



InterPACK 2025

The International Technical Conference on Packaging and
Integration of Electronic and Photonic Microsystems

Program

CONFERENCE
OCTOBER 28-30, 2025

Hotel FERA Anaheim,
a DoubleTree by Hilton
Anaheim, California, USA

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

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Dear InterPACK Participants,

On behalf of the ASME Electronic and Photonic Packaging Division (EPPD) and the organizing committee, we are delighted to welcome you to the 2025 International Technical Conference and Exhibition on Packaging and Integration of Electronic and Photonic Microsystems (InterPACK 2025). This year’s event will be held at the Hotel Fera Anaheim, a DoubleTree by Hilton, in Anaheim, California, from October 28–30, 2025. We are especially excited to highlight newly introduced panels and workshops exploring cutting-edge developments in artificial intelligence.

InterPACK is recognized as the premier forum organized by the ASME EPPD, with a distinguished history of advancing the exchange of transformative research in electronic and photonic packaging, reliability, manufacturing, and thermal management of electronic devices, components, and systems. This event brings together leading researchers and professionals from academia, government, and industry worldwide.

Considering the conclusion of ASME’s Information Storage and Processing Systems (ISPS) Division and its associated conference, we are pleased to announce the integration of content from the international conference “MIPE (Micromechatronics for Information and Precision Equipment),” previously co-organized by ISPS and JSME’s Information, Intelligence and Precision Equipment (IIP) Division. To honor and continue this legacy, InterPACK 2025 will feature three dedicated MIPE-related tracks alongside our traditional program tracks.

The organizing committee has assembled a robust and diverse technical program, featuring over 130 presentations and posters, including more than 90 original contributions, along with tutorials, panel discussions, workshops, and plenary sessions. Topics are aligned with the areas of (i) Heterogeneous Integration; (ii) Data Centers and Modular Edge Systems; (iii) Electronics Packaging; (iv) Power/RF Electronics and Photonics; (v) Multiscale Thermal Transport and Energy Storage; (vi) Flexible, Wearable, and Printed Electronics; (vii) Transportation Systems, Artificial Intelligence, and Machine Learning;

(viii) Micro/Nano Mechatronics and Microelectromechanical Systems in Internet of Things Applications; (ix) Mechatronics, Tribology, and Control of Information Storage Systems and Robotics; and (x) Advanced Simulation in Science and Engineering

The program has been carefully designed to foster collaboration among government, academia, and industry, as well as to encourage networking and new partnerships. Students will also have the opportunity to present their work in interactive sessions and participate in a dedicated career panel, engaging directly with senior researchers and industry leaders to discuss future career pathways.

We are honored to feature plenary talks by world-renowned experts in electronic and photonic packaging, including Prof. Ken Goodson (Stanford University), Yoshihiro Tanaka (Nagoya Institute of Technology, Japan), Dr. Quing Dai (Western Digital), Gamal Refai-Ahmed (AMD), Jorge Padilla (Google), Ali Haideri (NVIDIA), and Prof. Subramanian Iyer (UCLA).

This year, InterPACK will also introduce three special sessions:

- “Next Generation Reliable and High-Performance”
- “NREL Activities and Capabilities in Electronics Packaging Across Multiple Applications”
- “Electronics Packaging and Smart Manufacturing for AI Applications”

These sessions will showcase cutting-edge developments and practical insights, featuring experts from industry, academia, and national laboratories. Additionally, InterPACK will host panel sessions and tutorials on contemporary challenges in electronic and photonic packaging, thermal management, and reliability of electronic devices and electrified systems.

We trust that you will find the program organized by our dedicated volunteers—including track chairs, session chairs, workshop organizers, tutorial instructors, panel moderators, and technical paper reviewers—to be engaging, inspiring, and impactful. Our objective is to advance research and development in alignment with the mission of the ASME EPPD. We extend our sincere gratitude to our volunteers, the ASME staff, and our global sponsors for their invaluable contributions to making this premier event possible.

Sincerely,

The InterPACK 2025 Organizing Committee

Welcome Letter



Dr. Saket Karajgikar
General Chair
NVIDIA



Damena Agonafer, Ph.D.
Technical Program Chair
University of Maryland



Jimil Shah
Technical Program Co-Chair
MARA Holdings, Inc.



Yuko Kobayashi
MIPE Program Chair
Toshiba Corp., Japan.



Ron Warzoha
Sponsorship Chair
US Naval Academy



Cheng Chen
Awards Chair
Meta



REGISTRATION LOCATION:

Grand Foyer, 1st Floor meeting space

Monday, October 27 –
3:00pm – 6:00pm

Tuesday, October 28 –
7:00am – 5:00pm

Wednesday, October 29 –
7:00am – 5:00pm

Thursday, October 30 –
7:00am – 1:00pm

AUDIOVISUAL EQUIPMENT IN
SESSION ROOMS

All technical sessions rooms are equipped with an LCD projector and screen. Laptops will NOT be provided in the sessions. Session chairs typically provide their laptops for all the author's presentations, or you may bring your own. Please bring your presentations on a jump drive 10–15 minutes before your presentation to upload it on the laptop provided by the session chair.

SPEAKER READY ROOM

The speaker ready room is Rhapsody, Fourth level, and is available to review and/or practice your presentation. A screen and LCD Projector will be provided. Daily hours are 7:00AM–5:00PM, Monday thru Wednesday.

BADGE REQUIRED FOR ADMISSION

All conference attendees must always wear the official ASME 2025 InterPACK badge to gain admission to technical sessions, exhibits, poster sessions, meals, and other conference events. Without a badge, you will NOT be allowed to attend any conference activities. Your badge also provides a helpful introduction to other attendees.

CONFERENCE NETWORKING BREAKS

Morning and afternoon breaks will be provided in the Grand Foyer located on the First Floor. Join your fellow attendees for a few minutes of networking and discussion. The schedule is as follows:

Tuesday, October 28 – Thursday, October 30
11:00am – 11:15am **and** 3:30pm – 3:45pm

Lunch will take place in the Grand Ballroom from **12:45pm – 2:00pm**
Tuesday – Thursday.

CONFERENCE PROCEEDINGS

Each attendee 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. Access to all the papers accepted for presentation at the conference will be found online with this link. 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 in the ASME Digital Library and are available for a fee.

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.

CONFERENCE APP

The InterPACK 2025 Symposium will be utilizing the ASME Conferences 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!

INTERNET ACCESS

Basic complimentary sleeping room Wi-Fi will be provided for you if you are staying at the Hotel Fera. You will be given a Wi-Fi code to use in your sleeping room during your stay.

