  
Diego A. Aponte-Roa - Universidad Ana G. Mendez Gurabo  
Miguel Goenaga - Universidad Ana G. Mendez

11:05AM–12:20PM  
10-01 Plant Performance & Operations

Chair: Brian Wodka - RMF Engineering  
Chair: Edward Dundon - DOM  
Chair: George Mesina - Idaho National Laboratory  
Publications/Presentations:

Modelling and Performance Analysis of Stationary Gas Turbines Operating Under Rotational Speed Transients  
11:10AM – 11:23AM  
Technical Paper Publication: POWER 2021-64316  
André L. S. Andrade - Federal University of Itajuba  
Osvaldo J. Venturini - Federal University of Itajuba  
Vladimir R. M. Cobas - Federal University of Itajuba  
Vinicius Z. Silva - Federal University of Itajuba

Managing Risks Associated With Turbine First Steam Admission Following Inadequate Boiler Cleaning  
11:23AM – 11:36AM  
Technical Paper Publication: POWER 2021-64846  
Joseph Roy-Aikins - Eskom  
Gary De Klerk - Eskom  
Duduzile Ramasimong - Eskom  
Kumar Rupnarain - Eskom

Uncertain Gain and Time-Delay Control of 300-kW SOFC-GT  
11:36AM – 11:49AM  
Technical Paper Publication: POWER 2021-64925  
Tooran Emami - U.S. Coast Guard Academy  
David Tucker – U.S. Department of Energy, National Energy Technology Laboratory  
John Watkins - Wichita State University
The Introduction and Analysis of the World’s First High-Temperature Retrofit Project on a Subcritical Coal-Fired Power Unit
11:49AM – 12:02PM
Technical Paper Publication: POWER 2021-65650
Weizhong Feng - Shanghai Waigaoqiao No.3 Power Generation Co., Ltd.
Li Li - Shanghai Waigaoqiao No.3 Power Generation Co., Ltd.

Helium Mass Spectrometry Leak Detection
12:02PM – 12:15PM
Technical Presentation Only: POWER 2021-64837
Robert Mechem - American Efficiency Services

1:35PM–2:50PM
01-02 Fuels/Combustion

Chair: Ashwani Gupta - University of Maryland
Chair: Jeongmin Ahn - Syracuse University

Publications/Presentations:

**Numerical Study on the Adaptation of Diesel Wave Breakup Model for Large-Eddy Simulation of Non-Reactive Gasoline Spray**
1:40PM – 1:53PM
Technical Paper Publication: POWER 2021-645378
Ratnak Sok - Waseda University
Beini Zhou - Waseda University
Jin Kusaka - Waseda University

**Numerical Simulation of the Effect of Magnetic Fields on Soot Formation in Laminar Non-Premixed Flames**
1:53PM – 2:06PM
Technical Paper Publication: POWER 2021-64859
Edison Chukwuemeka - Louisiana State University
Ingmar Schoegl - Louisiana State University

**Towards a High-Pressure Microchannel Reactor for Fuel Characterization**
2:06PM – 2:19PM
Technical Paper Publication: POWER 2021-64910
David Akinpelu - Louisiana State University
Ingmar Schoegl - Louisiana State University

**Renewable Fuels: The Path to 100% Renewables for California**
2:19PM – 2:32PM
Technical Presentation Only: POWER 2021-68108
Jussi Heikkinen - Wärtsilä Energy
1:35PM–2:50PM
07-02 Renewable Energy Systems

Chair: David W. Macphee - The University of Alabama
Chair: Gopal Singh - Siemens Gamesa Renewable Energy/University of Central Florida
Chair: Anthony Di Carlo - Merrimack College

Publications/Presentations:

Socio-Environmental Impacts of Hydro Power Technology- A Review
1:40PM – 1:53PM
Technical Paper Publication: POWER 2021-64157
Aanya Singh - Vellore Institute of Technology
Rohit Mandavkar - Vellore Institute of Technology
Sanjay Singh - Vellore Institute of Technology
Raunak Prabhu Bhembre - Vellore Institute of Technology
Devansh Jain - Vellore Institute of Technology
D. Dsilva Winfred Rufuss - Vellore Institute of Technology

Energy Saving Assessment of Triple-Hybrid Vapor Absorption Building Cooling System Under Hot-Dry Climate
1:53PM – 2:06PM
Technical Paper Publication: POWER 2021-64470
Gaurav Singh - Indian Institute of Technology Ropar
Ranjan Das - Indian Institute of Technology Ropar

