FEDSM-SHTC-ES 2026

FLUIDS ENGINEERING DIVISION SUMMER MEETING
SUMMER HEAT TRANSFER CONFERENCE
20TH INTERNATIONAL CONFERENCE ON ENERGY SUSTAINABILITY

PROGRAM

CONFERENCE
JULY 26–29, 2026

HYATT REGENCY BELLEVUE
BELLEVUE, WA, USA

https://event.asme.org/FEDSM
https://event.asme.org/SHTC
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Contents

Welcome to FEDSM 2026!

DEAR ATTENDEES,

Welcome to the 2026 ASME Fluids Engineering Division Summer Meeting (FEDSM2026)! We are delighted to welcome you to Bellevue, Washington, for three days of technical exchange, collaboration, and innovation.

This year's meeting holds special significance as we celebrate the Centennial of the ASME Fluids Engineering Division (FED). For one hundred years, the Division has served as a professional home for researchers, educators, and practitioners dedicated to advancing the understanding and application of fluid mechanics. From the hydraulic laboratories and experimental facilities of the early twentieth century to today's computational, data-driven, and AI-enabled approaches, fluids engineering has continually evolved while remaining grounded in a common purpose: making fluid behavior visible, understandable, and useful in service to society.

The FED remains committed to advancing the field of fluids engineering by organizing conferences, facilitating technical exchange, and disseminating timely research and educational developments. FEDSM2026 continues that tradition while providing an opportunity to reflect on a century of achievement and to consider the challenges and opportunities that will shape the century ahead.

This year's meeting is co-located with the Heat Transfer and Energy Sustainability Divisions, creating additional opportunities for interdisciplinary engagement. Three years ago, we were honored to participate in AJKFED2023 in Osaka, Japan, together with our colleagues from the Japanese and Korean mechanical engineering societies. In addition to this summer gathering, the FED continues to contribute actively to the ASME International Mechanical Engineering Congress and Exposition each year.

FEDSM2026 is truly a global event, bringing together participants from more than 20 countries across five continents and featuring over 270 technical presentations. The conference showcases advances from academia, industry, and government laboratories, reflecting both the breadth and vitality of our field.

This year, we are proud to feature the following plenary speakers:

- **Dr. Ajit Yoganathan,** *Georgia Institute of Technology & Emory University*
- **Dr. Melany Hunt,** *California Institute of Technology*
- **Dr. Alfredo Soldati,** *Technische Universität Wien, Austria – 2026 ASME Fluids Engineering Awardee*
- **Dr. Joseph Katz,** *Johns Hopkins University*

Our technical program is organized through six key committees and one working group: Fluid Applications and Systems, Fluid Measurement and Instrumentation, Fluid Mechanics, Multiphase Flow, Computational Fluid Dynamics, Micro-Nano Fluid Dynamics, and Biomedical Fluid Mechanics. We are also pleased to host our annual Awards Program recognizing outstanding technical contributions, flow visualization achievements, graduate student scholars, and service to the profession.

As we celebrate the Division's centennial year, we encourage you to participate not only in the technical sessions but also in the conversations that shape the future of the field. The FED Town Hall, Technical Committee meetings, Awards Luncheon, and Centennial activities provide opportunities to connect with colleagues, contribute ideas, and help define the next chapter of fluids engineering.

We extend our sincere appreciation to the track and topic organizers, session chairs, reviewers, volunteers, and ASME staff whose dedication has made this conference possible.

Thank you for joining us for this historic meeting. We hope FEDSM2026 provides an engaging forum for learning, collaboration, and discovery, while also offering an opportunity to celebrate a century of contributions by the Fluids Engineering Division and to envision the future of our profession.

We look forward to seeing you in Bellevue.

Warm regards,

Conference Chair
Kevin Anderson
ASME Fellow
AIAA Assoc. Fellow
California State Polytechnic University at Pomona

Conference Co-Chair
Ivana Milanovic
ASME Fellow
CT Academy of Sciences & Engineering
University of Hartford

Welcome to SHTC 2026!

WELCOME FROM THE CONFERENCE ORGANIZERS

Welcome to the 2026 Summer Heat Transfer Conference!

We are pleased to welcome you to the 2026 Summer Heat Transfer Conference (SHTC), taking place July 26-29 in Bellevue, Washington.

We are delighted to be co-located with the Energy Sustainability and Fluids Engineering Division meetings as this provides a venue for engineers, researchers, and practitioners to gather across the thermal sciences. SHTC 2026 alone features over 300[BI1.1] technical presentations, including keynote lectures, invited talks, symposia, panel discussions, and workshops.

We extend a warm invitation to attend the four plenary talks by Karen Thole (Penn State Univ), Husam Alissa (Microsoft), Yogendra Joshi (Georgia Tech), and Robert Wagner (ORNL). We are honored to host two special symposia celebrating the careers of Professors James V. Beck and J.C. Han. Additionally, there are five panel discussions planned as part of the program, as outlined below:

- AI Workforce Readiness – exploring industry AI readiness and academic preparation.
- Modern Insights into Computational Fluid Dynamics – reviewing current CFD practices for heat transfer applications.
- Fundamentals of Data Center and Contemporary Semiconductor Thermal management – linking research with industrial challenges and sustainability.
- Nanoscale Thermal Transport for Quantum Information and Quantum Sensing – examining emerging quantum devices and showcasing scalabiilty.
- Fundamentals of Aerospace Heat Transfer – highlighting advances in aerospace heat transfer research.

The conference will also feature a workshop on Applications of Machine Learning and AI in Heat Transfer, Thermal Management, and Energy Conversion Sunday July 26. We look forward to celebrating our SHTC Awardees at lunch on Monday July 27 as well.

We invite students to a welcome event held on Monday July 27 to provide practical guidance on navigating the conference and building professional networks within ASME. We invite all conference participants to learn about the heat transfer division k-committees that organize and support our conferences/journal by attending a committee meeting in a topic area of interest on Monday or Tuesday evening.

We are grateful to the many individuals who made this conference possible, including the track and session chairs, reviewers, symposium and panel organizers, and ASME staff. In particular, we thank Andrew Koleba, Mark Avila, and April Tone for their continued support and coordination.

Thank you for being part of the SHTC community. Whether this is your first time attending or you are a long-time participant, we hope you find the sessions engaging, the discussions productive, and the overall experience worthwhile. We look forward to seeing you in Bellevue.

Best Regards,

John Tencer, *General Conference Chair, Sandia National Laboratories*

Ravi Annapragada, *General Conference Co-Chair, Carrier*

Xiulin Ruan, *Technical Program Chair, Purdue University*

Brian Iverson, *Technical Program Chair (Panels & Workshops), Brigham Young University* **Rydge**

Mulford, *Technical Program Chair (Special Events), University of Dayton*

Welcome to ES 2026!

FROM THE CONFERENCE ORGANIZERS

Dear Colleagues,

On behalf of ASME's Advanced Energy Systems Division (AESD) and Solar Energy Division (SED), we are delighted to welcome you to the 20th International Conference on Energy Sustainability (ES 2026), held in Bellevue, Washington, July 26–29, 2026.

This year, ES 2026 is co-located with the Summer Heat Transfer Conference (SHTC 2026) and the Fluids Engineering Division Summer Meeting (FEDSM 2026), providing attendees with expanded opportunities to engage with broader technical communities, exchange ideas across disciplines, and strengthen professional networks.

The ES Conference serves as a premier forum for experts and researchers from academia, industry, national laboratories, and other organizations to share ideas, present research findings, and explore collaborations that advance sustainable energy technologies and processes. The conference technical program spans a broad range of topics highlighting innovations in sustainable energy systems, including sustainable buildings, communities and cities, and diverse energy sources and technologies such as solar, geothermal, nuclear, industrial waste heat, wind, hydropower, and energy storage. This year's program also emphasizes emerging areas including artificial intelligence, hydrogen, bioenergy, sustainable fuels, hybrid energy systems, sustainable manufacturing, and carbon capture, utilization, and storage for the clean energy transition.

ES 2026 will feature three distinguished keynote speakers: Dr. Joshua Heyne, Professor of Mechanical Engineering at Washington State University; Dr. Shannon Bragg-Sitton, Associate Laboratory Director for Energy and Environment Science and Technology at Idaho National Laboratory; and Dr. Laura Schaefer, the Burton J. and Ann M. McMurtry Professor in the Department of Mechanical Engineering at Rice University. In addition, the conference will host four expert panels covering timely and impactful topics, including Funding Opportunities at NSF and DOE and Linking Indoors to Outdoors on Day 1, Solar Thermal Applications for Process Heat on Day 2, and Data Center Energy Challenges and Emerging Technologies on Day 3. We are also pleased to offer a special workshop on "Particle-Based CST: Modeling, Experiments, and the Pivot Beyond 1000°C," which will be held on Sunday, July 26.

