



ASME ICEF/RTS 2025



THE ICE FORWARD CONFERENCE
WITH RAIL TRANSPORTATION SYMPOSIUM 2025

PROGRAM

CONFERENCE
OCTOBER 19-21, 2025

SHERATON MILWAUKEE
BROOKFIELD HOTEL
MILWAUKEE, WISCONSIN, USA

<https://event.asme.org/ICEF>



ICEF/RTS 2025

WELCOME TO THE 2025 ASME ICE-FORWARD CONFERENCE WITH RAIL TRANSPORTATION SYMPOSIUM

We are delighted to welcome you to Milwaukee, Wisconsin, for the 2025 ASME Internal Combustion Engine Division's (ICED) premier annual event, co-located with the Rail Transportation Symposium. The Sheraton Milwaukee Brookfield Hotel will serve as our conference hub. This year's program is designed to provide valuable insights, networking opportunities, and professional growth.

The conference begins Sunday evening with a welcome reception and an interactive technical poster session featuring a record number of submissions. Over the following two days, technical sessions will highlight cutting-edge research and developments shaping the future of internal combustion engines and rail transportation. Track chairs will foster engaging discussions with presenters on today's most pressing topics and innovative solutions.

We are excited to offer an expanded lineup of special events in 2025. Highlights include:

- Monday Keynote: Dr. Cathy Choi, Knoxville Locomotive Works, "Why Be Enthusiasts of Rail Power Today and in the Future"
- Undergraduate Presentation Competition winners during Monday's lunch
- Panel Session on International Trends in IC Engine Systems (Monday afternoon)
- WICE Mentoring & Networking Event (Monday evening, for registered participants)
- Tuesday Keynote: Alexander Leitner-Audouin, INNIO Waukesha Gas Engines, "Powering Progress: The Evolution and Future of Stationary Gas Engines"
- Distinguished Lecture: Emeritus Prof. Rolf Reitz, University of Wisconsin-Madison (Tuesday lunch)
- Panel Session on Big Opportunities for Small Engines (Tuesday afternoon)
- Honors and Awards Banquet (Tuesday evening)

The conference concludes Wednesday with a tour of the Briggs and Stratton R&D Lab and Museum for registered participants. We are grateful to Briggs and Stratton for serving as our local host.

This conference reflects ASME's mission to advance internal combustion engine and rail transportation technologies. It is made possible through the dedication of our volunteers, reviewers, authors, speakers, ASME staff, and sponsors—whom we encourage you to connect with throughout the event.

We are honored to chair this year's conference and are committed to ensuring an outstanding experience for every attendee. Thank you for joining us—we look forward to a productive and enjoyable week together.

Warm regards,



Scott Curran

Scott Curran, Ph.D.

Group Leader for Fuel Science & Engine
Technologies Research
Oak Ridge National Laboratory
Conference Chair



Andrea Strzelec

Andrea Strzelec, Ph.D.

Sr. Research Scientist, USCAR
Sr. Research Scientist
UW-Madison Engine Research Center
Conference Co-Chair



ICEF/RTS 2025

CONTENTS

Welcome Letter	2
ASME ICEF and ICE Division Leadership	4
Let's Get Social	6
Conference Information	7
Schedule At A Glance	9
Keynote & ICE Division Distinguished Lecture	10
Panel Sessions	13
Awards	17
Student Activities	23
ICED Webinar Series	24
Conference Meals & Networking Events	27
Sponsors & Exhibitors	29
Technical Tour	30
Track Chairs	31
Author Index	34
Hotel Floor Plan	38
ASME Officers & Staff	39



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ICEF 2025 CONFERENCE ORGANIZING COMMITTEE



Scott Curran, Ph.D.

Group Leader for Fuel Science
& Engine Technologies Research,
Oak Ridge National Laboratory
Conference Chair



Riccardo Scarcelli, Ph.D.

Group Leader, Multi-Physics Engine
Computations
Argonne National Laboratory
Honors and Awards Chair



Andrea Strzelec, Ph.D.

Sr. Research Scientist, USCAR
Sr. Research Scientist, UW-Madison
Engine Research Center
Conference Co-Chair



Noah Van Dam, Ph.D.

Assistant Professor
University of Massachusetts Lowell
Student Activities Chair



Sundar Rajan Krishnan, Ph.D.

Professor, University of Alabama
Division Chair



Emma Zhao, Ph.D.

Senior Research Engineer
Aramco Americas: Aramco Research
Center (Detroit)
Technical Poster Session Chair



Sibendu Som, Ph.D.

Director of the Center for Advanced
Propulsion and Power Systems
Argonne National Laboratory
Sponsorship Program Chair



Dr. Kelly Senecal

Owner & Vice President, Convergent
Science
Past Chair



INTERNAL COMBUSTION ENGINE DIVISION EXECUTIVE COMMITTEE



Dr. Sundar Rajan Krishnan
Professor, University of Alabama
Chair



Dr. Yu Zhang
EBU Technical Strategy and Integration Director, Cummins Inc.
Incoming Member



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Principal Engineer, Southwest Research Institute
Vice Chair



Dr. Ronald O. Grover, Jr.
Staff Researcher, General Motors
Secretary



Dr. Scott Curran
Group Leader for Fuel Science & Engine Technologies Research
Oak Ridge National Laboratory
Conference Chair



Dr. Isaac Ekoto
Manager
Sandia National Laboratories
Treasurer



Dr. Andrea Strzelec
Sr. Research Scientist, USCAR
Sr. Research Scientist, UW-Madison Engine Research Center
Conference Co-Chair



Dr. Tom Briggs
Institute Engineer – Powertrain Engineering Division, Southwest Research Institute
Industry Advisor Committee Chair



Dr. Yuanjiang Pei
Team Leader, Aramco Americas
Member



Dr. Kelly Senecal
Owner & Vice President, Convergent Science
Past Chair



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ICE FORWARD AMBASSADORS

The ICE Forward Ambassadors, based in various countries, are dedicated to promoting the division and the conference within their local research communities, universities, and industries. By fostering increased global engagement, we aim to boost international participation and attendance at the conference whenever possible.



Avinash K Agarwal
Professor
Indian Institute of Technology Kanpur



Olivier Laget
Doctor/Phd.
IFP Energies nouvelles



Carlo Beatrice
Research Director
CNR-STEMS



Felix Leach
Associate Professor
University of Oxford



Martin H. Davy
Associate Professor
University of Oxford



Federico Millo
Professor
Politecnico di Torino



Shouvik Dev
Research Officer and Program
Technical Lead
National Research Council of Canada



Ricardo Novella
Full Professor
CMT Clean Mobility and Thermofluids
Universitat Politècnica de València



Stefania Esposito
Lecturer (Assistant Professor)
IAAPS – University of Bath



Christine Rousselle
Professor
University of Orléans, France



Antonio García
Full Professor
CMT Clean Mobility and Thermofluids
Universitat Politècnica de València



Marc Sens
Senior VP Research & Technology
IAV



André Casal Kulzer
Prof. Dr.-Ing.
University of Stuttgart, IFS/FKFS



Ratnak Sok
Associate Professor
Waseda University

TECHNICAL COMMITTEES MEETING

Monday, October 20
5:30 PM–6:00 PM

Please see Committee Chair for location

This is an opportunity to recap with your technical committee members, share lessons learned and best practices.

ASSOCIATES MEETING

Tuesday, October 21
5:20 PM–6:20 PM
Wisconsin 1 & 2

Make plans to attend the associates meeting to learn more about the ASME and the ICE Division organizational structure and upcoming opportunities, review recent activities, and participate in shaping the division's growth and impact.