Modeling and Validation of Hydro Cascade Operation Considering Price Uncertainty
2:06PM – 2:19PM
Technical Paper Publication: POWER 2021-65726
Maxime Libsig - ETH Zürich
Elena Raycheva - ETH Zürich
Jared Garrison - ETH Zürich
Gabriela Hug - ETH Zürich

Adjoint Optimization of Heat Transfer Within a Stirling Engine
2:19PM – 2:32PM
Technical Paper Publication: POWER 2021-65804
Anthony Di Carlo - Merrimack College
Rickey Caldwell - Merrimack College
Control of Wave Energy Converter With Losses in Electrical Power Take-Off System
2:32PM – 2:45PM
Technical Paper Publication: POWER 2021-64938
Xiang Zhou - Michigan Technological University
Shangyan Zou - Iowa State University
Wayne Weaver - Michigan Technological University
Ossama Abdelkhalik - Iowa State University

1:35PM–2:50PM
04-01 Advanced Tools for Cyber-Physical Systems and Digital Twins and
05-01 Risk Management, Cyber Security, and Safety
Chair: Paolo Pezzini - U.S. Dept of Energy, Ames Lab
Chair: Tina Toburen - T2E3
Chair: Biao Zhang - National Energy Technology Laboratory
Publications/Presentations:

Optimization of the Capacities of Private Generators Installed in a Hospital Building Under
the Constraint of Demand Sufficiency During Power Outages
1:40PM – 1:53PM
Technical Paper Publication: POWER 2021-62341
Akane Uemichi - Waseda University
Naoki Kaito - The University of Tokyo
Yudai Yamasaki - The University of Tokyo
Shigehiko Kaneko - Waseda University

Forecasting of Fouling in Air Pre-Heaters Through Deep Learning
1:53PM – 2:06PM
Technical Paper Publication: POWER 2021-64665
Ashit Gupta - Tata Consultancy Services
Vishal Jadhav - Tata Consultancy Services
Mukul Patil - Tata Consultancy Services
Anirudh Deodhar - Tata Consultancy Services
Venkataramana Runkana - Tata Consultancy Services

A Digital Twin Environment Designed for the Implementation of Real Time Monitoring Tool
2:06PM – 2:19PM
Technical Paper Publication: POWER 2021-65384
Paolo Pezzini - U.S. Department of Energy, Ames Lab
Harry Bonilla - Iowa State University
Grant R. Johnson - Ames Laboratory
Zachary Reinhart - Iowa State University
Kenneth Mark Bryden - Iowa State University
Cyber Security and Your Condition Monitoring and Protection System – Or, What Do You Do When the Plant Calls You at 2 AM? Rush in, or Dial in From Home?

2:19PM – 2:32PM
Technical Presentation Only: POWER 2021-68562
John Kingham - Bently Nevada

4:25PM–5:40PM
07-03 Wind & Wave Energy

Chair: David W. Macphee - The University of Alabama
Chair: Gopal Singh - Siemens Gamesa Renewable Energy/University of Central Florida
Chair: Anthony Di Carlo - Merrimack College

Publications/Presentations:

Characterizing the Transitional Behavior of Wind Turbine Wake From Near to Far Wake Regimes
4:30PM – 4:43PM
Technical Paper Publication: POWER 2021-65959
Ravi Kumar - Indian Institute of Technology Guwahati
Ojing Siram - Indian Institute of Technology Guwahati
Niranjan Sahoo - Indian Institute of Technology Guwahati
Ujjwal K. Saha - Indian Institute of Technology Guwahati

A CapsNet-Based Fault Diagnosis Method for a Digital Twin of a Wind Turbine Gearbox
4:43PM – 4:56PM
Technical Paper Publication: POWER 2021-66029
Weifei Hu - Zhejiang University
Hao Zhao - Zhejiang University
Zhenyu Liu - Zhejiang University
Jianrong Tan - Zhejiang University