Beyond the technical program, ES 2026 continues to provide special programming focused on students and early-career researchers. Activities such as the Power Hour, Lightning Talks, and Student Career Panel are designed to foster collaboration, mentorship, and networking opportunities. Recognizing the importance of supporting the next generation of scholars and innovators, AESD and SED continue to provide registration discount awards to encourage participation from students and early-career researchers.

The ES 2026 Organizing Committee would like to express its sincere gratitude to the many volunteers whose efforts made this conference possible, including our track chairs and co-chairs, session organizers, reviewers, panelists, and keynote speakers. We also extend our appreciation to the ASME staff for their dedicated support throughout the planning and organization of the conference.

Finally, we thank all authors, presenters, and attendees for your participation and contributions to ES 2026. We hope you enjoy the conference, connect with colleagues and collaborators, and experience the beautiful State of Washington.

We look forward to seeing you at ES 2026.

General Conference Chairs

Like Li, *University of Central Florida*
Hailei Wang, *Utah State University*

Technical Program Chairs

Shuang Cui, *The University of Texas at Dallas*
Aggrey Mwesigye, *University of Calgary*

Technical Program Co-chairs

Andrew Schrader, *University of Dayton*
Sarvenaz Sobhan, *Sacramento State University*
Alon Lidor, *National Laboratory of the Rockies*
Alex Zolan, *National Laboratory of the Rockies*

REGISTRATION INFORMATION

Grand Ballroom Foyer, Second Floor

Registration Hours:

Sunday, July 26	10:00AM–6:00PM
Monday, July 27	7:00AM–5:00PM
Tuesday, July 28	7:00AM–5:00PM
Wednesday, July 29	7:00AM–12:00PM

EXHIBIT INFORMATION

Grand Ballroom Foyer, Second Floor

Hours

Monday, July 27	8:00AM–5:00PM
Tuesday, July 28	8:00AM–5:00PM
Wednesday, July 29	7:00AM–3:00PM

AMERICAN SOCIETY OF MECHANICAL ENGINEERS INTERNATIONAL

ASME MISSION STATEMENT:
ASME's mission is to advance engineering for the benefit of humanity.

ASME VISION STATEMENT:
ASME's vision is to be the premier resource for the engineering community globally.

AUDIOVISUAL EQUIPMENT IN SESSION ROOMS

All technical sessions are equipped with one LCD projector and one screen. Laptops will NOT be provided in the sessions. Presenters MUST bring their own or make arrangements in advance with the session chairs to share theirs. A speaker ready room is available starting on Monday from 7:00AM to 5:00PM and until Wednesday at 4:00PM in Madrona located on the Third Floor.

SPEAKER READY ROOM

The Madrona Room located on the Third Floor, will be available per the schedule below to review and/or practice your presentation. A screen and LCD Projector will be provided.

Monday, July 27	**7:00AM–5:00PM**
Tuesday, July 28	**7:00AM–5:00PM**
Wednesday, July 29	**7:00AM–3:00PM**

BADGE REQUIRED FOR ADMISSION

All conference attendees must always wear the official ASME 2026 FEDSM/SHTC/ES badge to gain admission to technical sessions, exhibits, and other conference events. Without a badge, you will NOT be allowed to attend any conference activities.

CONFERENCE AWARD LUNCHEON

(One Award Lunch is included based on selection during the registration process.)

The Awards Luncheon will take place during the conference to recognize and celebrate a select group of individuals for their contributions and achievements. The schedule is as follows:

Fluids Engineering Summer Meeting Awards Luncheon is on Tuesday, July 28, 12:05PM–1:35PM in Grand Ballroom DEFG, 2nd Floor.

Summer Heat Transfer Awards Luncheon is on Tuesday, July 28, 12:05PM–1:35PM in Grand Ballroom HIJK, 2nd Floor.

Energy Sustainability Awards Luncheon is on Tuesday, July 28, 12:05PM–1:35PM in Grand Ballroom ABC, 2nd Floor.

Conference Information

CONFERENCE LUNCHES/POSTER PRESENTATIONS

On Monday and Wednesday, Conference lunches for all three conferences will be held from 12:05PM to 1:35PM in Grand Ballroom D-K, 2nd Floor. Please join your fellow attendees for a good meal and a great networking opportunity. Please note, on Monday, we will have the Poster Presentations as well during lunch. Grab a boxed lunch and join the Poster Presenters to support their hard work.

CONFERENCE APP

All three conferences will be utilizing the ASME Events mobile app to enhance the experience for attendees and speakers in place of a printed program. Connect with Attendees, View Speaker Profiles, Access Session Information, and more! Options may vary by event.

CONFERENCE PROCEEDINGS AND DIGITAL PAPERS

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, submitted for abstracting and indexing, and can be purchased. The proceedings are published in 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, you can message ConferencePubs@asme.org.

CONFERENCE REFRESHMENT BREAKS

Morning and afternoon breaks will be provided in the Grand Ballroom Foyer on the Second Floor. Come and meet our exhibitors CFturbo and Tecplot Inc. and join your fellow attendees for a few minutes of networking and discussion. Their sponsorship and support help to make our conference sustainable.

The schedule is as follows:

Monday–Wednesday, July 27–29
10:05AM–10:25AM and 3:15PM–3:35PM

EMERGENCY INFORMATION

If you are experiencing a health emergency, please dial 911. The hotel also has 24-hour security and officers trained in first aid, CPR, & AED service.

INTERNET ACCESS

Complimentary basic internet is provided in the sleeping rooms if you are staying at the hotel. Below is the WIFI code hotel's public space, and in the meeting space.

- **SSID:** Hyatt_Meeting
- **Password:** ASME2026 (caps)

MEMBERSHIP TO ASME (4 MONTHS FREE)

Registrants who paid the non-member conference registration fees will receive a four-month complimentary ASME Membership. ASME will automatically activate this complimentary membership for qualified attendees. Please allow approximately four weeks after the conclusion of the conference for your membership to become active.

Visit www.asme.org/membership for more information about the benefits of ASME Membership.

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.

MOTHERS ROOM

Exec Suite 343, Third Floor.

This private room is available on first-come, first-served basis as a comfortable space for nursing mothers. A small refrigerator, water station, and electrical outlets will be available.

PRAYER ROOM

Exec Suite 345, Third Floor.

REGISTRANTS WITH DISABILITIES

Whenever possible, we are pleased to plan for registrants with disabilities. Advance notice may be required for certain requests. For on-site assistance, please visit the conference registration area and ask to speak with a conference representative.

PARKING

The rate is $37 per day for Self-Parking and $47 per day for Valet Parking.

FEDSM PLENARY SPEAKERS

MONDAY, JULY 27 **8:00AM**

Dr. Alfredo Soldati
Professor of Fluid Mechanics
Head of the Institute of Fluid Mechanics and Heat Transfer
Technische Universität Wien (TU Wien), Austria

PRESENTATION TITLE: BUBBLE AND DROP BREAKUP IN TURBULENCE

TUESDAY, JULY 28 **8:00AM**

Dr. Ajit Yoganathan
Regents' Professor Emeritus
Associate Chair for Research
The Wallace H. Coulter School of Biomedical Engineering &
The Wallace H. Coulter Distinguished Faculty Chair in Biomedical Engineering
Georgia Institute of Technology & Emory University

PRESENTATION TITLE: FLUID ENGINEERING FOR HEART VALVE INNOVATION: FROM BENCH TO BEDSIDE AND BEYOND

TUESDAY, JULY 28 **3:35PM**

Professor Joseph Katz
Department of Mechanical Engineering}
Johns Hopkins University

PRESENTATION TITLE: TURBULENT BOUNDARY LAYERS OVER COMPLEX SURFACES

WEDNESDAY, JULY 29 **9:05AM**

Dr. Melany Hunt
Dotty and Dick Hayman Professor of Mechanical Engineering
Caltech

PRESENTATION TITLE: PARTICLES IN LIQUIDS: COLLISIONS, STRESSES, AND THE LEGACY OF R.A. BAGNOLD

SHTC PLENARY SPEAKERS

MONDAY, JULY 27 **9:00AM**

Karen Thole
Robert J. Vlasic Dean of Engineering
University of Michigan

PLENARY TITLE: BRIDGING RESEARCH AND APPLICATION: TRANSITIONING TURBINE COOLING INNOVATIONS FROM LAB TO INDUSTRY

TUESDAY, JULY 28 **8:00AM**

Husam Alissa
Senior Director of Systems Technology
Microsoft

PLENARY TITLE: COOLING THE CLOUD

TUESDAY, JULY 28 **9:00AM**

Yogendra Joshi
Professor and John M. McKenney and Warren D. Shiver Distinguished Chair
G.W. Woodruff School of Mechanical Engineering
Georgia Institute of Technology