ASME has provided Wi-Fi access in the meeting space. Network Name and Access Code will be provided on site.

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.

ABOUT THE HOTEL

Sunny stays near Angels games and Disney rides

Central to the most popular sights in the Anaheim area, our hotel is one mile from Angel Stadium. Disneyland® Resort, the Anaheim Convention Center, and Honda Center are within three miles. We offer an outdoor pool, hot tub, and pickleball courts. Enjoy inspired offerings from The Peel Craft Bar and Kitchen, and a warm DoubleTree Cookie on arrival.

HOTEL AMENITIES

- Connecting Rooms
- 100% Non-smoking rooms
- Digital Key
- Streaming entertainment
- On-site restaurant
- Outdoor pool
- Fitness center
- Pet-friendly rooms
- Room service

EMERGENCY INFORMATION

- In case of a medical emergency, Dial 911 from any house phone.
- In case of a non-life-threatening emergency, Dial 0 from any house phone.
- In the unlikely event of an emergency, there will be an announcement over the public address of what the particular incident is and providing further instruction as far as whether to evacuate or remain in place. All employees are familiar with evacuation procedures and will assist in giving directions.
- In the unlikely event of a fire emergency, visual strobes will activate with audible alarms, followed by an announcement over the public address of what the particular incident is and providing further instruction as far as whether to evacuate or remain in place. All employees are familiar with evacuation procedures and will assist in giving directions.
- Do not take elevators and follow all instructions given.

ABOUT ANAHEIM

From top-notch meetings to magical vacations, Anaheim is well-known as a global destination. We invite you to experience popular stops like the Anaheim Convention Center and Disneyland® Resort when you visit Anaheim. Afterward, add some of these hidden gems throughout Anaheim and Orange County to your itinerary. These local gems include exciting family destinations, foodie hot spots, and unique entertainment. Discover where the locals eat, drink and hang out around town.

More information is available at: <https://www.visitanaheim.org/>

Schedule-at-a-Glance

Please note the conference app has the most up to date information of the onsite schedule.
This schedule at a glance is subject to change.

From	To	Room/Event	Type
Time		Day 1: Monday - October 27, 2025	
3:00 PM	5:00 PM	Registration Opens - Grand Foyer, Main Level	ASME Meetings
6:30 PM	8:30 PM	Leadership Dinner -By invitation Only	

Time		Day 2: Tuesday - October 28, 2025				
From	To	Room/Event				Type
8:00 AM	8:30 AM	Room: California Ballroom, Main Floor				ASME Meetings
		InterPACK'25 -Opening Remarks by General Chair				
8:30 AM	9:30 AM	Room: California Ballroom, Main Level				Plenary Session
		Materials Engineering Innovations for Advanced Electronics Cooling By Prof. Ken Goodson				
9:30 AM	11:00 AM	Room: Lassen, 2 nd Floor	Room: Tahoe, 2 nd Floor	Room: Yosemite, 2 nd Floor	Room: Sierra, 2 nd Floor	Technical Sessions
		01-01: Heterogeneous Integration - I	02-01: Single Phase Liquid Cooling - I	03-01: Electronics Packaging- Assembly and Encapsulation	11-01:Advanced Simulation in Science and Engineering - I	
11:00 AM	11:15 AM	Room: Grand Foyer, Main Floor				Break
		Coffee Break				
11:15 AM	12:45 PM	Room: Lassen, 2 nd Floor	Room: Sequoia, 2 nd Floor	Room: Yosemite, 2 nd Floor	Room: Laguna, Main Floor	Technical Sessions
		09-01:Micro/Nano Mechatronics, Microelectronics, Microelectrochemical Systems, and their Applications of Internet of Things - I	02-02: Two Phase Cooling - I	03-02:Electronics Packaing- Power Electronics and Batteries	Data Center and Telecom Challenges and Opportunities	Panel
12:45 PM	2:00 PM	Room: Hermosa/Huntington/Manhattan, Main Floor				Lunch Presentations
		LunchAvram Bar-Cohen Award				
2:00 PM	3:30 PM	Room: Newport, Main Floor		Room: The Palm, Main Floor		Tutorials
		Efficient Thermo-Mechanical Simulations Using Compact Models		Center for Energy-Smart Electronic Systems (ES2)		Workshops
3:30 PM	3:45 PM	Room: Grand Foyer, Main Floor				Break
		Coffee Break				
3:45 PM	5:15 PM	Room: Lassen, 2 nd Floor	Room: Tahoe/Redwood, 2 nd Floor	Room: Sequoia, 2 nd Floor	Room: Sierra, 2 nd Floor	Technical Sessions
		06-01: Process Monitoring & Modeling for Additive Electronics	04-01: Power/RF Electronics and Photonics - Emerging Active Cooling & Reliability	03-03: Electronics Packaging - Solders I	Session 05-03: Multiscale Thermal Transport and Energy Storage - III	
5:15 PM	5:45 PM	Room: Lassen, 2 nd Floor				ASME Meetings
		MIPE Meeting				
5:45 PM	7:00 PM	Room: Grand Ballroom, Main Floor				Student Posters
		Interactive Poster Presentations				
7:00 PM	7:45 PM	Room: International Center				ASME Meetings
		EPPD + JEP Meeting (Open)				

