ASME ICE DIVISION NEWS

ASME SETTING THE STANDARD

INTERNAL COMBUSTION ENGINE DIVISION

JULY 2024

IN THIS ISSUE

The American Society of Mechanical Engineers®
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ASME SETTING THE STANDARD

Message from the Division Chair

Kelly Senecal

As Chair of the ASME Internal Combustion Engine Division, I am happy to address you in this edition of our newsletter. I am thrilled to share updates on our division's activities, ongoing projects, and future directions.

First and foremost, I want to express my deepest gratitude to each member of our community. Your dedication to advancing the field of internal combustion engines is what drives our division's success. Whether through research, development, or education, your contributions are invaluable and highly appreciated.

Recent years have been particularly dynamic for our division. We have seen significant advancements in ICE technology, especially in the areas of efficiency and emissions reduction. Innovations in alternative fuels and hybrid powertrains have been at the forefront of our research discussions. These technologies are not only pushing the boundaries of what internal combustion engines can achieve but are also pivotal in meeting stringent environmental regulations and sustainability goals.

One of our major highlights each year is our increasingly successful ICE Forward conference. The event brings together industry experts, researchers, and students from around the world. The exchange of ideas and presentation of cutting-edge research foster a vibrant and collaborative atmosphere. I am particularly proud of the high-quality technical papers, keynote presentations, and panel discussions that have showcased the latest trends and breakthroughs in our field.

In addition to our conference, our division has been actively involved in various outreach and educational initiatives. Our webinars have seen increased participation, indicating a strong interest in continued professional development within our community.

Looking ahead, our division is committed to addressing the challenges and opportunities presented by the evolving landscape of the transportation industry. With the shift towards alternative fuels, electrification, and sustainable mobility solutions, our goal is to ensure that the ICE continues to play a vital role by innovating and adapting to these new paradigms.

I encourage all members to stay engaged and participate in our upcoming events, webinars, and conferences. Your involvement is crucial to the vitality and progress of our division. Together, we can continue to drive innovation and excellence in internal combustion engine technology.

Thank you for your continued support and dedication. I look forward to our collective achievements in the months ahead.

ICED Webinar Series

The ASME ICE Division has been conducting free webinars under the banner of "Future of the Internal Combustion Engine". This series has been successfully running for three years and is still expanding. It has covered significant technical topics and showcased some of the industry's most brilliant researchers.

In March, a webinar titled "The IC Engine Saga: Continuous Improvement in Power and Emissions Reduction with Alternative Fuels" was held. This event, which coincided with Women's History Month, featured prominent experts. The discussion was led by Dr. **Andrea Strzelec** (USCAR; ICED Executive Committee). Dr. **Cathy Choi** (ClearFlame) and Dr. **Stefania Esposito** (University of Bath) were the keynote speakers. Dr. Choi offered her insights on the evolution and future of R&D for heavy-duty compression ignition engine systems. Dr. Esposito then discussed how simulation tools can enhance our understanding of the potential emissions impacts of renewable fuels, such as methanol.

The most recent webinar entitled "Future Engines and Fuels for Sustainable Shipping Toward 2030 and Beyond: LNG, Biofuels or E-Fuels?" took place on July 9. The session included keynote speakers Dr. **Hyunchun Park** (HD Hyundai Heavy Industries) and Dr. **Jim Szybist** (Oak Ridge National Laboratory), with Dr. **Tiegang Fang** (North Carolina State University) organizing and leading the panel discussion.

Free registration for upcoming webinars along with on-demand recordings of past sessions can be found with this link. Do not hesitate to contact anyone on the ICED Webinar Committee with questions or to propose any future topics!

2024 ICE Forward — San Antonio

Dustin Osborne
Conference Chair

Scott Curran
Conference Co-Chair

Dear ICE Division Members,

We hope this message finds you enjoying a wonderful and productive summer. As these long summer days will sadly begin getting shorter soon, we can take solace in the fact that this also means the arrival of fall is near, bringing with it our division's premier annual event, the ASME ICE Forward Conference. Expect this year's conference to be a highlight of the season. Taking place October 20–23 in the vibrant city of San Antonio, Texas USA, ASME ICE Forward 2024 will be held at the world-famous Riverwalk, with the Westin Riverwalk, San Antonio serving as the conference hotel and venue, and with Southwest Research Institute (SwRI) serving as the local host organization.