PLENARY TITLE: EMERGING HEAT TRANSFER CHALLENGES IN INFORMATION PROCESSING, SENSING, AND COMMUNICATION

WEDNESDAY, JULY 29 **9:00AM**

Robert Wagner
Associate Laboratory Director of the Energy Science and Technology Directorate (ESTD)
Oak Ridge National Laboratory (ORNL)

PLENARY TITLE: ADVANCING THE U.S. ENERGY SYSTEM THROUGH HEAT TRANSFER AND THERMAL MANAGEMENT: CONNECTING FUNDAMENTAL SCIENCE TO REAL WORLD ENERGY SYSTEMS

Keynote & Plenary Speakers

ES KEYNOTE SPEAKERS

MONDAY, JULY 27 **8:00AM**

Joshua S. Heyne, Ph.D.
Director, Bioproducts, Sciences, and Engineering Laboratory
Co-director, WSU-PNNL Bioproducts Institute
Washington State University

KEYNOTE TITLE: FROM BARRELS TO BLEND LIMITS: THE SCIENCE STANDING BETWEEN SUSTAINABLE AVIATION FUEL AND THE WING

TUESDAY, JULY 28 **8:00AM**

Laura Schaefer
Burton J. and Ann M. McMurtry Professor
Department of Mechanical Engineering
Rice University

TUESDAY, JULY 28 **9:05AM**

Shannon M. Bragg-Sitton
Associate Laboratory Director
Energy & Environment Science & Technology
Idaho National Laboratory

KEYNOTE TITLE: ENERGIZING THE FUTURE: SECURING, STRENGTHENING, AND TRANSFORMING AMERICA'S ENERGY SYSTEMS

FEDSM TRACK KEYNOTE SPEAKERS

Dr. Ganesh Raman
Assistant Vice Chancellor for Research
California State University

Alexandrina Untaroiu
Associate Professor
Virginia Tech

KEYNOTE TITLE: APPLICATIONS OF CFD FOR ENHANCED STABILITY MARGINS IN ROTATING MACHINERY

Dr. Ashvin Hosangadi
Vice-President and Principal Scientist
Combustion Research and Flow Technology Inc. (CRAFT Tech)
2026 ASME Henry R. Worthington Medal Winner

KEYNOTE TITLE: EFFECTS OF PHASE CHANGE ON PERFORMANCE OF TURBOMACHINERY OPERATING AT TRANS-CRITICAL CONDITIONS

Paul Fischer
Professor, University of Illinois, Urbana Champaign
Senior Scientist, Argonne National Laboratory

KEYNOTE TITLE: HPC AND HIGH-ORDER METHODS FOR THERMAL HYDRAULICS AND MHD

MONDAY, JULY 27 **9:05AM–10:05AM**

FUNDING OPPORTUNITIES PANEL

Invited panelists, including representatives from the U.S. National Science Foundation (NSF) and the U.S. Department of Energy (DOE), will discuss current and upcoming research and education funding opportunities across federal agencies. The panel will provide insights into program priorities, proposal strategies, and best practices for engaging with program directors and project managers. Attendees will have the opportunity to ask questions and gain guidance on aligning their research and education plan with agency missions and funding calls.

Panelists:

Lindsay Walter, Ph.D.
U.S. Department of Energy Integrated Energy Systems Office

Dr. Lindsay Walter is a Solar Research and Development Engineer at ManTech International, where she supports the U.S. Department of Energy Integrated Energy Systems Office (IESO). She works with the Thermal Energy Systems team to advance research and development of solar-thermal technologies for mid- to high-temperature applications. Lindsay holds a Ph.D. in mechanical engineering from the University of Utah.

Sumanta Acharya, Ph.D.
U.S. National Science Foundation

Dr. Sumanta Acharya is a Program Director in the ENG Directorate, Engineering Education and Centers (EEC), Engineering Research Centers (ERC) Program. He will talk about opportunities at the ERC level and in the EEC division at NSF.

Moderator:

Like Li, Ph.D.
Associate Professor of Mechanical Engineering, University of Central Florida

MONDAY, JULY 27 **10:25AM–12:05PM**

LINKING INDOORS TO OUTDOORS: PROMOTING WELL-BEING THROUGH SMART MANAGEMENT OF ENERGY AND AIR QUALITY SYSTEMS

This panel explores how intelligent building systems can better link indoor and outdoor environments to enhance human well-being. Topics include sensing and quantifying occupant health and comfort, smart management of energy and air quality systems, physics-based and AI-driven models of indoor–outdoor pollutant and heat transport, and real-world case studies demonstrating integrated, data-informed solutions across diverse building types and climates.

Moderators:

Dr. Jorge Gonzalez-Cruz, *Empire Innovation Professor of Atmospheric and Environmental Sciences, Founding Editor – ASME J. of Engineering of Sustainable Buildings and Cities, University at Albany, United States*

Panelists:

Dr. Abdlmonem H. Beitelmal
Principal Scientist, Qatar Environment and Energy Research Institute, Qatar

Dr. Andrea Gasparella
Professor of Building Physics and Building Energy Systems, Free University of Bozen-Bolzano, Italy

Dr. Ravi Annapragada
Head of Strategy, Carrier Energy & Sustainability

Dr. Zheng O'Neill
J. Mike Walker '66 Professor II of Mechanical Engineering, Texas A&M University

Panels

MONDAY, JULY 27 **10:25AM–12:05PM**

K8-01: FUNDAMENTALS OF AEROSPACE HEAT TRANSFER

Organizers: Richard Zihao Zhang

Description: This panel will highlight recent technology development impacts from industry and academic leaders investigating challenges in aerospace heat transfer. Topics covered in this panel will include combustion and ignition within gas turbine engines, deployable radiators and energy harvesting, thermal control of space-based data centers, variable emissivity coatings, and thermal control systems for manned missions. The panel will present their body of work and bridge the gap between research and industrial applications for spaceflight.

Panelists:

Jay Gore
Purdue University

Brian Iverson
Brigham Young University

Columbia Mishra
Air Force Research Laboratory

Liwei Zhang
University of Texas at Arlington

Moses Kodur
Surface Optics Corp.

MONDAY, JULY 27 **1:35PM–3:15PM**

K8-02: FUNDAMENTALS OF DATA CENTER AND CONTEMPORARY SEMICONDUCTOR THERMAL MANAGEMENT

Organizers: Amitabh Narain, Vladimir Ramos Alvarado, Vaibhav Bahadur

Panel Scope and Themes:

The panel will bridge the gap between fundamental research and industrial application, focusing on:

- High-Power xPUs: Addressing thermal management for next-generation processors dissipating 700–2000 W
- Chip-Level Mitigation: Exploring hot spot mitigation in nano-sheet de-vice layers and their interfaces
- Direct-to-Chip Cooling: Utilizing single or two-phase liquid cooling via Cold Plates and CDUs
- Systems & Sustainability: Data Center or Building level Thermal Manage-ment, Discussions of time-to-tokens throughput, 3-year refresh cycles, and the potential for chillerless waste heat dump and 10–20% clean electricity generation through waste-heat recover

Panel Moderators:

Prof. Amitabh Narain
Michigan Technological University (Panel Chair)

Prof. Bladimir Ramos Alvarado
Pennsylvania State University

Prof. Vaibhav Bahadur
University of Texas at Austin (Chair, K8 Committee)

Invited Panelists

Academia

Professor Yogendra Joshi
John M. McKenney and Warren D. Shiver Distinguished Chair,
G.W. Woodruff School of Mechanical Engineering,
Georgia Institute of Technology

Prof. Wangda Zuo, Ph.D.
Fellow of ASHRAE and IBPSA
Department of Architectural Engineering,
Pennsylvania State University

Industry

Dr. Qingyang Wang, Ph.D.
Principal Engineer, Accelsius

Dr. Tony Lin
Principal Member of Technical Staff,
Thermal Design of Data Centers, AMD, Inc.

Nithish Selvan
Senior Simulation Engineer,
AI Data Center Thermal Management, Modelon

Navid Gougol
Yektasonics, Inc.
Adaptive RF Amplifier Electronics for Piezo-Actuated Two-Phase Direct-to-Chip Cooling (collaborative development with APC Inc. and Michigan Tech)

MONDAY, JULY 27 **3:35PM–5:15PM**

K8-03: AI WORKFORCE READINESS PANEL AI WORKFORCE

Organizer: Diana-Andra Borca-Tasciuc and Sumith Yesudasan

Description: This panel addresses industry AI readiness and the evolving skill requirements for entry-level engineers in heat transfer and its applications. The session brings together industry perspectives to outline current expectations, identify required technical and computational skills, and examine the role of AI tools in analysis, design, and decision-making. Topics include data-driven modeling, automation of simulation workflows, integration of AI with traditional heat transfer methods, and gaps between academic preparation and industry needs. The discussion aims to inform curriculum development and support preparation of engineers entering roles related to thermal systems, energy, manufacturing, and aerospace.