LET'S GET SOCIAL!



Post that you are planning to attend the conference, that you are authoring a technical paper, exhibiting, sponsoring, or that you are having an amazing time at ICEF!

<https://www.linkedin.com/groups/12154802/>



ICEF/RTS 2025

CONFERENCE INFORMATION

REGISTRATION INFORMATION

Brookfield Promenade, First Floor

Registration Hours:

Sunday, October 19	2:00 PM–6:30 PM
Monday, October 20	7:00 AM–6:30 PM
Tuesday, October 21	7:00 AM–5:00 PM

EXHIBIT INFORMATION

Brookfield Promenade, First Floor

Hours:

Sunday, October 20	5:00 PM – 6:30 PM
Monday, October 21	7:00 AM–5:00 PM
Tuesday, October 22	7:00 AM–5:00 PM

BADGE REQUIRED FOR ADMISSION

All conference attendees must wear the official ASME ICEF 2025 badge at all times in order to gain admission to technical sessions, keynotes, panels, meals, and other conference events. Without a badge, you will not be granted admission to conference activities.

SESSION ROOM EQUIPMENT

Each session room is equipped with a screen, LCD projector, and laptop. Speakers should arrive to their session room 10–15 minutes prior to the session start time. Bring a copy of your presentation on a USB/thumb-drive to be loaded onto the show computer or make arrangements in advance with your session organizer.

ASME CONFERENCES APP

This conference will utilize a mobile event app in place of a printed program to enhance the conference experience for attendees, speakers, and sponsors. Download the ASME Conference App and hold the entire program in the palm of your hand!

The App allows you to easily look up sessions, search for papers or people, message with other attendees, and create your own schedule. Be sure to download the app for the latest information.

INTERNET ACCESS IN THE HOTEL

Wi-Fi is included in your guest room and in the meeting space.

Please visit the registration desk or reference the ASME Conferences App for details.

CONFERENCE PROCEEDINGS

Each attendee will receive an email with a unique code to access digital copies of all the papers accepted for presentation at the conference. The official conference archival proceedings will be published after the conference and will not include accepted papers that were not presented at the conference. The official conference proceedings are registered with the Library of Congress and are submitted for abstracting and indexing. The proceedings are published on the ASME Digital Library. You will be provided with an individual link to the online papers via email. In the event you do not receive the email, send a request to conferencepubs@asme.org.

PRESENTER ATTENDANCE POLICY

According to ASME's Presenter Attendance Policy, if a paper is not presented at the conference, the paper will not be published in the official Archival Proceedings, which are registered with the Library of Congress and are abstracted and indexed. The paper also will not be published in the ASME Digital Collection and may not be cited as a published paper.

PHOTOGRAPHS/VIDEO/AUDIO RECORDINGS

Unless otherwise agreed to in a separate document, participants are reminded that material presented at ASME conferences is under copyright of ASME. As a result, any recording of the presentations is prohibited.

LIMITATION OF LIABILITY

You agree to release and hold harmless ASME from all claims, demands, and causes of action arising out of or relating to your participation in this event.

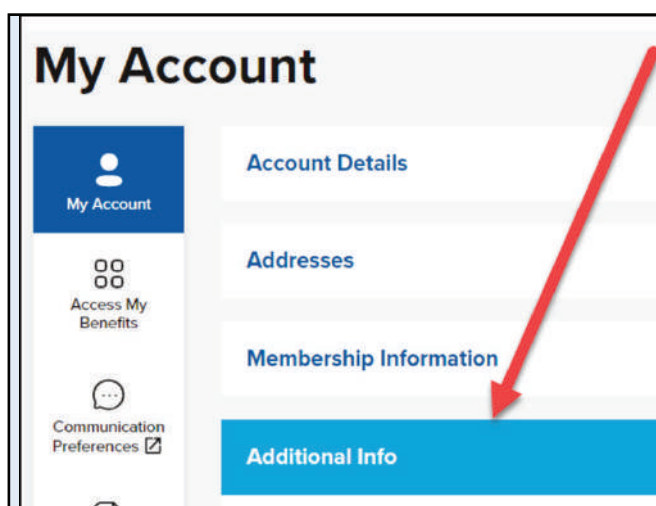
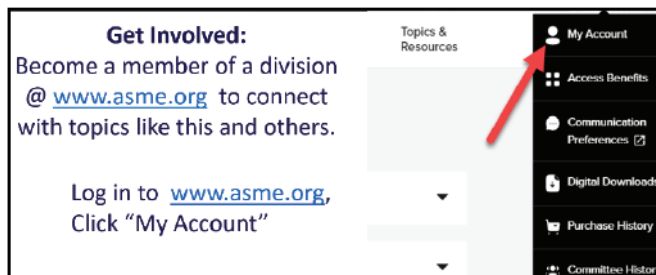


HOW TO BECOME A MEMBER OF THE ICE DIVISION

1. www.asme.org
2. Click on **"My Account"**.
3. Click on **"Additional Info"**.
4. Click on **"Edit"** on "Technical Division Interests".
5. Select your division interests.
6. **SAVE** your selections.

Please ensure that you have granted permission to receive communications from the ICED.

1. Login to asme.org and click on Communication Preferences.
2. Click "Login to Preference Center".
3. Under ASME Sections and Technical Division Communications, Opt-In to division communications by checking the box next to Technical Divisions.
4. Check all your Preferences to be sure you receive the information from ASME that you are interested in.
5. Click "Save Preferences".





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SCHEDULE-AT-A-GLANCE

Last Updated – September 30, 2025 | Times listed are Central Time

Sunday October 19	Monday October 20	Tuesday October 21	Wednesday October 22
	Registration 7:00 AM – 6:30 PM	Registration 7:00 am – 5:00 PM	
	Welcome Remarks ICEF-RTS Keynote 8:00 AM – 9:15 AM	ICEF-RTS Keynote 8:00 AM – 9:15 AM	Technical Tour (offsite) *Advanced sign-up required 8:30 AM – 10:30 AM
ICED Executive Committee Meeting 9:00 AM – 5:00 PM	Networking Break 9:15 AM – 9:30 AM	Networking Break 9:15 AM – 9:30 AM	
	Technical Sessions 9:30 – 11:30 AM	Technical Sessions 9:30 – 11:30 AM	
	Lunch & Student Competition Presentations 11:30 AM - 1:00 PM	Lunch & ICE Division Distinguished Lecture 11:30 AM – 1:00 PM	
	Networking Break 1:00 PM – 1:15 PM	Networking Break 1:00 PM – 1:15 PM	
	Technical Sessions 1:15 PM – 2:35 PM	Technical Sessions 1:15 PM – 2:35 PM	
Registration 2:00 PM – 6:30 PM	Panel Session 2:35 PM – 4:05 PM	Panel Session 2:35 PM – 4:05 PM	
	Networking Break 4:05 PM – 4:20 PM	Networking Break 4:05 PM – 4:20 PM	
	Technical Sessions 4:20 – 5:20 PM	Technical Sessions 4:20 – 5:20 PM	
Welcome Reception & Technical Poster Session 5:00 PM – 6:30 PM	Technical Committee Meetings 5:30 PM - 6:00 PM	Associates Meetings 5:20 PM – 6:20 PM	
	WICE Mentoring and Networking Event (Ticketed Event) 6:30 PM – 8:00 PM	Honors & Awards Banquet 6:30 PM – 8:30 PM	



KEYNOTE

WHY BE ENTHUSIASTS OF RAIL POWER TODAY AND IN THE FUTURE

MONDAY, OCTOBER 20, 2025

8:00 AM–9:15 AM CT | BROOKFIELD 3 - 5



Dr. Cathy Choi

Executive Advisor

Knoxville Locomotive Works

Abstract: This keynote will explore the importance of Rail transportation and the evolving landscape of Rail locomotive technologies, specifically with a view of propulsion technologies and its implications for the future of locomotive power-trains. We will journey through past technological breakthroughs to current state onto potential futures states. The presentation will provide Rail operational context that informs the audience on drivers for new technology adoption within the Rail community. We will discuss manpower needs, personnel upskilling and address potential societal impacts. At the end of this presentation, attendees will have a clearer understanding of the key technological, market and societal trends in the Rail industry and strategic considerations for their supporting organizations.