Design Considerations of Solar-Driven Hydrogen Production Plants for Residential Applications
4:56PM – 5:09PM
Technical Paper Publication: POWER 2021-65858
Arturo Berastain - Pontificia Universidad Católica del Perú
Rafael Vidal - Pontificia Universidad Católica del Perú
Carlos Busquets - Pontificia Universidad Católica del Perú
Gonzalo Aguilar - Pontificia Universidad Católica del Perú
Alvaro Torres - Pontificia Universidad Católica del Perú
Jorge Lem - Pontificia Universidad Católica del Perú
Antonios Antoniou - Pontificia Universidad Católica del Perú
Cesar Celis - Pontificia Universidad Católica del Perú
Analysis of a Multigeneration Energy System for Wastewater Treatment
5:09PM – 5:22PM
Technical Paper Publication: POWER 2021-65516
Mustafa Erguvan - The University of Alabama
David W. Macphee - University of Alabama

An Inverse Method for Parameter Retrieval in Solar Thermal Collector With a Single Glass Cover
5:22PM – 5:35PM
Technical Paper Publication: POWER 2021-65601
Ranjan Das - Indian Institute of Technology Ropar

4:25PM–5:40PM
12-01 Experimental and Computational Fluid Dynamics and Thermal Hydraulics and Data Analytics
Chair: Donna Guillen - Idaho National Laboratory
Chair: George Mesina - Idaho National Laboratory
Publications/Presentations:

Optimizing Effectiveness of Double Pipe Heat Exchanger Using Nanofluid and Different Porous Fins Arrangement
4:30PM – 4:43PM
Technical Paper Publication: POWER 2021-64248
Avinash Kumar - IIT Kharagpur
Vinay Arya - IIT Kharagpur
Chirodeep Bakli - Indian Institute of Technology Kharagpur

An Innovative Elasto-Hydrodynamic Seal Concept for Supercritical CO₂ Power Cycles
4:43PM – 4:56PM
Technical Paper Publication: POWER 2021-64536
Sevki Cesmeci - Georgia Southern University
Rubayet Hassan - Georgia Southern University
Fuad Mohammad Hassan - Georgia Southern University
Ikenna Ejiogu - Georgia Southern University
Matthew DeMond - Georgia Southern University
Hanping Xu - Ultool, LLC
Jing Tang - Ultool, LLC

Optimizing Water Harvesting on Bioinspired Surfaces: A Mesoscopic Perspective
4:56PM – 5:09PM
Technical Paper Publication: POWER 2021-64668
Souparna Chakraborty - Indian Institute of Technology Kharagpur
Abhirup Chaudhuri - Indian Institute of Technology Kharagpur
Chirodeep Bakli - Indian Institute of Technology Kharagpur

Effect of Fin Orientation on PCM Melting in a Spherical Enclosure for Latent Heat Storage
5:09PM – 5:22PM
Technical Paper Publication: POWER 2021-65622
Akhalesh Sharma - Indian Institute of Technology Indore
Rohit Kothari - Indian Institute of Technology Indore
Anuj Kumar - Indian Institute of Technology Indore
Santosh Kumar Sahu - Indian Institute of Technology Indore

WEDNESDAY, JULY 21

11:05AM–12:20PM
14-01 Student Competition

Chair: Andre Teixeira - EDP
Chair: Steven Greco - Lectrodryer
Publications/Presentations:

Coupled Electromagnetic and Lattice Structure Optimization for the Rotor and Stator of Large Electric Machines
11:10AM – 11:23AM
Technical Paper Publication: POWER 2021-62625
Austin Hayes - University of Colorado Boulder
Gregory Whiting - University of Colorado Boulder

Experimental Investigation of a Novel Combined Rapid Compression-Ignition Combustion and Solid Oxide Fuel Cell System Format Operating on Diesel
11:23AM – 11:36AM
Technical Paper Publication: POWER 2021-64197
Andrew Ahn - Fayetteville Manlius High School
Thomas Stone-Welles - Syracuse University
Benjamin Akih-Kumgeh - Syracuse University
Ryan Milcarek - Arizona State University

A Comparison of Different Fluid-Structure Interaction Analysis Techniques for the Marine Propeller
11:36AM – 11:49AM
Technical Paper Publication: POWER 2021-64369
Wajiha Rehman - University of Leeds
Stephane Paboeuf - Bureau Veritas
Joseph Praful Tomy - Bureau Veritas

Predicting Peak Energy Demand for an Office Building Using Artificial Intelligence (AI) Approaches
11:49AM – 12:02PM
Technical Paper Publication: POWER 2021-64492
Yuxuan Chen - Arizona State University
Patrick Phelan - Arizona State University