ASME ICE Forward 2024 will be an exciting and engaging four-day event you won't want to miss. The agenda kicks off Sunday evening with a welcome reception and technical poster session. Monday's general sessions include a morning keynote address by Dr. **Charles Roberts** of SwRI, lunchtime presentations from the winners of this year's Undergraduate Student Research Competition, an afternoon expert panel session exploring innovative solutions for reducing life-cycle carbon emissions in transportation, and the Honors and Awards Banquet Monday evening. Scheduled for Tuesday morning is the Career Networking and Complimentary Headshot Event. The general session lineup for Tuesday includes the ICE Division Distinguished Lecture by **Roy J. Primus**, GE Research retired, an afternoon expert panel session on The Future of IC Engines in the North American Rail Industry, and finally the ICE Division Associates Meeting and Technical Committee meetings. All this and we still managed to include what might be a record-breaking number of presentations within the technical program scheduled throughout Monday and Tuesday. No activities are scheduled for Tuesday evening, so this will be a great time to explore the San Antonio Riverwalk and connect with other colleagues for dinner at one of the many wonderful restaurants within walking distance of the conference hotel. The conference wraps up on Wednesday with technical tours of SwRI for pre-registered attendees. For those interested in further professional development, concurrent with the technical tour will be an optional ASME ICE Division Short Course: A Pragmatic Approach to Low Greenhouse Gas (GHG) IC Engines. The inaugural short course of a new learning series offered at ICEF will be instructed by Dr. **David E. Foster** and **Kevin Hoag**, and requires pre-registration.

In case you have not done so already, please be sure and register for the conference soon and book your room at the conference hotel. We encourage you to take advantage of the early registration discount available until September 30. Please visit the conference website at event.asme.org/ICEF for more program information, to book your room, and to register for the conference and ASME ICE Division Short Course.

As the keystone activity of the ASME ICE Division, the annual ASME ICE Forward Conference is central to the Division's mission of recognizing and promoting advancements in the art, science, and practice of engineering in the field of internal combustion engines. The conference is a product of the entire Division and the culmination of efforts from the many volunteer organizers, reviewers, authors, speakers, attendees, sponsors, and ASME staff who contribute their time, energy, and resources to this endeavor. We are extremely grateful for everyone's contributions to help make this the premier conference focused on internal combustion engine systems. Scott and I are honored and thrilled to be chairing this year's conference and will continue working diligently to do our part in helping bring forward another excellent conference. We hope you will join us at ASME ICE Forward 2024 as we focus on driving internal combustion engine technologies forward.

ICEF 2024

The ICE Forward Conference

San Antonio, Texas USA

October 20-23, 2024

ASME ICE Forward 2024 will be held October 20–23 in the vibrant city of San Antonio, Texas, at the world-famous Riverwalk, with the Westin Riverwalk, San Antonio serving as the conference hotel and venue. Register today and reserve your room to join us in helping guide the future of internal combustion engines with leading experts from industry, academia, and the national labs.

Register by September 30 to receive a discounted registration rate.

Presenting authors/presenters must register by July 22.

Register for ICEF 2024 Today!

The Westin Riverwalk, San Antonio
ICEF 2024 Conference Venue

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ICE Division Short Course

A Pragmatic Approach to Low Greenhouse Gas (GHG) IC Engines

Wednesday, October 23, 2024 | 8:00am – 12:00pm ● The Westin Riverwalk, San Antonio (ICEF 2024 Conference Venue)
Registration fee: $350 USD ● Registration for the short course is separate from the ICEF conference registration.

The media is littered with a myriad of opinions on how global markets should achieve improved energy efficiency in the transportation sector. Don't miss the chance to learn from distinguished lecturers who will analyze the energy challenge based on fundamental science.

The short course will consist of three modules:

1. The first module focuses on the thermodynamic upper bounds of IC engines based on first principles. First and second law concepts will be used to reinforce approaches underway to improve efficiency and performance.
2. Market and societal based constraints faced by today's engine manufacturers and researchers will be discussed. It will be argued that a rational approach to achieving sustainable mobility systems must consider the likely timelines for new resource extraction and processing, implementing new infrastructure, and the transition of the manufacturing base which currently supplies the global demand for mobility propulsion systems.
3. Promising enabling technologies which are consistent with constraints of fundamental physics and market and societal issues, and how these technologies mesh with changes in a propulsion system's energy carrier.