Biography: Dr. Cathy Choi is Executive Advisor at Knoxville Locomotive Works and serves the Department of Energy as an appointed member of their Industrial Technology Innovation Advisory Committee. Cathy is also on the Board of Directors of the Advanced Machine and Vehicle Innovation Center. Cathy has more than three decades professional experience, primarily in power generation and transportation technology and product development. She has incubated and grown international research and development teams and led numerous, global product launches that span power ranges from 160 kW to 16.8 MW. Cathy earned her Ph.D. in Mechanical Engineering from the University of Wisconsin-Madison specializing in combustion and emissions formation and alternative fuels research.



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KEYNOTE:

POWERING PROGRESS: THE EVOLUTION AND FUTURE OF STATIONARY GAS ENGINES

TUESDAY, OCTOBER 21, 2025

8:00 AM–9:15 AM CT | BROOKFIELD 3 - 5



Alexander Leitner-Audoui

VP Engineering Waukesha

INNIO Waukesha Gas Engines Inc.

Abstract: From lighting the first city streets to driving today's energy transition, stationary gas engines have been at the heart of industrial innovation for over a century. This keynote explores the fascinating journey of gas engines—from their historical roots to their pivotal role in modern power generation, gas compression, industry, and beyond. We'll dive into the remarkable diversity of applications, from combined heat and power plants to remote microgrids, and examine the expanding range of fuels, including biogas and hydrogen, that are shaping a cleaner, more resilient energy future. Join us as we uncover why stationary gas engines remain indispensable assets, powering progress in a rapidly changing world.



ICEF/RTS 2025

ICE DIVISION DISTINGUISHED LECTURE

IMPROVED PHYSICAL MODELS FOR ADVANCING ENGINE CFD

TUESDAY, OCTOBER 21, 2025

11:30 AM–1:00 PM CT | BROOKFIELD 3 – 5



Rolf D. Reitz, Ph.D.

*Wisconsin Distinguished Emeritus
Professor of Mechanical Engineering
University of Wisconsin-Madison*

Abstract

Internal-combustion engines are central for heavy-duty transport and power generation. There is currently interest in running on diverse, low-carbon fuels, and new engines must be developed rapidly. Heavy-duty engine designers are also interested in the use of dual fuels. Physics-rich solvers, executed on today's parallel hardware, allow improvements over state-of-the-art engineering models while providing the reliable, high-fidelity data required by emerging machine-learning tools. These advances chart a path toward future AI-accelerated simulations for carbon-neutral engine development that can be grounded in first-principles physics.

Use of new low cetane fuels, including hydrogen or ammonia for compression ignition highlight the need for improved understanding in the move toward near-zero-carbon propulsion. Due to the characteristics of these new fuels, often a dual-fuel flame-propagation framework is required. A methodology has been developed that employs chemical eigenvalues and autoignition chemistry to detect auto-igniting flame fronts for use with the G-Equation. To improve modeling efficiency, a 1-D parallel sparse flame solver has been developed. In addition, a compressible reactive boundary-layer model has been formulated that has provided new insights on near-wall flames and quenching, plus the associated heat transfer. Applied to in-cylinder flows, these models have been demonstrated to improve wall heat transfer predictions with large bulk flow velocities and with jet impingement configurations. We also preview automated, body-fitted, geometry-agnostic meshing and workflow orchestration that maintains high fidelity in critical regions of the cylinder, such as near spark or glow plugs to accelerate engine design.

Biography: Dr. Reitz is Wisconsin Distinguished Emeritus Professor of Mechanical Engineering at the University of Wisconsin-Madison. He is former director of the Engine Research Center and former director of the ERC's Engine Research Consortium. His research includes the development of advanced fuel injection and combustion strategies, as well as computer modeling methodologies for internal combustion engines. In 1999 he co-founded the International Journal of Engine Research (IJER) and served as Editor (Americas). He has also served on the Editorial Board of the Atomization and Sprays journal and the Journal of Combustion. Professor Reitz has more than 600 peer-reviewed publications and many patents.



PANEL: INTERNATIONAL TRENDS IN IC ENGINE SYSTEMS

MONDAY, OCTOBER 22, 2025

2:35PM – 4:05PM CT | BROOKFIELD 3 - 5

The panel discussion on “International Trends in IC Engine Systems” will bring together international thought leaders to share their perspectives on the trends, opportunities and challenges around IC development. Panelists will discuss the most pressing challenges and most exciting opportunities in different regions of the world. The panel aims to foster a collaborative dialogue on how the engine research community is adapting to an ever-changing landscape as well as international and intercontinental differences. Attendees will gain insights into cutting-edge research, practical implementations, and collaboration frameworks that support the development of the IC engine. This discussion promises to be an exchange of ideas and strategies for driving forward the future of the ICE engine.



MODERATOR

Felix Leach

Associate Professor
University of Oxford

Felix Leach is an Associate Professor at the University of Oxford. He researches emissions and efficiency in thermal propulsion systems as well as air and noise pollution. In addition to publishing over 90 academic papers, Felix is the author of the award-winning books “Racing Toward Zero” about decarbonizing transportation rapidly and “Critical Mass” about the negative impacts of ever-heavier vehicles.



PANELIST

Carlo Beatrice

Research Director
CNR-STEMS

Carlo Beatrice is a Research Director at the Institute of Science and Technology for Sustainable Energy and Mobility (STEMS) of the National Research Council (CNR) and leader of the propulsion systems research group.

He earned his PhD in Internal Combustion Engines in 1999.

He has been (and currently is) the scientific director for numerous research projects funded by public bodies (Italian and European) and by industry in the sector for the development of road traction technologies.

He is a member of the editorial boards of international sector journals and a reviewer for major scientific journals in the field. He is the author and co-author of over 200 articles published in the most important journals in the powertrain and fuels sector (Elsevier, ACS, SAE, Imech, etc.).

He is also a member of the academic board for the PhD program in Energy and Engineering at the University of Naples “Parthenope.”



ICEF/RTS 2025



PANELIST

Christine Rousselle

Professor
University of Orléans, France

Christine Rousselle is professor at the University of Orléans (Laboratoire PRISME) since 2006 after a PhD in Energy and Mechanical Engineering obtained in 1993.

She is a member of the Scientific Council of IFPen and of several advisory boards (since 2022: member of the MariNH3 International Advisory Board (UK program), since 2021: member of the International Advisory Board CMT – UPV (Valencia, Spain)). In 2023, she was Chair and President of Organising Committee of 2nd Symposium on Ammonia Energy and member of organising committee TOTeM49 – IFRF, Chemical energy carriers for long-term storage and long-distance transport of renewable energies. Since 2022: Technical Committee of 1st and 2nd Ammonia Combustion Meetings and since 2021: Advisory and scientific Committee of THIESEL and SAE-Naples Capri conferences).

She is a Fellow (2021) of the Combustion Institute. She is co-editor of Proceeding of Combustion Institute of Journal of Ammonia Energy and member of the board of the Combustion Institute (2024). She is also ambassador for France of ASME-ICEF since 2024.