Schedule-at-a-Glance

Time		Day 3: Wednesday - October 29, 2025				
From	To	Room/Event				Type
8:00 AM	9:30 AM	Room: California Ballroom, Main Level				Plenary Session
		Special Panel on Electronics Packaging and Smart Manufacturing for AI Applications				
9:30 AM	11:00 AM	Room: Lassen, 2 nd Floor	Room: Sequoia, 2 nd Floor	Room: Yosemite, 2 nd Floor	Room: Newport, Main Floor	Technical Sessions
		06-02: Printed Electronics for Defense & Extreme Environments	02-03: Data Centers Metrics and Modeling	03-04: Electronics Packaging - Thermal Management	AI, Investment and Industry Trends	Tutorials
11:00 AM	11:15 AM	Room: Grand Foyer, Main Floor				Break
		Coffee Break				
11:15 AM	12:45 PM	Room: Lassen, 2 nd Floor	Room: Tahoe/Redwood, 2 nd Floor	Room: Yosemite, 2 nd Floor	Room: Laguna, Main Floor	Technical Sessions
		06-03: Advanced Hybrid Electronics Processing & Reliability - I	02-04: Single Phase Liquid Cooling -II	03-05: Electronics Packaging - Solder II	Thermal & Mechanical Opportunities and Challenges in Advanced Mobile, AI, IoT, Automotive, Aerospace, and High-Power Computing Devices	Panel
12:45 PM	2:00 PM	Room: Hermosa/Huntington/Manhattan, Main Floor				Lunch Presentations
		Lunch InterPACK'25 Allan Kraus Award				
2:00 PM	3:30 PM	Room: The Palm, Main Floor		Room: Newport, Main Floor		Workshops
		Special Session: Medium- and Heavy-Duty Hybrid-Electric-Vehicle Drive Technologies		Probalistic Design for Reliability (PDFr) Concept, and the Roles of Failure Oriented Accelerated Testing (FOAT) and Predictive Analytical		Tutorials
3:30 PM	3:45 PM	Room: Grand Foyer, Main Floor				Break
		Coffee Break				
3:45 PM	5:15 PM	Room: Lassen, 2 nd Floor	Room: Tahoe/Redwood, 2 nd Floor	Room: Yosemite, 2 nd Floor	Room: Newport, Main Floor	Technical Sessions
		02-05: Two Phase Cooling - II	04-02: Power/RF Electronics and Photonics - Wide Bandgap Semiconductors and Photonics	05-01: Multiscale Thermal Transport and Energy Storage - I	Energy Efficiency and Sustainable Technologies	Tutorials
5:15 PM	6:30 PM	Room: The Palm, Main Floor		Room:Newport, Main Floor		Tutorials
		K16 Mentoring Program		Machine Learning / Liquid Cooling		Workshops
6:30 PM	7:00 PM	Room: International Center				ASME Meetings
		InterPACK Meeting(Closed)				
7:00 PM	7:30 PM	Room: International Center				ASME Meetings
		InterPACK (Open)				
7:30 PM	8:00 PM	Room: International Center				ASME Meetings
		K-16 Committee Meeting (Open)				

Time		Day 4: Thursday - October 30, 2025				
From	To	Room/Event				Type
8:00 AM	8:45 AM	Room: California Ballroom, Main Floor				Plenary Session
		Unlocking Human Potential through Haptic Sharing By Prof. Yoshihiro Tanaka (Nagoya Institute of Technology)				
8:45 AM	9:30 AM	HAMR Interface Reliability Challenges By Dr. Qing Dai (Western Digital)				
9:30 AM	11:00 AM	Room: Lassen, 2nd Floor	Room: Sequoia, 2 nd Floor	Room: Tahoe/Redwood, 2 nd Floor	Room: The Palm, Main Floor	Technical Sessions
		06-04: Advanced Hybrid Electronics Processing & Reliability - II	05-02: Multiscale Thermal Transport and Energy Storage - II	11-02: Advanced Simulation in Science and Engineering - II	Special Session: NREL Activities and Capabilities in Electronics Packaging Across Multiple Applications	Workshops
11:00 AM	11:15 AM	Room: Grand Foyer				Break
		Coffee Break				
11:15 AM	12:45 PM	Room: Lassen, 2nd Floor	Room: Sequoia, 2 nd Floor	Room: Tahoe/Redwood, 2 nd Floor	Room: Laguna, Main Floor	Technical Sessions
		10-01:Mechatronics, Tribology, and Control of Information Storage Systems and Robotics	01-02: Heterogeneous Integration- II	02-06: Two Phase Cooling - III	Multilayer and Complex Printed Electronics	Panel
12:45 PM	2:00 PM	Room: Hermosa/Huntington/Manhattan, Main Floor				Lunch Presentations
		Lunch InterPACK'25 Awards (Nasser Grayeli Poster, EPPD, JEP)				
2:00 PM	3:30 PM	Room: Laguna, Main Floor		Room: Newport, Main Floor		Workshops
		Mechanics and Thermo-Mechanical Reliability Of Advanced Microelectronics Packaging		Additive and Alternative Manufacturing for Electronics		Tutorials
3:30 PM	3:45 PM	Room: Grand Foyer				Break
		Coffee Break				
3:45 PM	5:15 PM	Room: Lassen, 2nd Floor	Room: Tahoe/Redwood, 2nd Floor	Room: Yosemite, 2 nd Floor	Room: Laguna, 2 nd Floor	Technical Sessions
		03-06: Electronics Packaging - Substrates, Underfill and TIMs	06-05: Stretchable & Wearable Electronics	09-02:Micro/Nano Mechatronics, Microelectronics, Microelectrochemical Systems, and their Applications of Internet of Things - II	Session 05-04: Multiscale Thermal Transport and Energy Storage - IV	

Committee Meetings

Tuesday, October 28, 2025

Time	Meeting	Room
5:15pm - 5:45pm	MIPE Meeting	Lassen
7:00pm - 7:45pm	EPPD + JEP Meeting (Open)	International Center

Wednesday, October 29, 2025

Time	Meeting	Room
6:30pm - 7:00pm	InterPACK Meeting (Closed)	International Center
7:00pm - 7:30pm	InterPACK Meeting (Open)	International Center
7:30pm - 8:00pm	K-16 Committee Meeting (Open)	International Center

PLATINUM SPONSORS



Hyve Solutions is a leader in the design to worldwide deployment of hyperscale digital infrastructures. In partnership with customers, Hyve leverages deep-seated industry experience and strong vendor relationships to design and deliver purpose-built server, storage, and networking solutions optimized for AI workloads and emerging technologies, meeting data center demands for today and beyond. <https://hyvesolutions.com/>



National Renewable Energy Laboratory (NREL) researchers within the Advanced Power Electronics & Electric Machines (APEEM) Group have expertise in thermal, electrothermal, mechanical, and reliability of power electronics and electric machines for energy efficiency and renewable energy applications, such as electric-drive vehicles. In collaboration with research and industry partners, NREL's APEEM Group is developing novel thermal management technologies to improve the performance, cost, reliability, and volume of power electronics and electric machines. NREL has five facilities dedicated to APEEM research, featuring a range of equipment to investigate primary research areas of 1) electronic and power electronic devices and sensors, 2) power electronics thermal management, 3) power electronics packaging reliability and prognostics, 4) electric motor thermal management, 5) integrated electric drive thermal management.

Learn more about the capabilities and facilities at NREL on our website. <https://www.nrel.gov/transportation/peem>



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The University of Texas at Arlington is a Carnegie Research Institution (High Research Activity) whose mission is the advancement of knowledge and the pursuit of excellence in research, teaching, and service to the community. The mission statement affirms UT Arlington's commitment to expanding academic research; to attracting and retaining high quality faculty scholars who actively engage students; to providing a well-rounded academic experience that promotes student involvement, service learning, and free discourse; to employing alternative access venues to meet student's needs; and to developing public and private partnerships.