Experimental Investigation of Ammonia and Sulfur Deposition Characteristics in Rotary Air Preheater
12:02PM – 12:15PM
Technical Paper Publication: POWER 2021-65660
Rongze Gao – Xi’an Jiaotong University
Haojia Sun – Xi’an Jiaotong University
Limin Wang – Xi’an Jiaotong University
Yufan Bu – Xi’an Jiaotong University
Chao Wang - Inner Mongolia Power Research Institute Co., Ltd.
Defu Che – Xi’an Jiaotong University

11:05AM–12:20PM
07-04 Energy Storage
Chair: David W. Macphee - The University of Alabama
Chair: Gopal Singh - Siemens Gamesa Renewable Energy/University of Central Florida
Chair: Anthony Di Carlo - Merrimack College
Publications/Presentations:

A Plan for Biomass Power Generation With Negative Carbon Emissions
11:10AM – 11:23AM
Technical Paper Publication: POWER 2021-65822
Marc Parker - University of Alabama at Birmingham

Design of Solar Powered Charging Station for Electric Vehicles- Based on Indian Policies
11:23AM – 11:36AM
Technical Presentation Only: POWER 2021-69418
Aanya Singh - Vellore Institute of Technology
Shubham Sanjay Shaha - Vellore Institute of Technology, Vellore
Y Raja Sekhar - Vellore Institute of Technology

Enabling the Energy Transition With Efficient, Low Cost Cold Liquids Storage
11:36AM – 11:49AM
Technical Presentation Only: POWER 2021-69443
Nick White - EZNG Solutions LLC

State of the Art and Research Directions for Cold Thermal Energy Storage (CTES) at Sub-Zero Temperatures
11:49AM – 12:02PM
Technical Presentation Only: POWER 2021-70844
Alessandro Romagnoli - Nanyang Technological University
Lizhong Yang - Surbana Jurong – Nanyang Technological University
11:05AM–12:20PM
02-01 Combustion Turbines and Combined Cycle and 12-02 Experimental and Computational Fluid Dynamics and Thermal Hydraulics and Data Analytics

Chair: Jeffrey Cobb - Sargent & Lundy
Chair: Donna Guillen - Idaho National Laboratory
Chair: George Mesina - Idaho National Laboratory
Publications/Presentations:

Combustion Turbine Exhaust Duct, Silencer, and Stack Scale Modeling
11:10AM – 11:23AM
Technical Paper Publication: POWER 2021-64118
   Robert Craven - Tennessee Tech University
   Keith Kirkpatrick - McHale and Associates
   Stephen Idem - Tennessee Tech University

Air-Argon-Steam or Organic Fluid Combined Power Cycle With Pulse Detonation Combustion for Electric Power Plants
11:23AM – 11:36AM
Technical Paper Publication: POWER 2021-64141
   Pereddy Nageswara Reddy - Gudlavalleru Engineering College

First Numerical Evaluation of the Thermal Performance of a Tubular Receiver Equipped With Raschig Rings for CSP Applications
11:36AM – 11:49AM
Technical Paper Publication: POWER 2021-65714
   Hossein Ebadi - Politecnico Di Torino
   Andrea Allio - Politecnico Di Torino
   Antonio Cammi - Politecnico Di Torino
   Laura Savoldi - Politecnico Di Torino

Effect of Floating Body Motion on Heat Flux to the Cold Cap in a Waste Glass Melter
11:49AM – 12:02PM
Presentation Only: POWER 2021-64856
   Donna Guillen - Idaho National Laboratory
   Alexander Abboud - Idaho National Laboratory
1:35PM–2:50PM
02-02 Combustion Turbines and Combined Cycle

Chair: Jeffrey Cobb - Sargent & Lundy
Publications/Presentations:

Combined Cycle Gas Turbines With Electrically-Heated Thermal Energy Storage for Dispatchable Zero-Carbon Electricity
1:40PM – 1:53PM
Technical Paper Publication: POWER 2021-65528
   Daniel Stack - MIT
   Charles Forsberg - MIT

Investigation of Air Extraction and Carbon Capture in an Integrated Gasification Combined Cycle (IGCC) System
1:53PM – 2:06PM
Technical Paper Publication: POWER 2021-65537
   Shisir Acharya - University of New Orleans
   Ting Wang - University of New Orleans

Investigation of the Performance of Air-Steam Combined Cycle for Electric Power Plants Using Low Grade Solid Fuels
2:06PM – 2:19PM
Technical Paper Publication: POWER 2021-64788
   Pereddy Nageswara Reddy - Gudlavalleru Engineering College