Her main research fields are: fundamental combustion to applications, new combustion modes (lean burn, LTC, RCCI...), low and zero carbon-fields (ammonia, alcohol, optical diagnostics, engines). She leads several projects related to ammonia fuels, mainly for engine applications, with fundamental improvements on combustion processes and recently to decarbonize industrial furnaces. She obtained in 2024 the status of Senior Member of Institut Universitaire de France for 5 years to dedicate most of her academic time in research focused on Ammonia combustion.



PANELIST

Dr. David Hung

Professor
Shanghai Jiao Tong University

Dr. Hung received his Ph.D. in mechanical engineering from Carnegie Mellon University, USA, in 1998. Previously, he was an associate professor in the Department of Mechanical Engineering at Michigan State University, and he also held employments in the US at General Motors, Delphi and Visteon Corporations where he researched advanced powertrain systems, gasoline direct injection engine, and optical diagnostics. His research projects were funded by the US Department of Energy and other agencies. Professor Hung joined the JI in June 2010 with a dual appointment as a professor in the Institute of Automotive Engineering, School of Mechanical Engineering at SJTU. He has published over 70 papers in archival journals and conference proceedings including Nature Physics, International Journal of Engine Research, IEEE Transactions of Mechatronics and SAE Transactions. He has been granted 10 US patents.



PANEL: BIG OPPORTUNITIES FOR SMALL ENGINES



Supported by the
University of
Wisconsin-Madison

TUESDAY, OCTOBER 23, 2025

2:35PM – 4:05PM CT | BROOKFIELD 3 - 5

The small engine market is notably diverse with a wide range of engine types, sizes and applications. The panel discussion on “Big Opportunities for Small Engines: Opportunities, Challenges and Trends” “ will bring together industry experts to share their perspectives the unique challenges and opportunities across this engine market segment. Wisconsin is a hub for the development and manufacturing of small engines and is the perfect location to have such a discussion. The panel aims to drive a collaborative dialogue with the conference attendees on how technologies across different engine classes can be applied to small engine systems, and how solutions from the unique challenges with small engine development can be leveraged by other engine market segments. This discussion promises to be an exchange of ideas and strategies for driving forward the future of the ICE engine across all size classes.



MODERATOR

Jaal Ghandhi

Grainger Professor of
Sustainable Energy
Department of
Mechanical Engineering
University of Wisconsin-Madison

Professor Ghandhi received his PhD from Princeton University and joined the faculty of the University of Wisconsin-Madison's Department of Mechanical Engineering in 1995. He served as the department Chair for seven years. His research has focused on the combustion, fluid mechanics, and heat transfer in internal combustion engines and is predominately experimental in nature. He served as the director of the Wisconsin Small Engine Consortium for approximately 20 years, working closely with the State's industry.



PANELIST

Eric

Director of Advanced Engineering,
Mercury Marine
Technical Advisor,
Brunswick Corporation

In his role as Director of Advanced Engineering at Mercury Marine and Technical Advisor for Brunswick Corporation, Eric leads efforts on future propulsion and vessel control technologies. Mercury is a division of Brunswick, the world's largest recreational marine company producing vessels, propulsion, and advanced vessel systems.

Eric has worked at Mercury for 23 years, focusing on developing propulsion and vessel control products. His primary responsibility has been leading teams in the development of new internal combustion engines, facilitating Mercury's transition from 2-stroke to 4-stroke technology, and expanding Mercury's product portfolio. Recently, he has been defining future alternative propulsion architectures involving electric, hydrogen, and alternative fuels technologies. Eric also serves as a Technical Advisor for engine thermodynamics on Brunswick's technical career path.

Eric holds a BS in Mechanical Engineering from Michigan Technological University and an MS in Mechanical Engineering from the University of Wisconsin – Madison, where he conducted research at the Engine Research Center.



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PANELIST

Emily K. Bierman, Ph.D., P.E.

Product Engineer
John Deere Turf &
Compact Utility Division

Emily K. Bierman, Ph.D., P.E., is a mechanical engineer with more than 20 years of experience in internal combustion engine development, product management, and emissions compliance. She has led cross-functional teams at John Deere and Cummins, driving innovations in gasoline, diesel, and alternative fuel engines while ensuring alignment with global emissions standards. Emily's work spans supplier collaboration, new product launches, and continuous improvement initiatives that have reduced risk and enhanced customer satisfaction. In addition to her industry leadership, she has served as a professor, teaching courses in engine systems and renewable fuels, and directing international study programs in Germany. She holds a Ph.D. in Mechanical Engineering, an M.Eng. in Engine Systems, and an MBA, integrating technical and business expertise.



PANELIST

Brian Brunelli
Director of Engineering
Briggs & Stratton LLC

Brian Brunelli is an experienced engineering director with almost 40 years of working in the outdoor power equipment industry and leading a productive global team. His specialties include systems integration, engine powered applications, electrified products, testing/evaluation, risk analysis, Failure Mode and Effects Analysis (FMEA), Root Cause Analysis, New Product Development, and Continuous Improvement.



ICEF/RTS 2025

AWARDS

TUESDAY, OCTOBER 21, 2025

6:30–8:30 PM CT

Brookfield 3 - 5

[ASME's Internal Combustion Engine \(ICE\) Division](#) recognizes the outstanding achievements in the internal combustion engine field through its honors and awards program. Every year, ICEF hosts the Awards Dinner where we recognize these remarkable individuals.

Click [here](#) for more information on the ICE awards or to complete a nomination packet. Special thanks to the numerous volunteers that serve on ICE's award committees. Without their expertise, time, and dedication, this would not be possible. Congratulations to all award recipients!

ASME SOCIETY AWARDS

ASME INTERNAL COMBUSTION ENGINE

[The Internal Combustion Engine Award \(ICE\)](#) recognizes eminent achievement or distinguished contribution over a substantial period of time, which may result from research, innovation, or education in advancing the art of engineering in the field of internal combustion engines; or in directing the efforts and accomplishments of those engaged in engineering practice in the design, development, application, and operation of internal combustion engines. In 1966, by bequest, the Diesel and Gas Engine Power Division established this award.



Avinash Kumar Agarwal

Director and Professor

Indian Institute of Technology Kanpur / Indian Institute of Technology Jodhpur



ASME GEORGE WESTINGHOUSE GOLD MEDAL

The George Westinghouse Medals were established to recognize eminent achievement or distinguished service in the power field of mechanical engineering.



Kai Hong Luo, FEng MAE
Professor
University College London (UCL)

ASME SOICHIRO HONDA MEDAL

ASME Soichiro Honda Medal recognizes an individual for an outstanding achievement or a series of significant engineering contributions in developing improvements in the field of personal transportation.



Peter Kelly Senecal
Co-Founder
Convergent Science

ASME DEDICATED SERVICE AWARD

[The ASME Dedicated Service Award](#) honors unusual dedicated voluntary service to the Society marked by outstanding performance, demonstrated effective leadership, prolonged, and committed service, devotion, enthusiasm, and faithfulness.



Bradley Thomas Zigler
Ramsay Zigler Advisory LLP



ASME ICE DIVISION AWARDS

ENGINE IMPACT AWARD

The ASME Internal Combustion Engine Division created this award to honor internal combustion engine related research and development that has been put into practice towards a commercial product developed by industry. This award is specifically created to recognize researchers in industry who have made tremendous contributions to the ICE community.



Amer Ahman Amer
Sustainable Transport
Chief Technologist
Saudi Aramco Research
and Development Center



Axel zur Loye
Senior Technical Advisor
Power Systems Combustion
Architect Cummins Inc

INTERNAL COMBUSTION ENGINE DIVISION EARLY CAREER AWARD

This award is specifically created to recognize early career researchers in academia, national labs, and industry who have made tremendous contributions to the ICE community.