Instructors

David E. Foster, Ph.D.
Phil and Jean Myers Professor Emeritus
Engine Research Center
University of Wisconsin – Madison (ret.)

David E. Foster is the Phil and Jean Myers Professor Emeritus of Mechanical Engineering of the University of Wisconsin - Madison. He received his Ph.D. in Mechanical Engineering in 1979 from MIT. He was a founding member of the Engine Research Center (ERC) and served as its Director from 1994 through 1999, and from September 2008 through December 2011. He was also the Founding Co-Director of the General Motors – ERC - Collaborative Research Laboratory, from its inception in 2002 until his retirement in 2012. He has served on numerous NRC and National Academy review and assessment committees; he is an SAE Fellow and is the recipient of the Academic Contribution Award from the Japanese Society of Automotive Engineers, the UW College of Engineering Byron Bird Excellence in Research Publication Award, the ASME Honda Gold Medal, the SAE Horning Award, and the SAE John Johnson Award.

Kevin Hoag
Technical Fellow
Southwest Research Institute (SwRI)

Kevin Hoag is currently an Institute Engineer in Powertrain Engineering at the Southwest Research Institute and is now Professor Emeritus from the University of Wisconsin–Madison where he taught Engine Design and Engine Performance and Combustion since 2007. Kevin holds bachelor's and master's degrees in mechanical engineering from the University of Wisconsin. Before returning to the university, he held a variety of roles in engine combustion and thermodynamics for over 16 years at Cummins, Inc.

Subject to cancellation if the minimum number of registrations is not achieved by August 23rd. Contact Dr. Andrea Strzelec with any questions.

TEC Sector News and ICED Updates

Tom Lavertu, Wabtec
TEC Sector Council Senior Vice President-Elect and Vice Chair
ICE Division Executive Committee, Past Member

As the TEC Sector Senior Vice President-Elect and Vice Chair, Tom will continue to serve as Council Vice Chair and work with the current Senior VP of the TEC Sector Council to lead major business and product development initiatives to advance ASME's mission.

Akin Keskin, Rolls-Royce
TEC Sector Council Member at Large
IGTI Division Executive Committee, Past Chair

As the TEC Sector Council Member-at-Large, Akin will lead task forces or committees to align ASME directives with member needs, and other projects assigned by the Senior Vice President.

Learn more about the ASME Technical and Engineering Communities (TEC) Sector or contact the TEC Sector.

Conference Webtool Task Force
The webtool taskforce, led by **Vicki Risinger**, ExxonMobil (TEC Sector Council Vice Chair), will review and update the RFP and business requirements documents, and compile a list of paper management vendors. Task Force members can offer input on the conference webtool needs and suggest vendors. If a new system is selected, implementation is planned for July 2026. **Matthew Hart,** Wabtec Corporation, represents the ICE Division on the taskforce.

Webtool Feedback
Submitted requests and status can be viewed at:
https://asmetraining.wpengine.com/feedback-and-feature-requests-received/

Webtool Feedback Submission Form
All webtool users are encouraged to provide feedback through the webtool feedback submission form, where you can also view submitted requests.
Webtool Help for ICEF 2024 or Contact the ICEF 2024 webtool staff.

Author Registration Guidelines Task Force
The Author Registration Guidelines Task Force, led by Prof. **Damian Vogt**, University of Stuttgart (TEC Sector Council Member at Large), has been established to assess and enhance the existing conference registration guidelines for authors. It offers a platform for volunteer leaders from various divisions to collaborate, exchange insights, and progress collectively towards a shared objective. The goal is to develop updated author registration guidelines that are equitable across all TEC Conferences, while also safeguarding the financial stability of each event. Prof. **Noah Van Dam**, University of Massachusetts Lowell, represents the ICE Division on the taskforce.