College of Engineering

The University of Texas at Arlington's College of Engineering has emerged as one of the most comprehensive engineering programs in North Texas and the nation. It offers 11 baccalaureate, 14 master's, and nine doctoral degree programs, and its programs are ranked by U.S. News and World Report as among the best in the nation. With more than 7,500 students and more than 34,000 alumni, the College of Engineering is the fourth largest in Texas, providing the local, regional, and national workforce with motivated and highly skilled graduates. The College boasts seven buildings, including the Science and Engineering Innovation and Research (SEIR) Building, which opened in Fall 2018. UTA is classified as a Research 1 University.

Electronics, MEMS and Nanoelectronics Systems Packaging Center National Academy of Engineering, the Electronics, MEMS and Nanotechnology Systems Packaging Center is a first-class research center that will meet the needs of industry, and in particular, the state of Texas and the North Texas region's Electronic, MEMS and Nanoelectronics Packaging Industry.

This includes research, education, and training. EMNSPC will target the needs of the Microelectronics, MEMS and Nanoelectronics (with a special emphasis on thermo-mechanical issues) as a fundamental research area as these technologies have and will continue to overlap. The EMNSPC is a partner in the NSF I/UCRC Center for Energy-Smart Electronic Systems, working with government, industry, and academia to develop systematic methodologies for efficiently operating electronic systems. More information at: <https://blog.uta.edu/emnspc/>



Belimo is a global market leader in developing energy-efficient HVAC control solutions that optimize building performance. Its actuators, valves, sensors, and meters enable precise thermal management and support advanced cooling strategies, including liquid cooling. As AI-driven infrastructure evolves, Belimo's technologies help ensure reliable, scalable, and efficient automation—supporting uptime, sustainability, and performance in mission- critical environments.

https://www.belimo.com/us/en_US/



CoolIT Systems specializes in scalable liquid cooling solutions for the world’s most demanding computing environments. A 24-year pioneer in liquid cooling for microprocessors, CoolIT’s technology cools over 5 million GPUs and CPUs globally. Through its modular direct liquid cooling (DLC) technology, CoolIT enables dramatic increases in rack densities, component performance and power efficiencies. CoolIT also provides system design, installation and maintenance services in over 70 countries worldwide. Learn more about CoolIT at <https://www.coolitsystems.com/>



Meta is building the future of human connection, powered by artificial intelligence and immersive technologies. When Facebook launched in 2004, it changed the way people connect. Apps like Messenger, Instagram, and WhatsApp further empowered billions around the world. Now, Meta is moving beyond 2D screens toward experiences that foster deeper connections and unlock new possibilities. <https://www.meta.com/>

SILVER SPONSORS



Corintis is the performance-leader in data center liquid cooling for high-power applications. Our mission is to enable 10x better chip cooling to unlock the next 100x better compute. <https://corintis.com/>



Element Six is a global leader in the development and production of synthetic diamond and tungsten carbide solutions. For almost 80 years, our innovation expertise has enabled a wide range of industries, from aerospace and mining, to semiconductors and sensing. Part of the De Beers Group, our primary manufacturing sites are located in the US, UK, Ireland, Germany and South Africa. Learn more about element six at <https://www.e6.com/>

SILVER SPONSORS



At **Eaton**, we’re dedicated to improving people's lives and the environment with power management technologies that are more reliable, efficient, safe and sustainable. We are a power management company doing business in more than 160 countries. Our energy-efficient products and services help our customers effectively manage electrical, hydraulic and mechanical power more reliably, efficiently, safely and sustainably. By giving people tools to use power more efficiently. Helping companies do business more sustainably. <https://www.eaton.com/us/en-us.html>



Google
Our mission is to organize the world’s information and make it universally accessible and useful. <https://www.google.com>



iNPACK (a PCB Technologies subsidiary) offers s standard and customized IC packaging and substrate design, manufacturing and testing services. Combining subtractive and mSAP processes with our extensive materials knowledge, gives us the ability to solve many challenges such as CTE mismatches, thermal management issues, and more.

iNPACK provides SiP, semiconductor packaging, organic substrates (25µm lines and 25µm spacing), 3-D, 2.5-D and 2-D packaging solutions and also incorporates innovative interconnects as part of its substrate and micro-assembly process capabilities.

Our expertise is applied in aerospace, defense, medical, electronics, automotive, energy and communications industries worldwide.

<https://www.pcb-technologies.com/inpack/pcb-miniaturization/>

SILVER SPONSORS (CONTINUED)



Microsanj
Our goal is to be a recognized technical leader in the field of high resolution thermal imaging based on the thermoreflectance principle. We are focused on the development of systems, products, and services for microelectronic and optoelectronic device and circuit thermal design and characterization. The Microsanj engineering team is continuously working on the development of product enhancements and alternative thermal image analyzer configurations to meet requirements ranging from; general purpose production testing and quality assurance to higher resolution systems with pico-second transient capability for more advanced research in the areas of nanodevice and defect thermal characterization. Learn more about Microsanj at <https://www.microsanj.com/>



Binghamton University/S3IP
OS3IP brings the capabilities and technical resources of Binghamton University, a leading research institution, at the disposal of electronics and energy systems manufacturers and similar manufacturing industries. Our 6 research centers address pressing real-world challenges in microelectronics manufacturing, flexible hybrid electronics, and heterogeneous integration of electronics, and thin film electronic devices for energy harvest and storage. Advanced battery research is directed by Dr. Stan Whittingham, 2019 Nobel Laureate for invention of the Li-ion battery. Our professional staff backed by the deep expertise of faculty, assists companies in problem solving and use of our 7 laboratories addressing manufacturing methods and materials, thermal management, failure analysis, and reliability improvement. As a result of our combined efforts, our industry partners have reported over \$2 billion of economic benefit. Learn more about S3IP at <https://www.binghamton.edu/s3ip>



Stäubli, as a global player, provides advanced liquid cooling connection solutions, specifically designed to meet the challenges of critical data center and supercomputer environments. Through constant innovation with specialists all around the world, Stäubli responds to the needs for high density, service continuity, and modularity imposed by the latest market developments and led by AI booming. Learn more about Staubli at <https://www.staubli.com/us/en/fluid-connectors/industries/it-cooling.html>

GENERAL SPONSORS



GCTG
GCTG (Global Cooling Technology Group) is a U.S.-based technology company (Phoenix/Arizona/USA) developing advanced cooling solutions for commercial electronics, defense, and industrial systems. Its core innovation, the G-PULSE Capillary Loop Pulsating Heat Pipe (CLPHP), offers high-performance passive heat transfer without pumps or active controls. Funded/awarded by DARPA/DoD and the NSF, GCTG’s patented technology provides compact, lightweight, and energy-efficient alternatives to conventional cooling, ideal for thermal-critical mobile and portable platforms.