Pinaki Pal
Senior Research Scientist
Advanced Propulsion and
Power Department
Argonne National Laboratory

MERITORIOUS SERVICE AWARD

The ASME Internal Combustion Engine Division created this award to honor loyal service, guidance, leadership, and worthy contributions to the progress of the ICE Division.



Joshua Bittle
Associate Professor
Department of
Mechanical Engineering
The University of Alabama



Hunter Mack
Professor
University of
Massachusetts Lowell



Hailin Li
Professor
West Virginia University



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CONFERENCE AWARDS

BEST 2024 ICEF CONFERENCE PAPER

ICEF2024-140758: IMPROVING THE PREDICTIVE CAPABILITY OF EMPIRICAL HEAT TRANSFER CORRELATIONS FOR HYDROGEN INTERNAL COMBUSTION ENGINES



Stefania Esposito
University of Bath



Hao Yuan
University of Bath



Dom Parsons
University of Bath



Sam Akehurst
University of Bath

BEST PRESENTATION

ICEF2024- 148419: Spatiotemporal Insights During Forced Dynamic Reactor Operation for Fast Light-Off and Enhanced Low-Temperature Methane Oxidation Over Pd-Based Catalysts



Patrick Lott
Karlsruhe Institute of Technology

BEST STUDENT PRESENTATION

ICEF2024- 141176, SUITABLE WAY OF USING WASTE COOKING OIL IN DIESEL ENGINE



Vinay Bansal
Indian Institute of Technology Kharagpur



ICEF/RTS 2025

UNDERGRADUATE STUDENT RESEARCH COMPETITION PRESENTATIONS AND LUNCH

MONDAY, OCTOBER 20, 2025

11:30 AM–1:00 PM CT

Brookfield 3 - 5

The ASME ICED undergraduate student research competition is an annual event inviting undergraduate researchers that have studied in the field of internal combustion engines, emissions systems, fuels and sprays, or carbon management. Up to two winning submissions are selected to deliver their presentations to a group of leading experts in the internal combustion engine field at the ASME ICE Forward Conference.

The two selected students will receive complimentary conference registration and up to \$1,500 in travel reimbursement. Past recipients have frequently forged valuable connections at the conference, which have led to career opportunities and graduate school recruitment.



Advik Luchoomun
UC Berkeley



Cole Engebretson
Marquette University

Call for **Award Nominations**



ASME SOCIETY AWARDS

ASME Fellow
Nomination Deadlines:
March 1
June 1
September 1
December 1

ICE DIVISION AWARDS

Early Career Award
Nomination Deadline May 1

Engine Impact Award
Nomination Deadline May 1

Meritorious Service Award
Nomination Deadline May 1



**INTERNAL
COMBUSTION ENGINE
DIVISION**





STUDENT AND EARLY CAREER ENGINEER OPPORTUNITIES

ASME ICED UNDERGRADUATE STUDENT RESEARCH COMPETITION

The ASME ICED Undergraduate Student Research Competition is a prestigious annual event that showcases outstanding undergraduate research in internal combustion engines, emissions systems, fuels and sprays, and carbon management.

Up to two top submissions will be selected to present their research to an audience of leading experts at the ASME ICE Forward Conference. Selected students will receive complimentary conference registration and up to \$1,500 in travel reimbursement.

In addition to gaining valuable presentation experience, participants often build lasting professional connections. The connections made through this opportunity have helped past students advance their careers and pursue graduate studies.

TECHNICAL POSTERS

The ASME Internal Combustion Engine Division welcomes submissions for the Technical Poster Session - an excellent opportunity for researchers to present their work to a broad audience within the internal combustion engine community.

Participants will have the chance to share their research, engage in meaningful discussions with industry leaders and academic experts, and receive valuable feedback from seasoned professionals in the field. All poster presenters will be considered for the Best Poster Award, which recognizes outstanding contributions to internal combustion engine research.

INTERNAL COMBUSTION ENGINE DIVISION EARLY CAREER AWARD

The ASME Internal Combustion Engine Division proudly presents the Early Career Engineer Award to recognize outstanding contributions to research and development in internal combustion engines and aftertreatment systems.

This award honors early career professionals from academia, national laboratories, and industry who have demonstrated exceptional promise and made a significant impact within the ICE community.

While membership in the ICE Division is not a requirement, recipients are encouraged to engage with the division and contribute to its vibrant technical community.



ICEF/RTS 2025

ICED WEBINAR SERIES: THE FUTURE OF THE INTERNAL COMBUSTION ENGINE



Ronald (Ron) Grover, Jr.
General Motors



Hunter Mack
University of Massachusetts Lowell



Laura Herrera, CMP
ASME



Dimitris Assanis
Stony Brook University



Christopher Stoos
Southwest Research Institute



Cosmin Dumitrescu
West Virginia University



Munidhar (Muni) Biruduganti
Argonne National Laboratory



Adam Klingbeil
Wabtec Corporation



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Vittorio Ravaglioli
University of Bologna



Muhsin Ameen
Argonne National Lab



Michael Bunce
Dumarey USA



Yu Zhang
Cummins



**Ambikapathy (Ambi)
Naganathan**
Cummins Inc.



Vitaly Prikhodko
Oak Ridge National Lab



Mi-Young Kim
Cummins Inc.

The ASME Internal Combustion Engine (ICE) Division Executive Committee has been holding a complimentary webinar series titled The Future of the Internal Combustion Engine. The goal of this series is to communicate the role of the ICE in our decarbonized society.

A dedicated webinar committee ensures that both the latest academic research topics and industry developments are covered.

- Light Duty
- Heavy Duty
- Combustion
- Hybridization
- Alternative Fuels
- Computer Simulations
- AI and much more!

[Past webinars are available to be seen on-demand!](#)



ICED Webinar Series

The Future of the Internal Combustion Engine

The ASME Internal Combustion Engine (ICE) Division Executive Committee has been holding a complimentary webinar series titled “The Future of the Internal Combustion Engine”. The goal of this series is to communicate the role of the ICE in our decarbonized society.

Topics include

- Light Duty
- Heavy Duty
- Combustion
- Electrification
- Alternative Fuels
- Computer Simulations
- AI, and much more!



[Watch the on-demand webinars!](#)



ICEF/RTS 2025

CONFERENCE MEALS AND NETWORKING EVENTS

WELCOME RECEPTION & TECHNICAL POSTER SESSION

Sunday, October 19

5:00 PM–6:30 PM

Brookfield 1 – 2, Brookfield Promenade

All conference registrants are invited to join their colleagues for complimentary light refreshments during this Sunday evening event. Greet friends and meet thinkers from around the world who are shaping the future of ICE, all in a casual atmosphere. Be sure to visit the technical posters during this time!

CONTINENTAL BREAKFAST

Monday, October 20

Brookfield 3 -5, First Floor

7:00 AM–8:00 AM

Tuesday, October 21

Brookfield 3 -5, First Floor

7:00 AM–8:00 AM

Grab a morning beverage, visit out exhibitors, network, and have informal conversations.