Welcome to the ICED Executive Committee

Dr. **Yuanjiang Pei, Aramco Americas' Detroit**

Dr. Yuanjiang Pei is a Team Leader at the Aramco Americas' Detroit Research Center. His team focuses on innovating and developing sustainable transport technologies using state-of-the-art simulation tools. He recently initiated an industry-focused consortium, IMPACT (Initiative for Modeling Propulsion And Carbon-neutral Transportation), to develop accelerated virtual methods for sustainable transport technologies. Pei is actively involved in the organization of several international conferences, serving both ASME and the Society of Automotive Engineers (SAE). He was presented with numerous prestigious awards, including the HPCwire Award four years in a row and 2019 ASME Chairman's Distinguished Service Award.

Code of Conduct
Review the ASME code of conduct/anti-harassment here.

DEI Toolkit
ASME seeks to ensure all members feel welcomed and included in the ASME community, to include ASME members of all backgrounds in all volunteer roles, and to provide a culture of respect and courtesy. We encourage ongoing dialogue that will inspire all members to bring these values to their personal and professional interactions. Review the ASME DEI Toolkit here.

Rules of Engagement for Meetings
This slide suggests some ground rules for inclusive meetings. If you would like the PowerPoint slide, please contact Laura Herrera, ASME Senior TEC Operations Manager.

ASME ICED Operations Guide—Revision 1 approved June 4, 2024

Congrats to the following award winners from ICED!

ASME Fellow

Scott Curran
Oak Ridge National Laboratory

Tiegang Fang
North Carolina State University

Will Northrop
University of Minnesota

Yuanjiang Pei
Aramco Americas

Sreenath Gupta
Argonne National Laboratory

ASME Internal Combustion Engine Award

Zoran Filipi
Clemson University

ASME Soichiro Honda Medal

Hongtei Tseng
University of Texas

ASME Dedicated Service Award

Kelly Senecal
Convergent Science

Ronald Grover
General Motors

ASME George Westinghouse Gold Medal

Robert Wagner
Oak Ridge National Laboratory

Upcoming Award Nomination Deadlines

Award Name	Nomination Deadline
Soichiro Honda Medal	October 1, 2024
Richard J. Goldstein Energy Lecture Award	October 1, 2024
Dedicated Service Award	November 1, 2024
George Westinghouse Medal	February 1, 2025
James Harry Potter Gold Medal	February 1, 2025
Calvin W. Rice Lecture Award	February 1, 2025
Internal Combustion Engine	February 1, 2025
Robert Henry Thurston Lecture Award	February 15, 2025
Meritorious Service Award	May 1, 2025
Engine Impact Award	August 1, 2025

Upcoming ASME Events

ISFA 2024

International Symposium on Flexible Automation

July 21–24, 2024

Seattle, WA USA

QNDE 2024

51st Annual Review of Progress in Quantitative NDE

July 22–24, 2024

Denver, CO USA

PVP 2024

Pressure Vessels & Piping Conference

July 28 – August 2, 2024

Bellevue, WA USA

ICONE 31

31st International Conference on Nuclear Engineering

August 4–8, 2024

Prague, Czech Republic

MNHMT 2024

International Conference on Micro/Nanoscale Heat and Mass Transfer

August 5–7, 2024

Nottingham, United Kingdom

IDETC-CIE

International Design Engineering & Computers and Information in Engineering Conference

August 25–28, 2024

Washington D.C., USA

SP^3

Space Propulsion & Power Platform

August 26–29, 2024

Cambridge, MA USA

SMASIS 2024

Smart Materials, Adaptive Structures, and Intelligent Systems

September 9–11, 2024

Atlanta, GA USA

POWER 2024

ASME Power Division Conference

September 15–18, 2024

Washington D.C., USA

IPC 2024

International Pipeline Conference

September 23–27, 2024

Calgary, Canada

ICEF 2024

The ICE Forward Conference

October 20–23, 2024

San Antonio, TX USA

BJRS 2024

Bolted Joint Reliability Symposium

October 21–24, 2024

Houston, TX USA

DTOG 2024

Digital Horizons: Energizing Transformation in Oil and Gas

November 11–13, 2024

Houston, TX USA

IMECE 2024

International Mechanical Engineering Congress & Expo

November 17–21, 2024

Portland, OR USA

HyRRAC 2025

Hydrogen Risk and Reliability Analysis Conference

February 3–5, 2025

Glendale, CA USA

ICEF 2025
ICE Forward Conference

Fall 2025
Knoxville, TN USA

VISIT KNOXVILLE TENNESSEE

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!