G-PULSE is patented in the U.S., Japan, South Korea, EU, China, and Canada. With deep expertise in thermal management, materials science, and system integration, GCTG partners with worldwide OEMs and research institutions to develop custom solutions for commercial and military applications through strategic partnerships and ongoing development efforts.

The GCTG company mission is to transform and revolutionize cooling at both device and system levels, addressing the needs of next-gen electronics in sectors like mobile/portable electronics, data centers, military and electric vehicles.

<https://www.globalcoolingtechnologygroup.com/>



Ken Goodson

Vice Provost for Graduate Education & Postdoctoral Affairs

Davies Family Provostial Professor

Professor of Mechanical Engineering and, by courtesy, Materials Science and Engineering Stanford University

Plenary Speaker

TUESDAY, OCTOBER 28, 8:30 AM-9:30 AM

HERMOSA, 1st Floor

TUESDAY, OCTOBER 28, 8:30 AM-9:30 AM
California Ballroom, Main Floor

Presentation Title:
Materials Engineering Innovations for Advanced Electronics Cooling

Abstract: Novel materials and fabrication technologies are the hallmark of impactful thermal management solutions across all types of electronic systems, from servers and power electronics to portables. Materials engineering is bringing about dramatic advancements in IC-compatible synthesis, additive manufacturing, electrodeposited nanostructures, metal-organic and covalent organic frameworks, and other technologies. This enables progress in 1) high thermal conductivity materials, or those combining high conductivity with other targeted properties, 2) fabrication techniques for integrating thermal solutions within packaging and 3D chips, and 3) surface treatments or micro/nanostructures that enhance microfluidic cooling by refining phase change, capillary, or conjugate physics. This talk will describe the virtuous cycle of materials engineering and cooling research with a focus on advances to expect in the years ahead.

Materials engineering is enabling energy-efficient microfluidic cooling of modern compute platforms including data centers. We will review embedded solutions in 2.5D and 3D chips with a focus on high conductivity fluid-contact materials and surface treatments that improve evaporation and capillary transport. Stanford progress using micro/nanomachined metals - including inverse opals, nanowires, and cactus/flower-shaped structures - manages 1000W/cm2 across 900 mm2 using both pumped and capillary-driven convection. Our 3D integrated, hierarchically scaled manifolding reduces pressure drops and aids with phase separation.

Materials engineering has played a central role in thermal conduction solutions including high conductivity substrates and spreaders with characteristic thicknesses from a few hundred micrometers to several millimeters. There are two essential strategies in this domain: First, achieve relatively high thermal conductivities in dielectric submicrometer films that are candidate replacements for oxide and organic on-chip passivation or as thermal interface materials in packaging. This talk features Stanford progress on low-temperature deposited diamond and AlN films for on-chip applications, as well as

nanostuctured interface materials that minimize the effects of thermal expansion mismatch between chip and heat sink. Second, achieving very high thermal conductivity in spreading regions, both on-chip and in packaging, in many cases with an effort to target additional mechanical properties such as thermal expansion coefficient. In this area, this talk will review progress on composite substrates based on diamond films and microparticles for power electronics.

This talk will feature our collaborative research and prototyping efforts with Silicon Valley IC companies and will frame progress within the growing thermal demands and environmental impact of electronic systems. Data center cooling needs are particularly urgent, where AI is projected to drive a 160% increase in power demand by 2030, nearly doubling energy use. Nearly 20% of the ~100 billion kWh/year consumed by U.S. data centers goes toward refrigeration-based cooling. The talk will also address rising thermal challenges in power electronics, which are key for electric and hybrid vehicles, with a focus on cooling problems both in automotive electronics and fast charging. We will review progress by the NSF POETS Center (Power Optimization of ElectroThermal Systems), a collaboration among UIUC, Howard, U of Arkansas, and Stanford, which has prototyped technologies that will enable 10–100× increases in power density—accelerating electrification across transportation and aerospace sectors.

Biography: **Ken Goodson** is the Vice Provost for Graduate Education & Postdoctoral Affairs and the Davies Family Provostial Professor at Stanford University, where he holds appointments in Mechanical Engineering and (by courtesy) Materials Science and Engineering. His 60 PhD graduates are distributed among IC companies and professorships at schools including MIT, Princeton, Stanford, UC Berkeley, UIUC, Purdue, and UCLA. Goodson is a member of the National Academy of Engineering and a Fellow with ASME, IEEE, APS, AAAS, and the National

Academy of Inventors (NAI). Awards include the ASME Kraus Medal, the inaugural IEEE Richard Chu Award, the 2017 InterPACK Achievement Award, the AIChE Kern Award, and the SRC Aristotle, Technical Excellence, and University Researcher Awards. Goodson has 35 patents and co-founded Cooligy, which built heat sinks for Apple desktops. He served formerly as Stanford Mechanical Engineering Chair and recruited 15 faculty who transformed the department’s scholarship and diversity.



Yoshihiro Tanaka

Nagoya Institute of Technology, Nagoya, Japan

Inamori Research Institute for Science, Kyoto, Japan

Plenary Speaker

THURSDAY, OCTOBER 30, 8:00 AM-8:45 AM

California Ballroom, Main Floor

THURSDAY, OCTOBER 30, 8:00 AM-8:45 AM
California Ballroom, Main Floor

Presentation Title:
Unlocking Human Potential through Haptic Sharing

Abstract: Touch is more than a sense—it is a bridge between our body and the physical world, shaped by their mechanical interaction. It reflects not only the properties of external objects but also the unique characteristics of our own body. Recent advances in technologies for measuring, presenting, and transmitting haptic information, together with developments in robotics, have made it possible to share tactile and haptic sensations with others, expanding the potential of human capabilities. Beyond object identification, touch plays a crucial role in sensorimotor control.

Haptic feedback can enhance perception and improve operability, while haptic sharing can physically connect humans and robots, enabling new forms of embodied collaboration that transcend physical boundaries. In this talk, I will first present findings on individual differences in haptic perception. I will then introduce technologies that directly share tactile sensations, as well as a “body integration” system in which multiple people operate a single robotic avatar and demonstrate examples of their real-world use. Finally, I will explore future possibilities and the new bodily experiences that haptic sharing can make possible.