Panelists:

Arun Mulley
Technical Fellow and South East Asia Technology Director, Boeing Research & Technology

Prahit Dubey
Director of Thermal Systems and Software, General Motors

Qingyang Wang
Thermal Engineer/Scientist, Accelsius

Ravi Annapragada
Head of Strategy, Carrier Energy & Sustainability, Carrier

TUESDAY, JULY 28 **10:25AM–12:05PM**

BRIDGING THE GAP: CRITICAL RESEARCH NEEDS OF SOLAR THERMAL TECHNOLOGIES IN INDUSTRIAL PROCESS HEAT MARKETS

Industrial process heat (IPH) is a significant consumer of domestic energy supply and is used to serve processes at a wide range of temperatures and heat transfer media. Solar thermal technologies have a history of producing electricity at scale and have more recently exhibited deployment as solar heat for industrial processes (SHIP). In this panel, we will discuss recent research focused on SHIP systems as well as opportunities to bridge the gap between the existing deployment experience and existing heat integration requirements in relevant industries that utilize temperature ranges compatible with existing and developing SHIP technologies.

Panelists:

Prof. Laura Schaefer
Rice University

Prof. Greg Jackson
Colorado School of Mines

Dr. Guangdong Zhu
National Laboratory of the Rockies

Dr. Jeremy Sment
Sandia National Laboratories

TUESDAY, JULY 28 **10:25AM–12:05PM**

K9-04: NANOSCALE THERMAL TRANSPORT FOR QUANTUM INFORMATION AND QUANTUM SENSING

Organizers: Tianli Feng, Goeff Wehmeyer, Yi Zheng

This panel explores the critical role of nanoscale heat management in maintaining the coherence and sensitivity of next-generation quantum devices. Experts will discuss the fundamental physics of phonon transport and thermal fluctuations that limit performance in qubits and quantum sensors. By bridging the gap between ultrafast thermal science and quantum engineering, the session aims to highlight innovative cooling strategies and material designs essential for scaling quantum technologies.

Speakers:

Michael Pettes
Los Alamos National Laboratory

Li Shi
UT Austin

Ali Shakouri
Purdue University

Amin Reihani

Panels

TUESDAY, JULY 28 **3:35PM–5:15PM**

K20-03: MODERN INSIGHTS INTO COMPUTATIONAL FLUID DYNAMICS

Organizer: Elia Merzari, Hamidreza Najafi

This panel will explore modern practices in computational fluid dynamics for heat transfer applications from multiple perspectives, spanning both industry and academia. Speakers will share insights into current best practices, validation and verification strategies, model selection, and the integration of high-fidelity simulation into engineering workflows. The discussion will encompass a broad spectrum of computational tools, ranging from cutting-edge research codes developed in academic and national laboratory settings to widely adopted commercial software used in industrial design and analysis. Together, these perspectives will provide a comprehensive view of the state of the art in CFD for heat transfer and its practical implementation across sectors.

Speakers:

Nate Salpeter
Consultant

Giacomo Busco
Kairos Power

Paul Fischer
UIUC

TUESDAY, JULY 28 **5:20PM–6:20PM**

STUDENT CAREER PANEL

Panelists from academia, industry, and national laboratory positions will discuss their career paths, compare a typical workday in academia, industry and national laboratory positions, and answer student's questions regrading career decisions.

WEDNESDAY, JULY 29 **9:05AM–10:05AM**

DATA CENTER ENERGY CHALLENGES AND EMERGING TECHNOLOGIES

As AI and high-performance computing drive unprecedented demand, data centers are pushing the limits of power, cooling, and infrastructure design. Join industry leaders and researchers for a forward-looking discussion on emerging energy technologies, advanced cooling strategies, evolving IT equipment requirements, and the future of resilient, scalable, and efficient digital infrastructure as the industry responds to the rapid compute growth.

Panelists:

Dr. Guangdong Zhu
NLR.

Kevin Kitz
Kitzworks

Rajat Bhagat
Arcadis.

Dr. Yogendra Joshi
Georgia Institute of Technology

SUNDAY, JULY 26 **1:00PM–5:00PM**

WORKSHOP: PARTICLE-BASED CST: MODELING, EXPERIMENTS, AND THE PIVOT BEYOND 1000°C

This workshop convenes a global community across academia, national laboratories, international research institutions, and industry to identify challenges and opportunities in developing next-generation high-temperature particle heat transfer systems for process heat and thermal energy storage. Particle-based systems have been the subject of years of research, but require further advancement, including a push to higher temperatures, to transform thermal-industrial processes with a new generation of cost-effective heat delivery and storage. In this workshop, speakers will present the current state of challenges in analyzing and developing these systems, and present potential paths forward. Topics include modeling advances, integrated system models/technoeconomic analysis, experimental results, and operational experience from particle-based systems. In addition to presenting speakers, the audience will be invited to share ideas and suggestions for potential solutions and partnerships. Representatives from the U.S. Department of Energy (DOE) will participate to discuss portfolio projects and program priorities. The findings of this workshop will be reported to all conference attendees and DOE representatives to help create a shared vision of what is next for development of high-temperature particle-based heat delivery systems. The workshop will be 4 hours, including breaks.

SUNDAY, JULY 26 **2:00PM–5:45PM**

WORKSHOP: APPLICATIONS OF MACHINE LEARNING AND AI WORKSHOP

Presenters:

Van P. Carey
A. Richard Newton Chair in Engineering
Distinguished Professor, Mechanical Engineering Department

Mehdi Vahab, Ph.D.
Academic Manager, Mechanical & Aerospace Engineering
MathWorks Inc.

Part 1: Fundamentals

Part 2: MathWorks Tools

Part 3: Example Applications

MONDAY, JULY 27 **10:05AM–10:25AM**

STUDENT WELCOME SOCIAL

All students are invited to attend a brief social with conference organizers and other new attendees. A brief presentation will focus on how to get the most out of your conference experience. Grab a beverage from the coffee break and join us to meet other first time attendees and students!

MONDAY, JULY 27 **10:25AM–12:05PM**

POWER HOUR DISCUSSION

Join the conversation!

Power Hour is an interactive networking and discussion session where participants can openly exchange experiences, ideas, and advice on career development, leadership, mentorship, and navigating professional challenges. Whether you are a student, early-career researcher, or seasoned professional, this is an opportunity to connect with colleagues, gain new perspectives, and contribute to meaningful conversations that strengthen our community.

17-01: LIGHTENING TALKS

Have something to share? Take the stage!

Lightning Talks are fast-paced, informal presentations designed to spark new connections and collaborations. In just a few minutes, you can introduce your research, share a new idea, recruit students or collaborators, advertise open positions, seek feedback on a project, or simply let the community know what you're working on.

No lengthy presentation required—just bring your ideas and enthusiasm. We encourage participants from all career stages to join in and make new connections across the Energy Sustainability community.

MONDAY, JULY 27 **12:05PM–1:35PM**

POSTER SESSION

Join authors from FEDSM, SHTC, & ES to view an array of poster presentations during the full conference lunch. Posters will be grouped by conference.

ASME SETTING THE STANDARD

ES 2026

Workshop

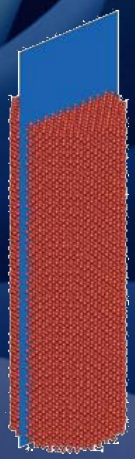
Particle-Based CST – Modeling, Experiments, and the Pivot Beyond 1000°C

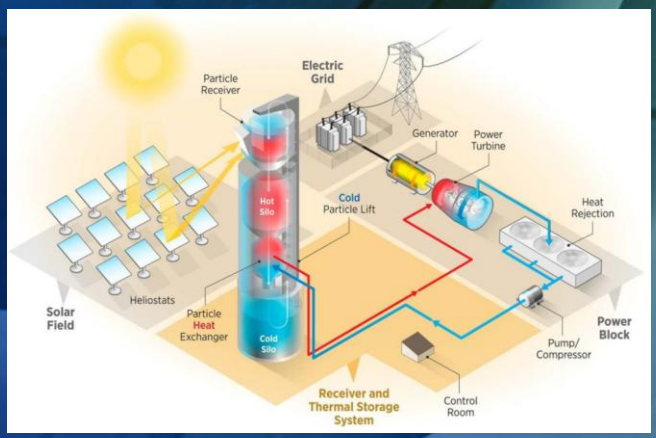
20th International Conference on Energy Sustainability
Hyatt Regency Bellevue
Bellevue, Washington, USA
Sunday, July 26, 1:00 PM – 5:00 PM
https://event.asme.org/ES/Program/Particle-Based-CST-Workshop

Speakers

Justin Lapp, U. Maine
Umang Patel, Nat. Lab. Rockies
Johannes Grobbel, German Aerospace Cent.
Shin Young Jeong, U. Cent. Florida
William Hamilton, Nat. Lab. Rockies