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From the Archives

Charles Finney

The genesis of the topical technical conference

As shown in previous *From the Archives* editions, the Division was founded in 1908 with a singular focus on the exchange of information to move ICE science and technology forward. Now, ever as much as then, the principal means of such exchange is the congregation of persons with mutual interests into technical conferences. This is somewhat fitting, given that the Division was founded as a result of an exciting focused technical session at the 1907 ASME Annual Meeting. Here, I'll briefly outline the evolution of technical meetings from irregularly held sessions at national meetings to the focused, regular topical meeting system that we have now.

In the early days of the Gas Power Section, special sessions were hosted within ASME national meetings, either during the Annual Meeting, usually held in December, or during the Spring Meeting. The early activities of the GPS were constant and fervent, with multiple active committees producing work, and the frequency of these sessions were regular until the original GPS's dissolution.[1]

After the GPS was involuntarily reorganized by ASME in 1915, work continued as a subcommittee through the end of World War I, during which general activities in multiple topics were either depressed or retasked; there were only sporadic papers.[2] [During the war, all of the mechanical engineering faculty at Columbia University trained military staff in maintaining the new gas engines used in naval vessels and other applications, running the Navy's Gas Engine School[3].]

Following the war, interest in oil (diesel) and gas power resumed, and this coincided with a renewed interest within ASME regarding technical divisions, as the memory of the successful Gas Power Section was still fresh among members. Starting in 1920, the technical division system was revived, and the Gas Power Section, soon Division, was reörganized in 1921. The GPD was able to resume activities as well as host sessions in the national meetings, as before.[4]

In 1924, the GPD was renamed to the Oil and Gas Power Division, a name which it retained until 1964. This renaming reflected a general mood of excitement regarding reciprocating ICEs, which interest was shared among the public. In 1925, multiple government and technical organizations initiated a series of local events across the nation during a designated Oil and Gas Power Week (OGPW). Typically, local events would include lectures and sometimes demonstrations. OGPW persisted for several years in the 1920s. The Division awarded a prize for the best paper presented during OGPW.

Pennsylvania State University went a bit further with Oil and Gas Power Week: in 1927, Penn State organized and hosted the First Annual Oil Power Conference. This was a three-day event with a variety of talks related to diesel engines, and while speakers were predominantly from Penn State, participants ranged from other institutions.

This topical technical conference generated interest among members of the OGPD, and the next year saw a joint meeting of the Second Annual Oil Power Conference and the First National Meeting of the Oil and Gas Power Division; there were 206 registrants. The first page of the proceedings program is reproduced above. This inaugural meeting started a very successful series of annual meetings which continued through 1978, whereafter it was supplanted by the fall—and later also spring—technical conference series which led to the present-day ICE Forward Conference series. There was also a conference series 1977–1994 co-hosted with the Petroleum Energy Division.

PROGRAM

PART II

FIRST NATIONAL MEETING
of the
OIL AND GAS POWER DIVISION
A. S. M. E.
and
SECOND ANNUAL OIL POWER CONFERENCE
of
THE PENNSYLVANIA STATE COLLEGE
June 14-16, 1928

GENERAL SESSION
Thursday, June 14, 10:30 A. M.
CHAIRMAN—F. G. HECHLER
Professor of Engineering Research
The Pennsylvania State College

Address of Welcome,
By DR RALPH D. HETZEL, President of The Pennsylvania State College
PRESIDING OFFICER—FRED R. LOW
Past President A. S. M. E

European Diesel Engine Development,
By OLIVER F. ALLEN, International General Electric Company, Schenectady, N. Y

ECONOMICS SESSION
Thursday, June 14, 2:15 P. M.
PRESIDING OFFICER—R L. SACKETT
Dean, School of Engineering

The Economic Field for Small and Medium Size Diesel Engines,
By H A. PRATT, Manager Oil Engine Department, Ingersoll-Rand Company, New York, N. Y.

The Economic Field for Large Diesel Engines,
By E. B. POLLISTER, General Manager, Busch-Sulzer Bros., Diesel Engine Company, St. Louis, Missouri

The Diesel Engine and the Public Utilities,
By ROSWELL H. WARD, Managing Editor, Motorship, New York, N. Y.

Discussion led by,
EDGAR J. KATES, Consulting Engineer, New York City and Chairman of the Oil and Gas Power Division

General Discussion.