Biography: **Yoshihiro Tanaka** skipped from the undergraduate program to the Graduate School of Engineering at Tohoku University in 2001 and received his Ph.D. in Engineering from the same university in 2006. In 2005, he was a Research Fellow with the Japan Society for the Promotion of Science. He then joined the Nagoya Institute of Technology (NITech), Japan, as a Research Associate in 2006. He was a Visiting Researcher at Utrecht University, The Netherlands, in 2011, and a PRESTO Researcher with the Japan Science and Technology Agency from 2014 to 2018. Since 2021, he has been a Professor with the Graduate School of Engineering at NITech, where he directs the NITech Haptics Lab. His lab conducts research and development on tactile design in products based on perceptual mechanisms, sensorimotor assistance technologies, and cooperation and communication systems utilizing shared haptic perception. He also serves as a Special Advisor to the NITech President, an Associate Editor of IEEE Transactions on Haptics, a Senior Editor of Advanced Robotics, and a Fellow of the Inamori Research Institute for Science.



Dr. Qing Dai

Distinguished Engineer
The CTO Office
Western Digital Technologies

Plenary Speaker

THURSDAY, OCTOBER 30, 8:45 AM-9:30 AM

California Ballroom, Main Floor

THURSDAY, OCTOBER 30, 8:45 AM-9:30 AM
California Ballroom, Main Floor

Presentation Title:
HAMR Interface Reliability Challenges

Abstract: HDD Industry has successfully demonstrated the viability of HAMR technology and is shipping products to customers. However, it faces significant reliability challenge as industry continues to scale the areal density.

HAMR media uses FePt as magnetic medium with a Curie temperature around 350C. The recording layer is coated with conventional carbon overcoat and PFPE lubricant. During recording, media surface peak temperature is predicted to be no less than 400C. Under such elevated temperature, both lubricant and media overcoat can become unstable, resulting in smear comprising mostly of media material accumulating on heads.

On the head side, the plasmonic antenna, which is used to convert optical light from laser into nanometer scale hot spots in the media, often contains Au which is susceptible to deformation at high temperature. As the dimensions of the Near Field Transducer (NFT) continue to reduce to support higher areal density, NFT becomes more susceptible to deformation which in turn causes writability deterioration.

Additionally, it was shown that, when media material is accumulated under the NFT, it can be opaque and is likely to further elevate the NFT temperature due to smear self-heating. To ensure HAMR technology success, it is critical to prevent the accumulation of optically absorbing smear under NFT. In this presentation, we will discuss the challenges and opportunities in smear understanding and management. For example, it has been postulated that at HAMR interface, a layer of SiO2 on the head is beneficial. Its role and implication will be explored.

In addition to heat generated by absorbing smear, another factor that has not been discussed is possible photochemical process-induced polymerization reactions. With intense surface plasmon concentrated at the tip of the NFT, this area is potent for a variety of chemical reactions. For example, in literature, surface enhanced local plasmon resonance on Au nano particles are used to select polymerization reactions with the right energy level. Should polymerization reactions occur under NFT, it can often be exothermic. Intense heat generated will further compromise NFT reliability. As such, detailed study of possible polymerization reactions and their prevention is needed.

Biography: **Qing Dai** received her Ph.D. in physical chemistry from UIUC, followed by postdoctoral research positions at the Lawrence Berkeley National Lab and Harvard University. She started her R&D tribology career at the IBM Almaden Research Center, focusing on nanometer scale interface materials for Hard Disk Drives which became part of Western Digital Technologies via Hitachi/HGST.

Dr. Qing Dai entered management role around 2010, built a team of ~20 engineers over the years with cross disciplinary expertise spread between Japan and the US. This team played critical role in delivering WD’s cutting edge technologies such as Energy Assisted Perpendicular Magnetic Recording Technologies. Her team has been leading the fundamental understanding of HAMR head disk interface challenges since 2011. Qing is a Distinguished Engineer in the CTO Office of WD. In recent years, she was invited to speak at several internal and external events, including the Industrial Day event during the 2025 Intermag/MMM joint conference in New Orleans, where she reviewed HAMR interface reliability challenges.



WEDNESDAY, OCTOBER 29, 2:00 PM- 3:30 PM
The Palm, Main Floor

Title: Medium and Heavy Duty Hybrid-Electric-Vehicle Drive Technologies
Organizer: Sreekant Narumanchi (National Renewable Energy Laboratory)

Presentation Title:
NEXTDRIVE Overview

Abstract: An overview of the NEXTDRIVE project will be presented covering power die/chips, magnetic materials for power electronics and electric motors, power modules, inverter/converter and electric motors, thermal management, reliability, and digital twin diagnostics and prognostics in the context of medium- and heavy-duty on-road vehicle applications.

Biography: **Sreekant Narumanchi** is a Distinguished Member of Research Staff and the Group Manager of the Advanced Power Electronics and Electric Machines (APEEM) group within the Energy Conversion and Storage Systems Center at the National Renewable Energy Laboratory, in Golden, CO, U.S.A. He is an ASME Fellow, and an IEEE Senior Member. He has published over 135 peer-reviewed journal, conference papers and book chapters, and 6 patents in packaging, thermal management and reliability. Professionally, he is active as an Associate Editor, a conference organizer, on advisory boards, and in leading technical committees. He has received multiple recognitions from ASME and IEEE.

Presentation Title:
Power Semiconductor Devices for Electric Drivetrains

Abstract: Next-generation power semi-conductor devices are a key enabler in achieving the DOE targets for electric drivetrains. Developing new semiconductor devices is a costly and time-intensive process. Towards this end, high-fidelity models can be leveraged to predict the performance advantages of next-generation semiconductors, and those models can be deployed at the system level to understand the key advantages and true impact of new materials and devices. This talk will highlight the power semiconductors thrust within the NEXT-DRIVE project and the key experimental and modelling framework that is being established to create next-generation baselines.

Biography: **Andrew T. Binder** is a Principal Member of Technical Staff at Sandia National Laboratories. His research is focused on the development of kilovolt-class power semiconductor devices. Andrew leads a multidisciplinary team developing vertical GaN JBS and MOSFET devices as well as SiC BiDFETs. Under his leadership this team has successfully demonstrated a new process for vertical GaN trench MOSFETs at Sandia, an accomplishment which was selected to be featured in the 2021 U.S. DRIVE Highlight by the DOE. In addition to microfabrication, his research background includes a focus on the physics and modelling of breakdown for wide-bandgap power devices. management and reliability. Professionally, he is active as an Associate Editor, a conference organizer, on advisory boards, and in leading technical committees. He has received multiple recognitions from ASME and IEEE.