LUNCH WITH UNDERGRADUATE COMPETITION PRESENTATIONS

Monday, October 20

Brookfield 3 -5, First Floor

11:30 AM–1:00 PM

WICE MENTORING AND NETWORKING EVENT

Monday, October 20

Brookfield 1 -2, First Floor

6:30 PM–8:00 PM

ICE DIVISION DISTINGUISHED LECTURE LUNCH

Tuesday, October 21

Brookfield 3 -5, First Floor

11:30 AM–1:00 PM

ICE DIVISION HONORS & AWARDS DINNER

Tuesday, October 21

Brookfield 3 -5, First Floor

6:30 PM–9:00 PM

NETWORKING BREAKS

Brookfield Promenade, First Floor

Monday, October 20

9:15 AM–9:30 AM

1:00 PM–1:15 PM

4:05 PM–4:20 PM

Tuesday, October 21

9:15 AM–9:30 AM

1:00 PM–1:15 PM

4:05 PM–4:20 PM



ICEF/RTS 2025

WICE MENTORING AND NETWORKING RECEPTION

Monday, October 20, 2025

6:30 PM–8:00 PM CT

Brookfield 1 - 2

Registration fee: \$25 plus conference registration

Looking to grow your career, make valuable industry connections, and be inspired by experienced professionals? Don't miss the Women in IC Engines (WICE) Mentoring & Networking Reception—a dynamic event designed to empower, connect, and elevate women and allies in the IC engine community.

Join us for an evening of meaningful conversation, mentorship, and professional networking. Whether you're a student, early-career professional, or industry veteran, this is your chance to engage with leaders in the field, gain career insights, and expand your network in a welcoming, supportive environment.

Complimentary refreshments will be provided to attendees who have registered for the reception.

WICE RECEPTION AGENDA:

- 6:30 pm: Reception opens with light hors d'oeuvres and refreshments and continues through the event
- 6:50 pm: Welcome by Dr. Cathy Choi, WICE Chair
- 7:00 - 8:00 pm: Speed Mentoring Session: A designated area in the reception room will host Speed Mentoring, featuring multiple tables with 1–2 experienced mentors from Industry and Academia. Guided by the WICE Mentoring Facilitator, mentees will engage in 15-minute discussions at each table, rotating through four sessions over the course of one hour.

MEET THE WICE LEADERSHIP TEAM



Cathy Choi,
Chair

Knoxville
Locomotive Works



Emily Bierman,
Secretary

John Deere Turf &
Compact Utility Division



Stefania Esposito,
Outreach

University of Bath



Laura Herrera,
**Sr. TEC Operations
Manager**

University of Bath



ICEF/RTS 2025

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TECHNICAL TOUR

BRIGGS & STRATTON MUSEUM TOUR
OCTOBER 22, 2025 | 9:00AM -10:30AM CT

TOURS ARE OPEN TO ALL REGISTRANTS
\$35.00 TOUR FEE | ADVANCED SIGN UP REQUIRED



Join us for an exclusive tour of Briggs & Stratton, where engineering excellence and innovation meet. Explore the Briggs museum to gain insights into over 115 years of development in internal combustion engine technology, highlighting key milestones and advancements.

Visit our R&D lab to see firsthand how we're pushing the boundaries of engine design and performance. You'll also get a close-up look at our latest electrified products, showcasing how we're integrating cutting-edge technology into our solutions. This is a unique opportunity to engage with the future of power systems, built on a legacy of engineering excellence.



ICEF RTS 2025 TRACK CHAIRS

Thank you to our Track Chairs! Without their dedication and time commitment, ICEF RTS could not be a successful conference!

TRACK 1: OFF-ROAD, RAIL, AND MARINE ENGINE SYSTEMS

*Chair: Christopher Stoos, Southwest Research Institute-
Co-Chair: Munidhar (Muni) Biruduganti, Argonne National Laboratory*

TRACK 2: FUELS, LUBRICANTS, AND CARBON MANAGEMENT

*Chair: Hunter Mack, University of Massachusetts – Lowell-
Co-Chair: Dimitris Assanis, Stony Brook University*

TRACK 3: ADVANCED COMBUSTION, FLOWS, AND SPRAYS

*Chair: Cosmin Dumitrescu, West Virginia University
Co-Chair: Adam Klingbeil, Wabtec Corporation*

TRACK 4: POWERTRAINS, HYBRIDIZATION, ENGINE CONTROLS, AND ENGINE DESIGN

*Chair: Vittorio Ravaglioli, University of Bologna
Co-Chair: Michael Bunce, Dumarey USA
Co-Chair: Ambikapathy (Ambi) Naganathan, Cummins Inc.*

TRACK 5: EMISSIONS CONTROL (CLEERS* AT ICE FORWARD)

*Chair: Vitaly Prikhodko, Oak Ridge National Laboratory-
Co-Chair: Mi-Young Kim, Cummins Inc.*

TRACK 6: MODELING AND SIMULATION

*Chair: Muhsin Ameen, Argonne National Laboratory
Co-Chair: Yu Zhang, Cummins Inc.*

TRACK 7: SMALL ENGINE SYSTEMS (NEW FOR 2025)

*Chair: Scott Curran, Oak Ridge National Laboratory
Co-Chair: Andrea Strzelec, USCAR*

TRACK 8: LIGHT-DUTY (PASSENGER VEHICLE) ENGINE SYSTEMS (NEW FOR 2025)

*Chair: Scott Curran, Oak Ridge National Laboratory
Co-Chair: Andrea Strzelec, USCAR*

TRACK 9: MEDIUM-DUTY, AND HEAVY-DUTY ON-ROAD ENGINE SYSTEMS (NEW FOR 2025)

*Chair: Scott Curran, Oak Ridge National Laboratory
Co-Chair: Andrea Strzelec, USCAR*

TRACK 10: RAIL TRANSPORTATION SYMPOSIUM (NEW FOR 2025)

*Chair: Sena Kizildemir, Thornton Tomasetti/Lehigh University
Chair: Ratnak Sok, Waseda University, Tokyo*

TRACK 11: TECHNICAL POSTERS (ALL TOPICS RELATED TO ICES)

Chair: Emma Zhao, Aramco Americas: Aramco Research Center (Detroit)

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- ▶ **Have a propane-focused idea or project?**
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ONE ENGINE THAT
DELIVERS BOTH.





DUMAREY

Dumarey Group

The Dumarey Group, founded in 1983 by Guido Dumarey, is a family-owned international company providing advanced engineering services, systems, and components for vehicles and industry. Key activities include propulsion system integration (ICE, hybrid, EV), component supply (controllers, injectors, gear reducers), pre-chamber combustion, and aftertreatment solutions for legacy and future fuels. The group recently expanded with Dumarey USA in Plymouth, Michigan.