Renkun Chen, U. Calif. San Diego
Shaker Alaqel, King Saud U.
Jeremy Sment, Sandia Nat. Lab.
Lindsay Walter, U.S. Dept. of Energy
Jeffrey Gifford, Nat. Lab. Rockies





2026 SHTC & ES COMMITTEE MEETING SCHEDULE

TIME	EVENT	ROOM
SUNDAY, JULY 26		
11:00 AM–6:00 PM	JESBC Editorial Board (Closed)	Madrona
11:00 AM–2:00 PM	Heat Transfer Division Executive Committee (Closed)	Larch
2:00 PM–5:00 PM	Heat Transfer Division Executive Committee	Larch
MONDAY, JULY 27		
6:00PM–8:00PM	K10 Committee	Evergreen A
6:00PM–8:00PM	K8 Committee	Cedar B
6:00PM–8:00PM	K9 Committee	Regency A
6:00PM–8:00PM	K12 Committee	Regency B
6:00PM–8:00PM	K13 Committee	Regency C
6:00PM–8:00PM	K15 Committee	Regency E
TUESDAY, JULY 28		
5:20PM–6:20PM	AI Working Group	Regency A
5:20PM–6:20PM	Buildings Committee	Regency G
6:20PM–8:20PM	AESD REEC Committee	Juniper
6:20PM–8:20PM	K7 Committee	Evergreen A
6:20PM–8:20PM	K6 Committee	Cedar A
6:20PM–8:20PM	K14 Committee	Cedar B
6:20PM–8:20PM	K20 Committee	Regency C
6:20PM–8:20PM	K16 Committee	Regency E
7:00PM–8:20PM	SED Executive Committee	Larch

Committee Meetings

FEDSM 2026

2026 Technical Committee Meetings

July 26 – 29, 2026 | Hyatt Regency Bellevue | Bellevue, WA, USA

**Meetings are open to all unless noted otherwise. **

Sunday, July 26, 2026 | Room – Juniper	
2:30 PM – 4:30 PM	Executive Committee (EC) Opening Meeting (CLOSED)
4:30 PM – 6:00 PM	Executive Committee Opening Meeting with Technical Committee Chairs (CLOSED)

Monday, July 27, 2026 | Room – Evergreen B	
5:20 PM – 6:20 PM	Fluid Applications & Systems Technical Committee Meeting
6:25 PM – 7:25 PM	Computational Fluid Dynamics Technical Committee (CFDTC) Meeting
7:30 PM – 8:30 PM	Experiential Fluid Dynamics (formerly FMI) Technical Committee Meeting
8:30 PM – 9:30 PM	Biomedical Fluid Mechanics Technical Committee Meeting

Tuesday, July 28, 2026 | Room – Evergreen B	
5:20 PM – 6:20 PM	Honors and Awards Committee Meeting (CLOSED)
6:25 PM – 7:25 PM	MF Technical Committee Meeting (open to all)
7:30 PM – 8:30 PM	FM Committee Meeting (open to all)
8:30 PM – 9:30 PM	Student Engagement Committee Meeting (invitation only)

Wednesday, July 29, 2026 | Room – Evergreen B	
5:20 PM – 6:20 PM	Executive Committee Closing Meeting with TC Chairs (CLOSED)
6:25 PM – 7:25 PM	Executive Committee Closing Meeting (CLOSED)

MONDAY, AUGUST 3, 2025 (Post-Conference)
12:00pm – 1:00pm (eastern time) Advisory Board meeting (CLOSED) virtual (link to follow)

FULL SCHEDULE AND SESSION DETAILS CAN BE FOUND ON THE CONFERENCE APP.

Acknowledgments

Congratulations to the ASME Fluids Engineering Division on the remarkable milestone.

For 100 years, the Fluids Engineering Division (FED) has been at the forefront of advancing fluid mechanics, driving technical excellence, and cultivating a dynamic global community of engineers, researchers, educators, and industry leaders. As a foundational discipline underpinning energy, transportation, manufacturing, aerospace, and countless other technologies, fluids engineering plays a critical role in improving efficiency, reliability, performance, and sustainability across society. Through pioneering research, influential publications, world-class conferences, and the dedication of generations of volunteers, FED has helped shape the technologies and innovations that power our world while leaving an enduring mark on the engineering profession. Just as importantly, the division has served as a professional home where engineers across academia, industry, and government come together to exchange ideas, learn from one another, build lifelong professional relationships, and develop as technical leaders throughout their careers.

As we celebrate this remarkable milestone at the Fluids Engineering Division Summer Meeting, we honor the generations of members whose vision, leadership, and innovation have built the division's extraordinary legacy. We also recognize the students, early-career engineers, and emerging leaders who will carry that legacy forward, tackling the complex challenges and opportunities that will define the next century of fluid engineering.

On behalf of the ASME Technical & Engineering Communities Sector, we extend our heartfelt congratulations and appreciation to the Fluids Engineering Division on 100 years of achievement, collaboration, and impact. We look forward to your continued leadership in advancing engineering knowledge, inspiring innovation, and developing solutions to some of society's most pressing challenges. May the next century be marked by the same spirit of excellence, mentorship, and discovery that has defined FED's first 100 years, as you continue to shape the future of engineering, empower the next generation of leaders, and improve lives around the world.

Sincerely,

Tom Lavertu, Ph.D., FASME
Sr. Vice President
ASME Technical & Engineering Communities (TEC) Sector Council

Acknowledgments

FLUIDS ENGINEERING DIVISION CENTENNIAL ANNIVERSARY COMMITTEE

Ning Zhang (Chair), *McNeese State University*
Francine Battaglia, *University of Buffalo*
Keith Walters, *University of Arkansas*
Kevin Anderson, *Cal Poly Pomona*
Aarthi Sekaran, *SUNY Polytechnic Institute*

TRACK 1 CHAIRS

Shanti Bhushan - *Mississippi State University*
Bei Fan - *Michigan State University*

TRACK 2 CHAIRS

Shanti Bhushan - *Mississippi State University*
Chengyu Li - *Villanova University*
Zhongquan (Charlie) Zheng - *Utah State University*

TRACK 3 CHAIRS

Shanti Bhushan - *Mississippi State University*
Chengyu Li - *Villanova University*
Zhongquan (Charlie) Zheng - *Utah State University*

TRACK 4 CHAIRS

Zhenglun "Alan" Wei - *Worcester Polytechnic Institute*
Chengyu Li - *Villanova University*

TRACK 5 CHAIRS

Yang Liu - *City College of New York*
Keldon Anderson - *The University of Tulsa*

TRACK 6 CHAIRS

Aarthi Sekaran - *SUNY Utica*
Yang Liu - *The City College of New York*
Ning Zhang - *McNeese State University*

TRACK 7 CHAIRS

Cristian Marchioli - *University of Udine*
Jingsen Ma - *Dynaflow, Inc.*
Leitao Chen - *Embry-Riddle Aeronautical University*

TRACK 8 CHAIRS

Ernesto Primera - *University of Delaware*
Aarthi Sekaran - *SUNY Utica*
Tammy Guimaraes - *Penn State University*

TRACK 9 CHAIRS

Mehdi Salek - *MIT*
Jalal Ahmed - *University of Windsor*

TRACK 10 CHAIRS

Bei Fan- *Michigan State University*
Leitao Chen - *Embry-Riddle Aeronautical University*

TRACK 11 CHAIRS

Isaak Bernabe Perez Raya - *RTI*
Ivana Milanovic - *University of Hartford*
Ray Taghavi- *University of Kansas*