Evolution of the Turbx Atkinson Cycle Engine Into a Carnot Cycle Engine
2:19PM – 2:32PM
Technical Presentation Only: POWER 2021-65527
   Michael Wilson - MWTurbX LLC

Gas Turbine Evaporative Cooling, A Novel Method for Combined Cycle Plant Part Load Optimization
2:32PM – 2:45PM
Technical Paper Publication: POWER 2021-65289
   Jose Eugenio Torres Carmona - AFRY

1:35PM–2:50PM
14-02 Student Competition

Chair: Andre Teixeira - EDP
Chair: Steven Greco - Lectrodryer
Selection of a Heat Exchanger for a Small-Scale Liquid Air Energy Storage System
1:40PM – 1:53PM
Technical Paper Publication: POWER 2021-60523
Alex Fredrickson - Naval Postgraduate School
Anthony Pollman - Naval Postgraduate School
Anthony Gannon - Naval Postgraduate School
Walter C. Smith - Naval Postgraduate School

Experimental Evaluation of Dewar Volume and Cryocooler Cold Finger Size in a Small-Scale Stirling Liquid Air Energy Storage (LAES) System
1:53PM – 2:06PM
Technical Paper Publication: POWER 2021-60565
Howard Swanson - Naval Postgraduate School
Anthony Pollman - Naval Postgraduate School
Alejandro Hernandez - Naval Postgraduate School

Performance and Complexity Trade Study of Candidate Liquid Air Generation Techniques
2:06PM – 2:19PM
Technical Paper Publication: POWER 2021-63957
Masis Torosyan - Naval Postgraduate School
Anthony Pollman - Naval Postgraduate School
Alejandro Hernandez - Naval Postgraduate School
Anthony Gannon - Naval Postgraduate School

Performance Optimization of Thermal Energy Storage Based Solar Collector
2:19PM – 2:32PM
Technical Paper Publication: POWER 2021-64127
Vivek Pawar - University of Missouri-Kansas City
Sarvenaz Sobhansarbandi - University of Missouri-Kansas City

Investigation of Phase Change Material Integrated With High Thermal Conductive Carbon Foam Inside Heat Sinks for Thermal Management of Electronic Components
2:32PM – 2:45PM
Technical Paper Publication: POWER 2021-65569
Anuj Kumar - Indian Institute of Technology Indore
Rohit Kothari - Indian Institute of Technology Indore
Santosh Sahu - Indian Institute of Technology
Shailesh Kundalwal - Indian Institute of Technology Indore
Akhalesh Sharma - Indian Institute of Technology Indore

1:35PM – 2:50PM
08-01 Heat Exchanger Technologies and 03-01 Boilers/HRSG
Chair: Andrew Rister - Duke Energy
Chair: **Paul Weitzel**  
Chair: **George Mesina - Idaho National Laboratory**  
Publications/Presentations:

**Steam Inlet Expansion Joint Design & Case Study: Surface Condenser Application**  
1:40PM – 1:53PM  
Technical Paper Publication: POWER 2021-64836  
Kevin Squires - American Efficiency Services

**The Sandia National Laboratories Natural Circulation Cooler**  
1:53PM – 2:06PM  
Technical Paper Publication: POWER 2021-65399  
Bobby Middleton - Sandia National Laboratories  
Patrick Brady - Sandia National Laboratories  
Serafina Lawles - Sandia National Laboratories

**Generalized Reynolds Analogy: An Engineering Prospective of Thermo-Fluid Physics for Heat Exchanger Design**  
2:06PM – 2:19PM  
Technical Paper Publication: POWER 2021-65820  
Abhijit Som - Clemson University

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**4:10PM–5:25PM**  
**13-01 Water Management for Power Systems and Environmental Issues**

Chair: **Jessica Mullen - U.S. DOE/National Energy Technology Laboratory**  
Chair: **Nicholas Siefert - U.S.DOE/National Energy Technology Laboratory**  
Publications/Presentations:

**New Solution With Syntheses Inhibitors for the Chemical Cleaning of Organic Pollutants From the Water Supply System of Generators**  
4:15PM – 4:28PM  
Technical Paper Publication: POWER 2021-64314  
Victorita Radulescu - University Politehnica of Bucharest