Presentation Title:
Magnetic Materials for EV Traction Motors and Power Electronics

Abstract: Magnetic materials are essential to EV motors and drive systems. Their development—spanning magnets, stator/rotor laminates, EMI filters, and inductors—focuses on boosting power density and efficiency while reducing the cost, and more recently, the supply risk. This talk reviews key challenges and recent progress. It covers both rare-earth and rare-earth-free permanent magnets; compares high-silicon, amorphous, and nanocrystalline electrical steels; and explores materials for filters and inductors, including soft ferrites, soft magnetic composites, and nitrides. The goal is to identify paths toward scalable, high-performance solutions for next-generation EV power electronics and motor systems.

Biography: **Dr. Jun Cui** specializes in ferroic materials for energy-efficient and renewable applications, including work on permanent magnets, high-silicon steel, high-entropy alloys, elastocaloric metals, and cryogenic magnetocalorics. He leads research in high-throughput materials synthesis and characterization. Before joining Iowa State University and Ames National Laboratory in 2015, he held positions at Pacific Northwest National Laboratory and GE Global Research. He earned his Ph.D. from the University of Minnesota and completed postdoctoral work at the University of Maryland. Dr. Cui holds 10 patents, 15 pending applications, and has authored over 100 peer-reviewed publications.



Sreekant Narumanchi

National Renewable Energy Laboratory



Andrew Binder

Sandia National Laboratories



Dr. Jun Cui

Ames National Laboratory



Shajjad Chowdhury

Oak Ridge National Laboratory

Presentation Title:
Electric Drive Components for Medium and Heavy-Duty Vehicles

Abstract: This presentation will explore current and emerging technologies aimed at significantly enhancing the operational lifetime and performance of medium-duty and heavy-duty electric traction drive units. While innovations from light-duty vehicle applications offer a foundation, additional advancements are required to meet the demanding targets set by the DOE and the 21st Century Truck Partnership’s Electrification Technologies Sector team. The presenter will highlight proven technologies, potential adaptations, and novel approaches that promise improved efficiency, durability, and reliability. Emphasis will be placed on overcoming cost barriers and enabling mass market adoption through breakthroughs in materials, design, and system integration.

Biography: **Shajjad Chowdhury** received the M.Sc. degree in power and control engineering from Liverpool John Moores University, Liverpool, U.K., in 2011, and the Ph.D. degree in electrical and electronics engineering from the University of Nottingham, Nottingham, U.K., in2016. In January 2017, he joined the Power Electronics, Machines and Control Group, University of Nottingham, as a Research Fellow. In 2018, he joined the Oak Ridge National Laboratory, Oak Ridge, TN, USA, where he is currently working as a Senior Research Staff with the Electric Drive Research Group. His research interests include multilevel converters, modulation schemes, and high-performance ac drives.



Gilbert Moreno

National Renewable Energy Laboratory

Presentation Title:
Thermal Management and Thermo-Mechanical Reliability (Power Electronics and Electric Motor)

Abstract: The presentation will provide an overview of automotive power electronics and electric machines thermal management systems that are typical for light-duty vehicles. Unique thermal and environmental aspects related to medium and heavy-duty vehicle applications will then be discussed. Finally, advanced thermal management and packaging technologies that could be evaluated and used in this project will be described.

Biography: **Gilbert Moreno** is a senior research engineer at the National Renewable Energy Laboratory where he conducts research into the thermal management of power electronics. He has worked at NREL for over 15 years developing advanced cooling technologies for various DOE and strategic partnership projects. He is an ASME Fellow.

THURSDAY, OCTOBER 30, 8:50 AM-9:35 AM
Laguna, Main Floor

Title: NREL Activities and Capabilities in Electronics Packaging Across Multiple Applications

Organizer: **Jimil Shah** (Mara Holdings)

Presenters: **David Sickinger, Ramanathan Thiagarajan, and Sreekant Narumanchi** (National Renewable Energy Laboratory)

Abstract: This special session will involve researchers/managers from the National Renewable Energy Laboratory (NREL) providing an overview of their groups, centers, and activities at the intersection of electronics packaging and applications such as high-performance computing, artificial intelligence, data centers, grid-tied power electronics and systems, vehicles, and other energy-efficiency applications. The intent will be to share NREL information with the audience with the intent of promoting interactions and collaborations.



David Sickinger
NREL

Biography: David Sickinger is a researcher in the Advanced Computing Operations Group within the Computational Science Center at NREL. Since 2012, he has been involved with the operation of the mechanical systems supporting NREL’s High Performance Computing data center.

His research focus is on energy-/water- efficient data center facilities, liquid-cooling technologies, and currently leading a project team to evaluate next generation of cooling technologies being developed by teams in the ARPA-E COOLERCHIPS program. He has a MS degree in mechanical engineering from the University of Arizona, and is a Data Center Energy Practitioner (DCEP - from the U.S. Department of Energy).



Sreekant Narumanchi
NREL

Biography: Sreekant Narumanchi is a Distinguished Member of Research Staff and Group Manager of the Advanced Power Electronics and Electric Machines (APEEM) group within the Energy Conversion and Storage Systems Center at NREL. He is an ASME Fellow, and an IEEE Senior Member. He has published over 135 peer-reviewed journal- and conference papers and book chapters, and received 6 patents in packaging, thermal management and reliability for (power) electronics and electric machines for vehicles, and multiple other applications. Professionally, he is active as an Associate Editor, conference organizer, on advisory boards, and in technical committees. He has received multiple recognitions from ASME and IEEE.



Ramanathan Thiagarajan
NREL

Biography: Ramanathan Thiagarajan is a researcher with the Power Systems Engineering Center at NREL since February 2018. He has experience in design, testing, and characterization of power converters from low- voltage to medium-voltage scale from tens to hundreds of kilowatts of power. He has worked in multiple U.S. Department of Energy efforts on the topic of reliability of photovoltaic inverters from modeling to hardware design to standards development. He also works with power utilities for addressing challenges associated with grid integration of renewables. He has served as the hardware lead for multiple projects involving development of a test bed to characterize inverter response to grid disturbances. His expertise lies at the intersection of power systems and power electronics.



WEDNESDAY, OCTOBER 29, 9:30 AM - 11:00 AM
The Palm, Main Floor

Title: Panel on Electronics Packaging and Smart Manufacturing for AI Application

Organizers: Jimil Shah (MARA Holdings), Saket Karajgikar (NVIDIA)

Abstract: This is a special session supported by ASME's "TEC Development Committee". The session will focus on the presentations and discussions that cover the challenges, needs, and opportunities in smart manufacturing, digital twin, and electronics packaging for AI. Discussions to include associated changes in infrastructure requirements that will challenge the legacy data center design and approach.