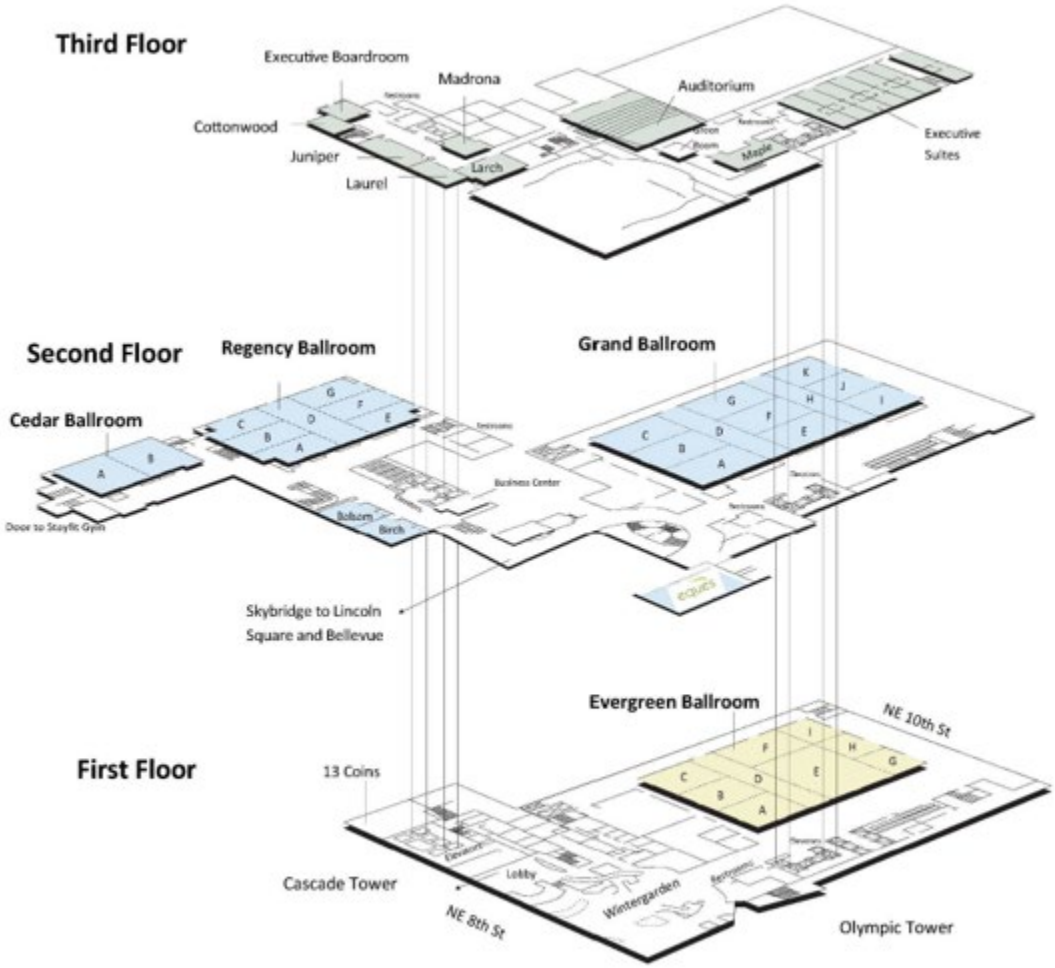
FRANK WHITE MEMORIAL TRACK

Session Chairs:
Joel Park, Kevin Anderson, Aarthi Sekaran

IN MEMORIAM OF THE 30TH TC CHAIR, DR. MALCOLM J. ANDREWS

Session Chair:
Francine Battaglia, *University of New York at Buffalo*

Hotel Floor Plans



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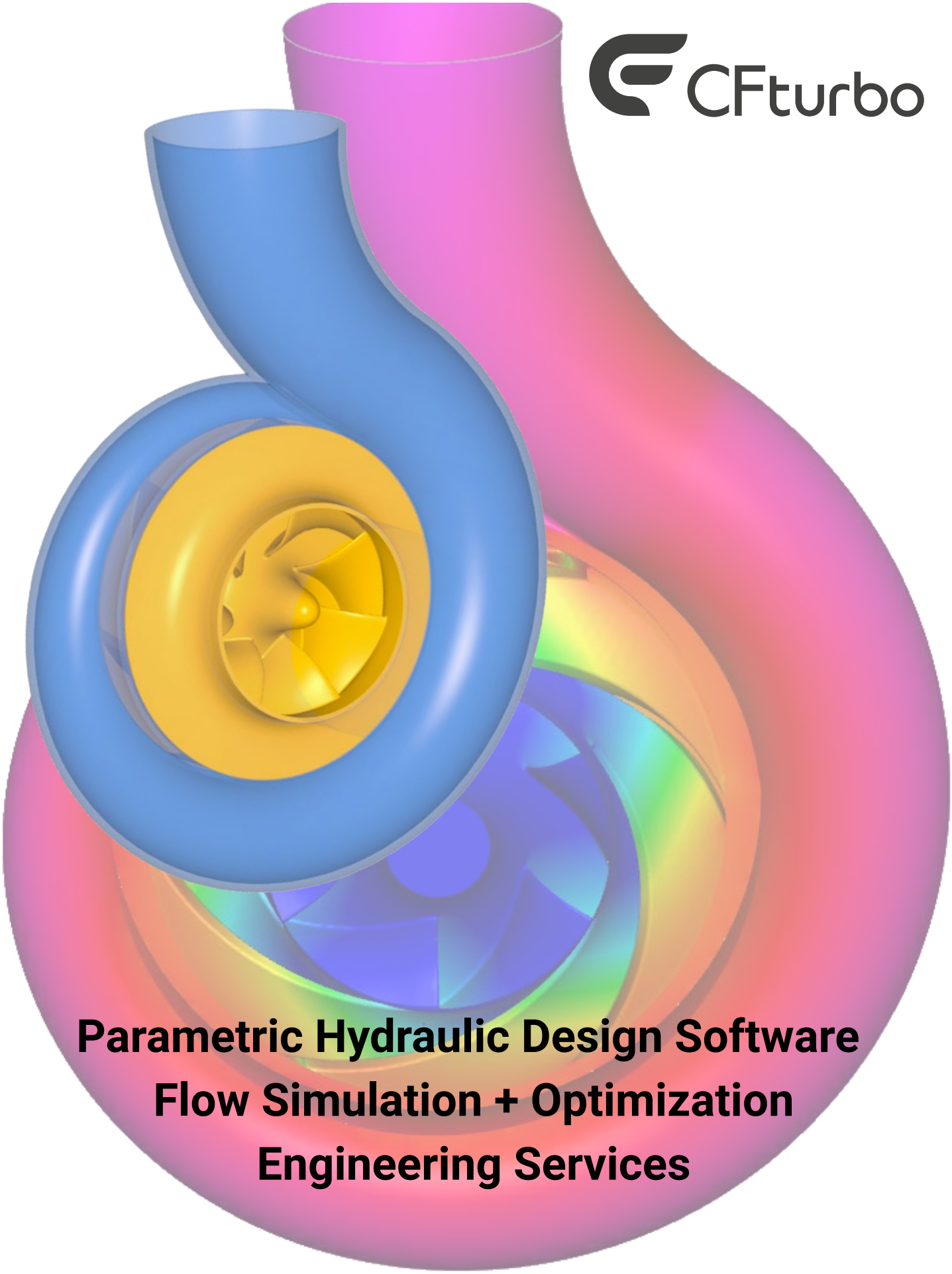

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FEDSM Session Chairs

SESSION TITLE	SESSION CHAIRS
03-03-01 Misc. Fluid Mechanics Topics	Kevin Anderson Judith Bamberger Ivaylo Nedyalkov
03-04-01 PLENARY 1 DR. SOLDATI	Kevin Anderson Javid Bayandor Ivana Milanovic
04-01-01 Biomedical Fluid Mechanics 1	Zhenglun Wei Yuanhang Zhu Javid Bayandor
04-01-02 Biomedical Fluid Mechanics 2	Shitiz Sehgal Milan Toma
04-02-01 Biomedical Fluid Mechanics 3	Zhenglun Wei Isaac Bernabe Perez Raya Zhongquan Zheng
04-03-01 Biomedical Fluid Mechanics 4	Alberto Aliseda Zhenglun Wei
04-03-02 Biomedical Fluid Mechanics 5	Zhenglun Wei Alberto Aliseda
04-03-03 Biomedical Fluid Mechanics 6	Alberto Aliseda Milan Toma
04-04-01 Biomedical Fluid Mechanics 7	Yu Feng Michael Barbour Jinxiang Xi
04-04-02 Biomedical Fluid Mechanics 8	Yu Feng Jinxiang Xi Zhenglun Wei
04-05-01 Biomedical Fluid Mechanics 9	Zhenglun Wei Shelly Singh-Gryzbon Milan Toma
04-06-01 Biomedical Fluid Mechanics 10	Zhenglun Wei Jing Fan
04-07-01 Biomedical Fluid Mechanics 11	Juan Carlos del Alamo Zhenglun Wei
04-07-02 Biomedical Fluid Mechanics 12	Zhenglun Wei Milan Toma
04-08-01 General Fluid Dynamics 5	Zhenglun Wei Steven Day Brent Craven
04-08-02 General Fluid Dynamics 6	Judith Bamberger Ivaylo Nedyalkov Aarthi Sekaran
04-11-01 Posters	Philipp Epple Zhenglun Wei