**The Palo Verde Water Cycle Model (PVWCM) – Development of an Integrated Multi-Physics and Economics Model for Effective Water Management**  
4:28PM – 4:41PM  
Technical Paper Publication: POWER 2021-65768  
Bobby Middleton - Sandia National Laboratories  
Patrick Brady - Sandia National Laboratories  
Jeffrey Brown - Arizona Public Service Company  
Serafina Lawles - Sandia National Laboratories
Novel On-Line Methods for Monitoring Discharge of Trace Metals From a Power Generation Site
4:41PM – 4:54PM
Technical Presentation Only: POWER 2021-67668
Ken Kuruc - Hach

Treating Fossil Power Plant Effluent Streams
4:54PM – 5:07PM
Technical Presentation Only: POWER 2021-70419
Nicholas Siefert - U.S.DOE/National Energy Technology Laboratory

4:10PM–5:25PM
14-03 Student Competition
Chair: Andre Teixeira - EDP
Chair: Steven Greco - Lectrodyrer
Publications/Presentations:

Transient Exergy Analysis of the Dynamic Operation of a Combined Cycle Power Plant
4:15PM – 4:28PM
Technical Paper Publication: POWER 2021-64311
Raphael Wittenburg - University of Rostock
Moritz Hübel - Modelon Deutschland GmbH
Dorian Holtz - University of Rostock
Karsten Müller - University of Rostock

Renewable Energy Systems for Demand-Side Management in Industrial Facilities
4:28PM – 4:41PM
Technical Paper Publication: POWER 2021-64381
Joseph Elio - Arizona State University
Patrick Phelan - Arizona State University
Rene Villalobos - Arizona State University
Ryan Milcarek - Arizona State University

Simulation Research on Explosives Detection System Based on D-D Sealed Neutron Generator
4:41PM – 4:54PM
Technical Paper Publication: POWER 2021-65387
Yadong Gao - Northeast Normal University
Dedong He - Northeast Normal University
Ke Gong - Northeast Normal University
Guangyu Shi - Northeast Normal University
Siyuan Chen - Northeast Normal University
Design and Finite Element Analysis (FEA) of Spur and Helical Gear Train for Portal Axle System
4:54PM – 5:07PM
Technical Presentation Only POWER 2021-65497
Dhruvin Patel - Gujrat Technical University
Rushil Shah - Aditya Silver Oak Institute of Technology
Devansh Shah - Aditya Silver Oak Institute of Technology

Thermo-Economic Analyses of Advanced Solid Oxide Fuel Cell-Gas Turbine Hybrid Systems
5:07PM – 5:20PM
Technical Presentation Only: POWER 2021-67817
Fabian Rosner - University of California, Irvine
Scott Samuelsen - Advanced Power and Energy Program

4:10PM–5:25PM
09-01 Steam Turbines, Generators, and Auxiliaries
Chair: Michael Smiarowski - Siemens Energy, Inc.
Chair: Steven Greco - Lectrodryer
Chair: John Sassatelli - General Electric
Chair: Steven Radke - Siemens Energy, Inc.
Chair: Davi Squaiella - Black & Veatch
Publications/Presentations:

Stator Leakage Monitoring System in Water-Cooled Generators: Problems and Solutions
4:15PM – 4:28PM
Technical Paper Publication: POWER 2021-65471
Matthias Svoboda - SvoBaTech, Inc.
Thomas Bauer - SvoBaTech, Inc.

Effects of Contaminants on Hydrogen Gas for Hydrogen Cooled Generators
4:28PM – 4:41PM
Technical Presentation Only: POWER 2021-63186
Stephanie Bradley - Lectrodryer, LLC
John Mcphearson - Lectrodryer, LLC
Blanca Ramirez - Lectrodryer, LLC

Occupational Radiation Exposures Alara Reduction Through Fast Purging of Hydrogen Cooled Generators for Boiling Water Nuclear Reactors,
4:41PM – 4:54PM
Steam Turbine Modernizations: Recent Trends in the Greening World
4:54PM – 5:07PM
Technical Presentation Only: POWER 2021-73001
Michael Smiarowski - Siemens Energy, Inc.

Corona in High Voltage Rotating Machines Stator Coils: Causes, Repair and Laboratory Prognosis
5:07PM – 5:20PM
Technical Presentation Only: POWER 2021-73982
Anna Gegenava - National Electric Coil
Aleksandr Khazanov - National Electric Coil
Fred Dawson - National Electric Coil
Russell Chetwynd - National Electric Coil