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AUTHOR INDEX

AUTHOR LAST NAME	AUTHOR FIRST NAME	PAPER NUMBER	SESSION
Abboud	Rami	172391	09-01: Fuel Impacts On Medium-Duty, And Heavy-Duty On-Road Engine Systems
Assanis	Dimitris	164701	02-02: Fuel Effects On Si And Pre-Chamber Performance
Assanis	Dimitris	164702	02-01: Ammonia And Hydrogen Combustion
Aziminejad	Arash	164660	10-01: Rolling Stock, Propulsion And Sustainability
Badar	Ahmad Faraz	172345	11-01: Posters
Bajwa	Abdullah	164695	02-01: Ammonia And Hydrogen Combustion
Bansal	Vinay	164783	02-04: Fuel Effects On Compression Ignition Performance
Barain	Ahmed	165542	02-01: Ammonia And Hydrogen Combustion
Baskara Babu	Yamini	172457	02-03: Methanol In Compression Ignition Engines
Bian	Zheyong	164638	10-02: Operations And Risk
Birdsall	Dr. James	165475	10-02: Operations And Risk
Biruduganti	Munidhar	172430	11-01: Posters
Bittle	Joshua	172386	04-02: Advanced Modelling, Diagnostics And Control For Internal Combustion Engines
Bodhanwalla	Hormuzd	172387	11-01: Posters
Böhmeke	Christian	160611	05-01: Soot And Aftertreatment Advances
Bonfocchi Vinhaes	Vinicius	164659	01-03: Ng For Nonroad Systems
Burke	George	164375	06-04: Performance Systems Modeling And Design
Chaudhari	Vasudev	163540	01-01: Offroad And Marine Engine Systems
Chowdhury	Musharrat	164549	06-04: Performance Systems Modeling And Design
Chowdhury	Musharrat	164696	06-01: Alternative Fuel Combustion Modeling
Contreras	Diego	158456	01-01: Offroad And Marine Engine Systems
Cowart	Jim	164620	02-03: Methanol In Compression Ignition Engines
Dawar	Ankita	172401	11-01: Posters
De La Morena	Joaquín	164272	04-02: Advanced Modelling, Diagnostics And Control For Internal Combustion Engines
Debusk	Melanie	172410	05-02: Advances In Oxidation Catalysts For Multi-Fuel Applications
Deka	Dhruba Jyoti	172431	05-03: Nox Control For Alternative Fuels
Delvescovo	Dan	164676	06-01: Alternative Fuel Combustion Modeling
Diemunsch	Kenneth	164664	10-02: Operations And Risk
Donohue	Brian	161667	10-01: Rolling Stock, Propulsion And Sustainability
Dumitrescu	Cosmin	164090	02-05: Natural Gas And Fuel Blends
Dumitrescu	Cosmin	164456	06-05: Emissions Modeling
Dumitrescu	Cosmin	164464	06-05: Emissions Modeling
Duraisamy	Ganesh	165351	02-01: Ammonia And Hydrogen Combustion
Duronio	Francesco	172338	06-03: Spray Modeling
Eaton	Scott J.	164567	02-04: Fuel Effects On Compression Ignition Performance
Edwards	Dean	172436	01-02: Rail Engine Systems
Engbretson	Cole	164222	03-02: Optical Investigations
Erickson	Mitchell	172412	11-01: Posters
Evans	Harriet	163870	04-01: Modelling, Control And Design Of Hybrid Powertrains



ICEF/RTS 2025

AUTHOR LAST NAME	AUTHOR FIRST NAME	PAPER NUMBER	SESSION
Evans	Harriet	164631	06-04: Performance Systems Modeling And Design
Gadalla	Mahmoud	167857	06-02: Combustion Processes Modeling
Gainey	Brian	164680	02-04: Fuel Effects On Compression Ignition Performance
Gaur	Anurag	172537	03-02: Optical Investigations
Glatz	Thomas	172170	04-01: Modelling, Control And Design Of Hybrid Powertrains
Guo	Hongsheng	164359	02-01: Ammonia And Hydrogen Combustion
Gupta	Sreenath	161869	01-03: Ng For Nonroad Systems
Gupta	Saurabh Kumar	172378	11-01: Posters
Hampson	Greg	166543	06-04: Performance Systems Modeling And Design
Hanson	Reed	164390	01-01: Offroad And Marine Engine Systems
Hassan	Hafiz Ahmad	164517	02-05: Natural Gas And Fuel Blends
Hegge	Graydon	172390	04-02: Advanced Modelling, Diagnostics And Control For Internal Combustion Engines
Hendy	Muhannad	172428	03-03: Advanced Combustion Processes
Howell	Thomas	165523	04-01: Modelling, Control And Design Of Hybrid Powertrains
Huber	Joseph	164136	02-05: Natural Gas And Fuel Blends
Imtiaz	Fawaz	164649	06-04: Performance Systems Modeling And Design
Jiang	Chuankai	164377	05-03: Nox Control For Alternative Fuels
Jin	Long	159250	03-04: Fuel Effects On Combustion Processes
Jin	Bei	172187	05-02: Advances In Oxidation Catalysts For Multi-Fuel Applications
Johnson	Erick	172376	03-03: Advanced Combustion Processes
Johnston	Tyler	164698	02-04: Fuel Effects On Compression Ignition Performance
Joshi	Satyum	164466	09-02: Medium-Duty, And Heavy-Duty On-Road Engine Systems
Kabil	Islam	164001	01-01: Offroad And Marine Engine Systems
Kakani	Raghav	164406	04-01: Modelling, Control And Design Of Hybrid Powertrains
Kaul	Brian	172454	11-01: Posters
Khan	Sadique	172405	11-01: Posters
Kim	Mi-Young	164451	11-01: Posters
Kim	Doohyun	172449	08-01: Light-Duty (Passenger Vehicle) Engine Systems
Klingbeil	Adam	164457	01-02: Rail Engine Systems
Koci	Chad	172290	04-03: Hydrogen Ice Powertrains: Modelling, Design And Control
Koltsakis	Grigorios	167369	05-01: Soot And Aftertreatment Advances
Konosidou	Ntarinai	172426	11-01: Posters
Korkmaz	Metin	164531	08-01: Light-Duty (Passenger Vehicle) Engine Systems
Krishna	Sai	172547	11-01: Posters
Kumar	Aman	164643	03-01: Spray And Injector Processes
Kumar	Mohit	164648	09-01: Fuel Impacts On Medium-Duty, And Heavy-Duty On-Road Engine Systems
Kumar	Dhananjay	172329	11-01: Posters
Kumar	Dhananjay	172380	04-01: Modelling, Control And Design Of Hybrid Powertrains



ICEF/RTS 2025

AUTHOR LAST NAME	AUTHOR FIRST NAME	PAPER NUMBER	SESSION
Kutkut	Almoutazbellah	164542	09-02: Medium-Duty, And Heavy-Duty On-Road Engine Systems
Lakshminarayanan	Sridevi	165526	10-02: Operations And Risk
Lanzer	Theodor	164190	06-05: Emissions Modeling
Leach	Felix	163866	08-01: Light-Duty (Passenger Vehicle) Engine Systems
Leach	Felix	163873	03-02: Optical Investigations
Lee	Sanguk	159190	09-01: Fuel Impacts On Medium-Duty, And Heavy-Duty On-Road Engine Systems
Lee	Kyungwon	172370	11-01: Posters
Lee	Taesong	172381	03-01: Spray And Injector Processes
Lien	Paul	165017	06-03: Spray Modeling
Link	Allison	164686	11-01: Posters
Link	Allison	164706	11-01: Posters
Lott	Patrick	175149	11-01: Posters
Mack	John	164694	02-04: Fuel Effects On Compression Ignition Performance
Moreno Cabezas	Kevin	164633	03-04: Fuel Effects On Combustion Processes
Mueller	Charles	172392	03-01: Spray And Injector Processes
Myse	Connor	172444	03-03: Advanced Combustion Processes
Narayanan	Abhinandan	164700	09-02: Medium-Duty, And Heavy-Duty On-Road Engine Systems
Narayanan	Sai Ranjeet	172355	04-02: Advanced Modelling, Diagnostics And Control For Internal Combustion Engines
Nasrat	Md Irtesam	164705	02-02: Fuel Effects On Si And Pre-Chamber Performance
Nsaif	Osama	164155	01-03: Ng For Nonroad Systems
O'donnell	Patrick	164637	01-02: Rail Engine Systems
Okey	Nathan	172379	11-01: Posters
Omowa	Olasubomi	164684	02-06: Safs In Compression Ignition Engines
Oruganti	Surya Kaundinya	172413	06-01: Alternative Fuel Combustion Modeling
Panithasan	Mebin Samuel	164599	02-02: Fuel Effects On Si And Pre-Chamber Performance
Park	Ji-Woong	164529	06-01: Alternative Fuel Combustion Modeling
Park	Yeonshil	172440	05-03: Nox Control For Alternative Fuels
Pavalavanni	Pradeep Kumar	172429	11-01: Posters
Peters	Nathan	164552	01-01: Offroad And Marine Engine Systems
Peters	Nathan	172452	11-01: Posters
Phlips	Patrick	163627	08-01: Light-Duty (Passenger Vehicle) Engine Systems
Piqueras	Pedro	164425	05-02: Advances In Oxidation Catalysts For Multi-Fuel Applications
Prikhodko	Vitaly	172432	05-02: Advances In Oxidation Catalysts For Multi-Fuel Applications
Prikhodko	Vitaly	172451	11-01: Posters
Rahman	Asfiquir	165328	10-02: Operations And Risk
Ravaglioli	Vittorio	164619	04-03: Hydrogen Ice Powertrains: Modelling, Design And Control
Ravaglioli	Vittorio	172441	04-03: Hydrogen Ice Powertrains: Modelling, Design And Control
Ravikumar	Avinash	164693	06-04: Performance Systems Modeling And Design
Rowley	Tait	172434	11-01: Posters
Ruiz Flores	Luis Ivan	172062	10-01: Rolling Stock, Propulsion And Sustainability