FEDSM Session Chairs

SESSION TITLE	SESSION CHAIRS
05-01-01 Novel Methods in Fluids Measurement	Yang Liu Keldon Anderson Haiyang Hu
05-02-01 Advanced Techniques in Fluids Measurements	Yang Liu Keldon Anderson Haiyang Hu
05-03-01 Applications of Fluids Instrumentation & Measurements	Leitao Chen Yang Liu Keldon Anderson
06-01-01 Applications of Fluids in Energy & Sustainability	Ning Zhang Linyue Gao Yang Liu
06-02-01 Fluid Mechanics Applications for Energy Harvesting 1	Aarthi Sekaran Alexandrina Untaroiu Linyue Gao
06-02-02 Fluid Mechanics Applications for Energy Harvesting 2	Ernesto Primera Aarthi Sekaran Linyue Gao
07-01-01 Multiphase Fluid/Solids and Slurries	Theodore Heindel Khaled Hammad
07-01-02 Multiphase Heat and Mass Transfer, Gas/Liquid Flows	Deify Law Theodore Heindel
07-02-01 Erosion, Slurry Flows, Experimental/Numerical Multiphase 1	Judith Bamberger Soroor Karimi
07-03-01 Erosion, Slurry Flows, Experimental/Numerical Multiphase 2	Judith Bamberger Soroor Karimi Siamack Shirazi
07-03-02 Erosion, Slurry Flows, Experimental/Numerical Multiphase 3	Judith Bamberger Soroor Karimi Siamack Shirazi
07-03-03 Applications of Gas/Liquid Flows & Solid/Liquid Flows	Leitao Chen Cristian Marchioli Goodarz Ahmadi
07-04-01 Multiphase Flow 1	Cristian Marchioli Goodarz Ahmadi Leitao Chen
07-04-02 Multiphase Flow 2	Leitao Chen Cristian Marchioli Goodarz Ahmadi
08-01-01 Fluids and Systems Engr. Applications 1	Aarthi Sekaran Ernesto Primera Alexandrina Untaroiu
08-01-02 Aerospace	Kevin Anderson Judith Bamberger Alexandrina Untaroiu

FEDSM Session Chairs

SESSION TITLE	SESSION CHAIRS
08-01-03 Fluid and Pumping Machinery	Ernesto Primera Aarthi Sekaran Alexandrina Untaroiu
08-02-01 Pumping Turbomachinery	Alexandrina Untaroiu Ernesto Primera Aarthi Sekaran
08-03-01 Aerospace	Aarthi Sekaran Deify Law Muhammad Usman
09-01-01 General Fluid Dynamics 7	Mohammad Mehdi Salek Khaled Hammad
10-01-01 Fund Fluids 1	Bo Yin Khaled Hammad Deify Law
10-02-01 Fund Fluids 2	Yang Liu Deify Law Khaled Hammad
10-04-01 Fund Fluids 3	S.A. Sherif Yang Liu Deify Law
10-07-01 Fund Fluids 4	Muhammad Usman Yang Liu
11-01-01 Fluids Education using AI	Ivana Milanovic Isaac Bernabe Perez Raya Ning Zhang
11-02-01 Advances in Fluids Education	Ning Zhang Ivana Milanovic Isaac Bernabe Perez Raya
Flow Visualizations	Kevin Anderson Ivana Milanovic Philipp Epple
Frank White Memorial	Joel Park Kevin Anderson Aarthi Sekaran
In Memoriam of the 30th TC Chair, Dr. Malcolm J. Andrews	D. Keith Walters Francine Battaglia

FEDSM Session Chairs

SESSION TITLE	SESSION CHAIRS
01-01-01 AI for Fluids 1	Cristian Marchioli Aarthi Sekaran Deify Law
01-01-02 AI for Fluids 2	Aarthi Sekaran Cristian Marchioli S. Balachandar
01-02-01 General Fluid Dynamics 3	Javid Bayandor Leitao Chen Aytekin Gel
01-03-01 General Fluid Dynamics 2	S.A. Sherif; Muhammad Usman Ivaylo Nedyalkov
02-01-01 CFD Turbulence Models and V&V Methods	Shanti Bhushan D. Keith Walters Surya Vanka
02-01-02 Lattice Boltzmann Methods, CFD V&V	Justin Weinmeister Ning Zhang Zhongquan Zheng
02-01-03 CFD Methodology	Shanti Bhushan Surya Vanka Khaled Hammad
02-02-01 CFD Applications 1	Shanti Bhushan Surya Vanka Chengyu Li
03-01-01 CFD Multiphysics Applications	Chengyu Li Shanti Bhushan Haibo Dong
03-01-02 CFD Applications 2	Chengyu Li Shanti Bhushan Leitao Chen
03-01-03 Computational Modeling and Multiphysics	Zhongquan Zheng Chengyu Li Ning Zhang
03-01-04 CFD Applications 3	D. Keith Walters Haibo Dong Alexandrina Untaroiu
03-01-05 CFD Applications 4	Shanti Bhushan Haibo Dong Chengyu Li
03-02-01 Coupled Multiphysics Simulations	Zhongquan Zheng S.M. Mahbobur Rahman China Rama Lakshman Anumolu

SHTC Track Chairs

TRACK NAME	TRACK CHAIRS
K6: Heat Transfer in Energy Systems	Leitao Chen Rydge Mulford
K7: Thermophysical Properties	Troy Munro
K8: Theory and Fundamental Research	Vaibhav Bahadur
K9: Nanoscale Thermal Transport	Geoff Wehmeyer
K10: Heat Transfer Equipment	Prashant Singh
K11: Fire and Combustion	Mohsen Ghamari
K12: Aerospace Heat Transfer	Ryoichi Amano
K13: Heat Transfer in Multi-Phase Flow	Dion Antao
K14: Gas Turbine Heat Transfer	Eric Ruggiero
K15: Transport Phenomena in Manufacturing and Materials Processing	Heng Pan
K16: Heat Transfer in Electronic Equipment	Amy Marconnet
K17: Heat and Mass Transfer in Biotechnology	Sihong Wang
K20: Computational Heat Transfer	John Tencer Hamid Najafi Elia Merzari

SHTC Session Chairs

SESSION NAME	SESSION CHAIRS
2nd James V. Beck Memorial Symposium-01	Hamidreza Najafi
K6-05: Radiation Heat Transfer in Energy Systems	Sandip Mazumder Bikram Bhatia
K8-01: Panel on Fundamentals of Aerospace Heat Transfer	Richard Zhang Vaibhav Bahadur Hyeongyun Cha
K9-01: Nanoscale Thermal Transport Theory and Modeling	Jaeyun Moon Geoff Wehmeyer
K7-01: Laser-Based Thermophysical Characterization	Richard Zhang Troy Munro
K16-01: Heat Transfer in Electronics I	Amanie Abdelmessih Tiwei Wei
2nd James V. Beck Memorial Symposium-03	Filippo de Monte
K20-01-Novel Numerical Methods for Computational Heat Transfer	Bladimir Ramos-Alvarado John Tencer Hamidreza Najafi
K20-02-Computational Heat Transfer in Electronics and Aerospace Applications	Forooza Samadi Hamidreza Najafi John Tencer
K20-04-Computational Heat Transfer in Fluid and Porous Media Applications	Daniel Carne John Tencer Hamidreza Najafi
K20-05-Computational Heat Transfer: Design, Optimization, and Applications	Md Islam Hamidreza Najafi John Tencer
Poster Session	Rydge Mulford
K10-01: Heat Transfer Equipment	Prashant Singh
2nd James V. Beck Memorial Symposium-02	Keith A. Woodbury
J.C. Han 80th Birthday Celebration Symposium - 2	Lesley Wright Srinath Ekkad
K20-03-Panel on Modern Insights into Computational Fluid Dynamics	Elia Merzari John Tencer Hamidreza Najafi
K9-02: Nanothermal Metrology 1	Andrea Pickel Geoff Wehmeyer
K9-03: Thermal Transport in Nanomaterials and across Interfaces 1	Sangyeop Lee Geoff Wehmeyer
K9-09: Near-Field Thermal Radiation	Bo Zhao Geoff Wehmeyer
K9-04: Panel on Nanoscale Thermal Transport for Quantum Information and Quantum Sensing	Tianli Feng Geoff Wehmeyer
K9-10: Nanoscale Evaporation/Condensation and Nanofluids	Yi Zheng Geoff Wehmeyer

SHTC Session Chairs

SESSION NAME	SESSION CHAIRS
K9-05: Thermal Transport in Nanomaterials and across Interfaces 2	Wyatt Hodges Geoff Wehmeyer
K9-11: Radiative Properties and Applications of Nanomaterials 1	Greg Acosta Andrej Lenert
K9-06: Nanothermal Metrology 2	Zilong Hua Geoff Wehmeyer
K9-12: Radiative Properties and Applications of Nanomaterials 2	Jingang Li Geoff Wehmeyer
K9-07: Nanothermal Metrology 3	Aditya Sood Geoff Wehmeyer
K9-08: AI/ML in Nanoscale Thermal Transport	Amin Reihani Geoff Wehmeyer
K9-13: Radiative Properties and Applications of Nanomaterials 3	Geoff Wehmeyer
K15-01: Laser, Optical, and Thermal Manufacturing	Heng Pan Edward Kinzel
K6-02: Heat Transfer in Renewable Energy Systems	Juan Ordonez Aggrey Mwesigye
K6-01: Heat and Mass Transfer in Automotive and Energy Systems	Prahit Dubey Mina Mikhaeel
K6-08: Heat Transfer in Conventional Energy Systems	Shang Zhai Daniel Moreno
K6-03: Heat Transfer in Thermal Components - I	Forooza Samadi Omkar Champhekar
K6-04: Heat Transfer in Thermal Components - II	Omkar Champhekar Forooza Samadi
K6-06: Thermal Energy Storage Systems - I	Shuang Cui Bachir El Fil
K6-07: Thermal Energy Storage Systems - II	Bachir El Fil Shuang Cui
K10-02: Heat Transfer Equipment	Prashant Singh Muneeshwaran Murugan
K10-03: Heat Transfer Equipment	Prashant Singh Cheng-Min Yang
K13-01: Numerical and Experimental Multi-Phase Flow	Shankar Narayan Dion S. Antao
K13-02: Experimental Phase-Change Heat Transfer I	Shankar Narayan Dion S. Antao
K13-03: Multi-Phase Flows for Desalination and Separations	Dion S. Antao Shankar Narayan
K13-04: Experimental Phase-Change Heat Transfer II	Dion S. Antao Shankar Narayan