CONFERENCE ON DIESEL FUEL OIL SPECIFICATIONS
Friday, June 15, 9:00 A. M.
PRESIDING OFFICER—G. L. WENDT
Dean, School of Chemistry and Physics

Diesel Fuel-Oil Specifications,
By G. H. MICHLER, Standard Oil Company of New Jersey, New York, N. Y

A unique feature of the annual national meetings was the exhibits by vendors of engines and related subsystems. Another innovation in later years (1947) was the offering of in-depth lectures for participants who wanted a more thorough study of a given topic[5]; compare this with short course at the 2024 ICE Forward Conference. The Division meetings also continued the practice from the ASME national meetings of local site tours.

While the Division's conference format has evolved over the years, even today some practices are in place which were established almost a century ago. These persist because on a fundamental level, topical information exchange has certain invariant features, and this provides a guide for the constants and variables of ICE Forward.

[1]1907 AM (4 papers); '08 AM (2); '09 SM (4), AM (2); '10 SM (4), AM (2); '11 SM (multiple), AM (4); '12 SM (2), AM (1); '13 SM (1). [2]1915 AM (2 papers); '16 AM (4). [3]*New York Times*, 1919-07-20. [4]1921 AM (2 papers); '23 AM (2); '24 AM (3); '25 AM (4); '26 SM (3), AM (5); '27 SM (4), AM (2). [5]Brown JC (1951). The History of the Oil and Gas Power Division, *Proceedings 23rd Oil & Gas Power Conference*.

2024 Executive Committee

Chair

Dr. **Kelly Senecal**
Convergent Science, Inc

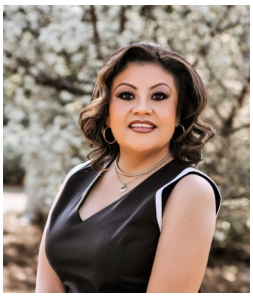
Vice-Chair

Dr. **Sundar Krishnan**
University of Alabama

Past Chair

Dr. **Sibendu Som**
Argonne National Laboratory

Sr. TEC Operations Mgr.



Laura Herrera
ASME

Conference Chair

Dustin Osborne
Southwest Research Institute

Conference Co-Chair

Dr. **Scott Curran**
Oak Ridge National Laboratory

Industry Advisor

Dr. **Ronald Grover**
General Motors

Events Management

Colleen Seaver
ASME

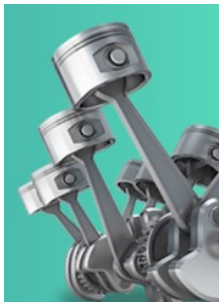
Member

Dr. **Andrea Strzelec**
USCAR

New Incoming Member

Dr. **Yuanjiang Pei**
Aramco

Treasurer



Vacant

Secretary

Dr. **Thomas Lavertu**
Wabtec Corporation

Associates Nominating Chair:	**William Northrop**
Honors and Awards Chair:	**Riccardo Scarcelli**
Best Paper Award Chair:	**Jim Cowart**
Best Presentation Award Chair:	**Dustin Osborne**
ICE Award Chair:	**Kelly Senecal**
Honda Medal Committee Rep:	**David Foster** & **Ron Grover**
Westinghouse Medal Committee Rep:	**Kalyan Srinivasan**
Long Range Planning:	**William Northrop**
History and Heritage Liaison:	**Charles Finney**
Ops Guide:	**Scott Curran**
Student Activities Chair:	**Noah Van Dam**
Women in ICE Chair:	**Cathy Choi**
ICED Newsletter Editors:	**Chris Stoos** & **Charles Finney**

ICE Forward Ambassadors

The ICE Forward Ambassadors are a global group of prominent researchers who help promote the ICE Division and the ICE Forward Conference.

Avinash K Agarwal
Professor
Indian Institute of Technology Kanpur

Carlo Beatrice
Research Director
CNR-STEMS

Martin H. Davy
Associate Professor
University of Oxford

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

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

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

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

Olivier Laget
Doctor/Phd.
IFP Energies nouvelles

Felix Leach
Associate Professor
University of Oxford

Federico Millo
Professor
Politecnico di Torino

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

Christine Rousselle
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University of Orléans, France

Marc Sens
Senior VP Research & Technology
IAV

Ratnak Sok
Associate Professor
Waseda University