ICEF/RTS 2025

AUTHOR LAST NAME	AUTHOR FIRST NAME	PAPER NUMBER	SESSION
Samson	Richard	161964	03-04: Fuel Effects On Combustion Processes
Sapra	Harsh	172433	11-01: Posters
Saviano	Raffaele	164645	04-01: Modelling, Control And Design Of Hybrid Powertrains
Shaikh	Adil Manzoor	172202	11-01: Posters
Shapiro	Shimon	164537	10-01: Rolling Stock, Propulsion And Sustainability
Sharma	Eshan	163957	06-02: Combustion Processes Modeling
Sherman	John	164681	06-02: Combustion Processes Modeling
Silva	Mickael	164628	05-02: Advances In Oxidation Catalysts For Multi-Fuel Applications
Sinha Majumdar	Sreshtha	172439	05-02: Advances In Oxidation Catalysts For Multi-Fuel Applications
Snyder	Scott	164138	01-02: Rail Engine Systems
Sok	Ratnak	172356	06-02: Combustion Processes Modeling
Soloio	Valentin	164388	02-06: Safs In Compression Ignition Engines
Soloio	Valentin	164687	02-06: Safs In Compression Ignition Engines
Sridharan	Naveen	172318	05-01: Soot And Aftertreatment Advances
Stanchina	Zachary	172385	11-01: Posters
Subramanian.	Srinath	163737	02-04: Fuel Effects On Compression Ignition Performance
Tang	Chengfan	164607	02-02: Fuel Effects On Si And Pre-Chamber Performance
Thothadri	Hariraja	172447	02-05: Natural Gas And Fuel Blends
Tinchon	Alexis	164665	03-01: Spray And Injector Processes
Tripathi	Shashwat	172493	01-01: Offroad And Marine Engine Systems
Trujillo	Mario	164679	06-05: Emissions Modeling
Tyrewala	Daanish	164513	05-03: Nox Control For Alternative Fuels
Tyrewala	Daanish	172372	11-01: Posters
Vasu	Subith	164442	03-04: Fuel Effects On Combustion Processes
Voris	Alex	165471	02-01: Ammonia And Hydrogen Combustion
Waara	Robert	172373	11-01: Posters
Wallace	James	164179	03-01: Spray And Injector Processes
Wang	Yiqing	159577	06-01: Alternative Fuel Combustion Modeling
Wenyu	Han	164120	03-01: Spray And Injector Processes
Worm	Zander	172423	11-01: Posters
Xiao	Gan	164151	06-03: Spray Modeling
Yan	Ziming	164566	09-01: Fuel Impacts On Medium-Duty, And Heavy-Duty On-Road Engine Systems
Yu	Yan	171971	10-01: Rolling Stock, Propulsion And Sustainability
Zeman	Jared	164683	03-02: Optical Investigations
Zhao	Le	164046	06-01: Alternative Fuel Combustion Modeling



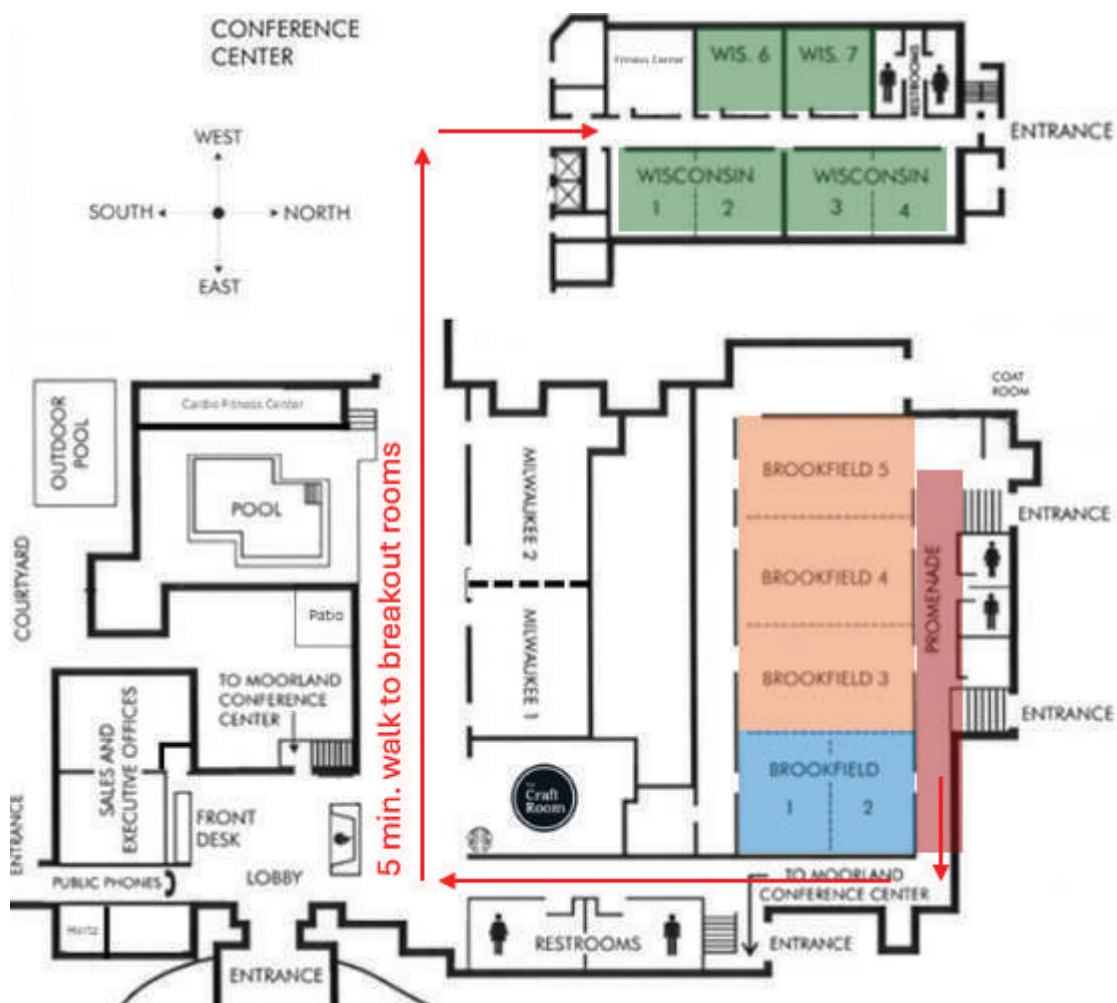
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Networking/Posters

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