SHTC Session Chairs

SESSION NAME	SESSION CHAIRS
K8-02: Panel on Fundamentals of Data Center and Contemporary Semiconductor Thermal Management	Amitabh Narain Vaibhav Bahadur Bladimir Ramos-Alvarado
K8-03: AI Workforce Panel	Diana Andra Borca-Tasciuc Vaibhav Bahadur Sumith Yesudasan
K8-05: Fundamentals of Phase Change Including Micro/Nanoscale Effects-1	Vaibhav Bahadur Yanbao Ma
K12-01: Heat Transfer in Aerospace Applications	Ryo Amano Ashwani Gupta
K16-02: Heat Transfer in Electronics II	Tiwei Wei Amanie Abdelmessih
K16-03: Heat Transfer in Electronics III	Kashif Nawaz Amanie Abdelmessih Tiwei Wei
K7-02: Thermophysical Behavior of Complex Materials	Jingang Li Richard Zhang
K8-07: Fundamentals of Phase Change Including Micro/Nanoscale Effects-2	Sumith Yesudasan Vaibhav Bahadur Alok Ghanekar
K8-06: Fundamentals of Energy Carrier Transport and Interactions	Richard Zhang Vaibhav Bahadur Alok Ghanekar
K8-04: Emerging Topics in Heat Transfer and Thermal Management	Alok Ghanekar Vaibhav Bahadur Sumith Yesudasan
J.C. Han 80th Birthday Celebration Symposium - 1	Lesley Wright Srinath Ekkad
K15-02: Transport Phenomena in Manufacturing and Energy Manufacturing	Edward Kinzel Heng Pan
K19-K17-01: Environmental and Bio Heat Transfer	Jubair Shamim Akanksha Menon Debjyoti Banerjee
K6-K9-K20-1: Thermal Transport in Emerging Areas	Daniel Carne

ES Track Chairs

TRACK TITLE	TRACK CHAIRS
Track 1: AI for Energy Sustainability	Han Hu
Track 2: Advances in Heat Pump Technology	Emily Fricke Rafael Guedez
Track 3: Sustainable Buildings, Communities, and Cities	Najafi Hamidreza
Track 4: Thermal, Mechanical, and Thermochemical Energy Storage for Medium- and Low-Temperature Application	Lyu Zhou Nick Auyeung
Track 5: Hybrid Energy Systems for Grid Integration or Microgrids	Chris Qin
Track 6: Concentrating Solar Power 1: Optical Systems, Receivers and Reactors	Munjal Shah
Track 7: Concentrating Solar Power 2: Heat Exchangers, Energy Storage System, and the Power Block	Jesse Fosheim
Track 8: Concentrating Solar Power 3: Technoeconomics, Lifecycle Analyses, Balance of Plant	Alexander Zolan
Track 9: Solar Chemistry: Thermochemistry, Photocatalysis, and Photo-electrocatalysis	Remo Schaeppi
Track 10: Photovoltaic, Photovoltaic-Thermal, and Electrochemical Technologies, Including Batteries and Fuel Cells	Daniel Moreno-German Mark Hamalian
Track 11: Advanced Thermal Energy Conversion (Geothermal, Nuclear, Waste Heat Recovery, Industrial Process Heat, Desalination)	Akanksha Menon Jon Weers
Track 12: Alternative Energy Conversion Technology (including Wind, Hydropower, and Ocean	Gang Li
Track 13: Hydrogen, Bioenergy and Biofuels, and Sustainable Fuels	Jian Zhao
Track 14: Sustainable Fossil Fuel Technologies and Integration of Carbon Capture, Storage, and Utilization	Shin Young Jeong
Track 15: Advanced Materials and Processes for Sustainable Manufacturing and Energy	Ben Xu Michael Adams
Track 16: Space Energy Systems and In-Situ Resource Utilization	Shaspreet Kaur
Track 17: Lightning Talks	Sarvenaz Sobhansarbandi
Track 18: Poster Presentations	Sarvenaz Sobhansarbandi

SESSION TITLE	SESSION CHAIRS
01-01 AI for Energy Forecasting and Optimization	Lida Yan Xianzhong Chen
01-02 AI for Energy Hardware and Control Systems	Han Hu
01-03 AI Applications in Sustainable Energy Systems	Han Hu Mathew Farias
02-01: Advances in Heat Pump Technology	Emily Fricke Rafael Guedez
03-01-Advanced HVAC, Cooling, and Indoor Environmental Control	Kathryn Hinkelman Sarvenaz Sobhansarbandi
03-02-Smart Energy Management, Electrification, and Community Energy Systems	Dongsu Kim
03-03-Building Performance, Thermal Comfort, and Climate Impacts	Hamidreza Najafi
03-04-Innovations in Thermal Energy Management and Cooling for Buildings and Data Centers	Zilong Zhao
03-05-Solar and Renewable Energy Technologies for Buildings	Jordan Kocher
04-01: Thermal, Mechanical, and Thermochemical Energy Storage for Medium- and Low-Temperature Application	Nick Auyeung Lyu Zhou
05-01: Hybrid Energy Systems for Grid Integration or Microgrids I: Microgrid Resilience, Design, and Intelligent Operation	Chris Qin Hailei Wang
05-02: Hybrid Energy Systems for Grid Integration or Microgrids II: Grid-Scale Hybrid Resource Planning and Storage Integration	Chris Qin Hailei Wang
05-03: Hybrid Energy Systems for Grid Integration or Microgrids III:	Chris Qin
06-01 Particle Receivers & Pilot Systems	Munjal Shah
06-02 High-Temperature Receivers & Ray Tracing	Munjal Shah Umang Patel
06-03 Solar Fuels, Reforming & Hybrid Cycles	Ram Kumar Pal Munjal Shah
06-04 Thermochemical Energy Storage	Ram Kumar Pal Munjal Shah
06-05 Solar-Driven Cement Production	Umang Patel Ram Kumar Pal
07-01: Modeling and Technoeconomic Analysis for Solar Thermal	Jesse Fosheim Alon Lidor
07-02: Thermal Energy Storage Technologies	Rhushikesh Ghotkar Alon Lidor
08-01: Technoeconomic Analysis of CSP Heliostats, Receivers, and Power Plants	Alexander Zolan
09-01: Solar Chemistry I	Rhushikesh Ghotkar
09-02: Solar Chemistry II	Remo Schaeppi

ES Session Chairs

SESSION TITLE	SESSION CHAIRS
09-03: Solar Chemistry III	Shang Zhai
10-01: Photovoltaic, Photovoltaic-Thermal, and Electrochemical Technologies I	Daniel Moreno Lyu Zhou
10-02: Photovoltaic, Photovoltaic-Thermal, and Electrochemical Technologies II	Daniel Moreno Aggrey Mwesigye Mark Hamalian
10-03: Photovoltaic, Photovoltaic-Thermal, and Electrochemical Technologies III	Daniel Moreno Aggrey Mwesigye
11-01: Advanced Thermal Energy Conversion I	Akanksha Menon Jon Weers
11-02: Advanced Thermal Energy Conversion II	Akanksha Menon Jon Weers
11-03: Advanced Thermal Energy Conversion III	Jon Weers Akanksha Menon
12-01: Alternative Energy Conversion Technology	Gang Li
13-01: Fuel Cell Technology	Jian Zhao
13-02: Advanced Bioenergy Technology	Jian Zhao
13-03: Advanced Hydrogen Energy System	Jian Zhao
14-01:Sustainable Fossil Fuel Technologies and Integration of Carbon Capture, Storage, and Utilization I	Shin Young Jeong
14-02: Sustainable Fossil Fuel Technologies and Integration of Carbon Capture, Storage, and Utilization II	Shin Young Jeong
15-01: Advanced Processes for Sustainable Manufacturing and Space Resource Utilization I	Ben Xu Michael Adams
16-01: Advanced Processes for Sustainable Manufacturing and Space Resource Utilization II	Shaspreet Kaur
18-01: Poster Presentations	Sarvenaz Sobhansarbandi Andrew Schrader

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