Dr. Gamal Refai-Ahmed
AMD, Inc.



Prof. Subramanian Iyer
UCLA



Dr. Ali Heydari
NVIDIA, Inc.



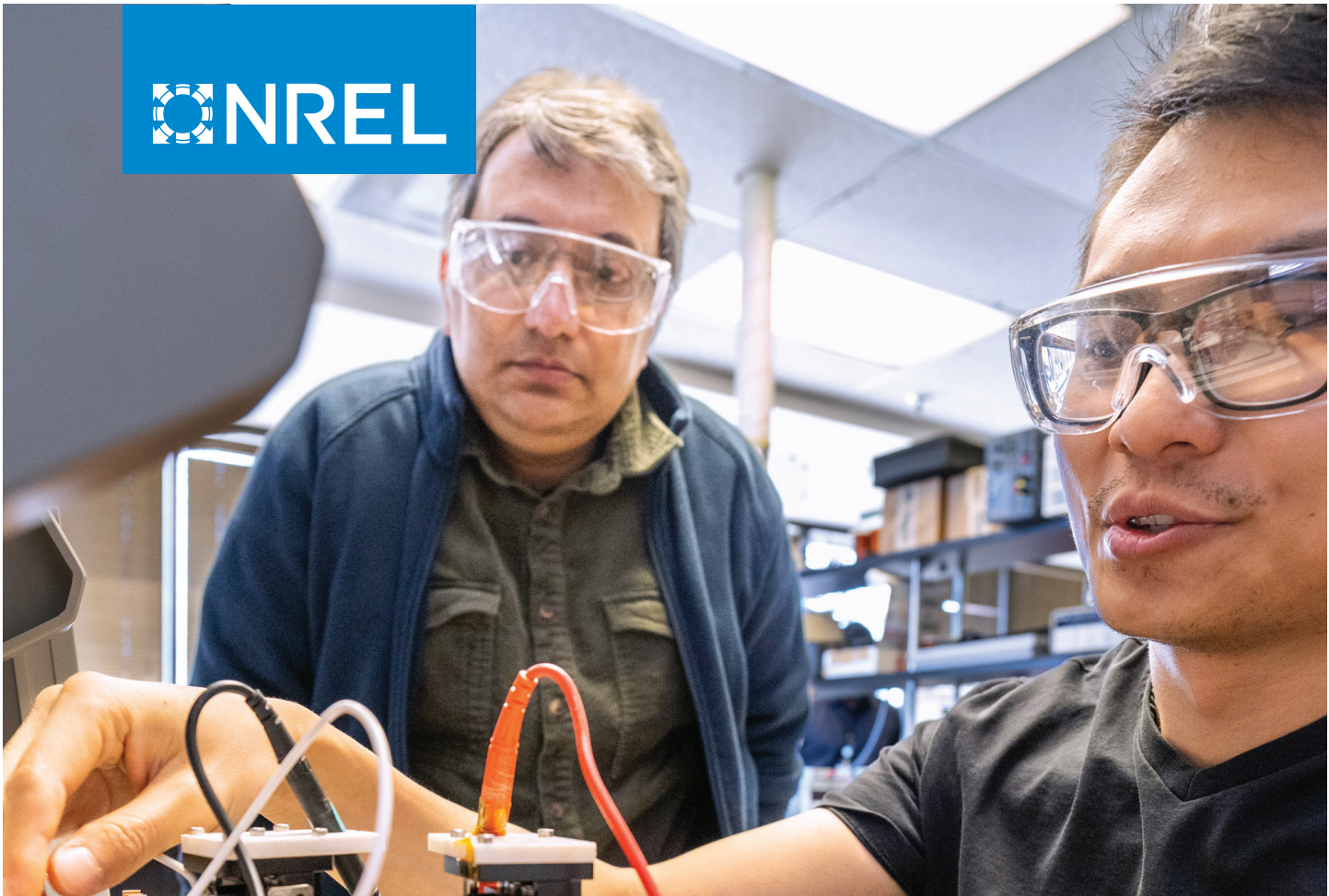
Dr. Jorge Padilla
Google

WHEN	TIME	LOCATION	TOPIC	SESSION
Day 2: Tuesday - October 28, 2025	11:15 AM	Laguna, Main Floor	Data Center and Telecom Challenges and Opportunities	Panel
	2:00 PM	Newport, Main Floor	Efficient Thermal Simulation Using Compact Models	Tutorials
		The Palm, Main Floor	Center for Energy-Smart Electronic Systems (ES2)	Workshops
Day 3: Wednesday - October 29, 2025	9:30 AM	Newport, Main Floor	AI, Investment and Industry Trends	Tutorials
	11:15 AM	Laguna, Main Floor	Thermal/Mechanical/Electrical Challenges and Opportunities for Mobile/Wireless/AI/IoT/Automotive and Higher Power Compute DevicesFlexible Electronics	Panel
	2:00 PM	The Palm, Main Floor	'Special Session: Medium- and Heavy-Duty Hybrid-Electric-Vehicle Drive TechnologiesSpecial Session: The DOE Vehicle Technologies Office (VTO) Next Generation Electric Drive (NEXTDRIVE) Program	Workshops
	2:00 PM	International Center Newport, Main Floor	Probabilistic Design for Reliability (PDFr) Concept, and the Roles of Failure Oriented Accelerated Testing (FOAT) and Predictive Analytical ("Mathematical") Modeling	Tutorials
	3:45 PM	The Palm, Main Floor	Energy Efficiency and Sustainable Technologies	Tutorials
	5:15 PM	The Palm, Main Floor	K16 Mentoring Program	Workshops
	5:15 PM	Newport, Main Floor	Multilayer and Complex Printed Electronics– Machine Learning / Liquid Cooling	PanelTutorials
Day 4: Thursday - October 30, 2025	9:30 AM	The Palm, Main Floor	Special Session: NREL Activities and Capabilities in Electronics Packaging Across Multiple Applications	Workshops
	11:15 AM	The PalmLaguna, Main Floor	Mechanics and ReliabilityMultilayer and Complex Printed Electronics	Panel
	2:00 PM	Laguna, Main Floor	‘Mechanics and Thermo-Mechanical Reliability Of Advanced Microelectronics Packaging	Panel
	2:00 PM	Newport, Main Floor	Additive and Alternative Manufacturing for Electronics	Tutorials



All technical presentations, workshops, tutorials, panels and plenary sessions will be available on the Conference Application (App).

Check your emails for access or scan the QR code at Registration.



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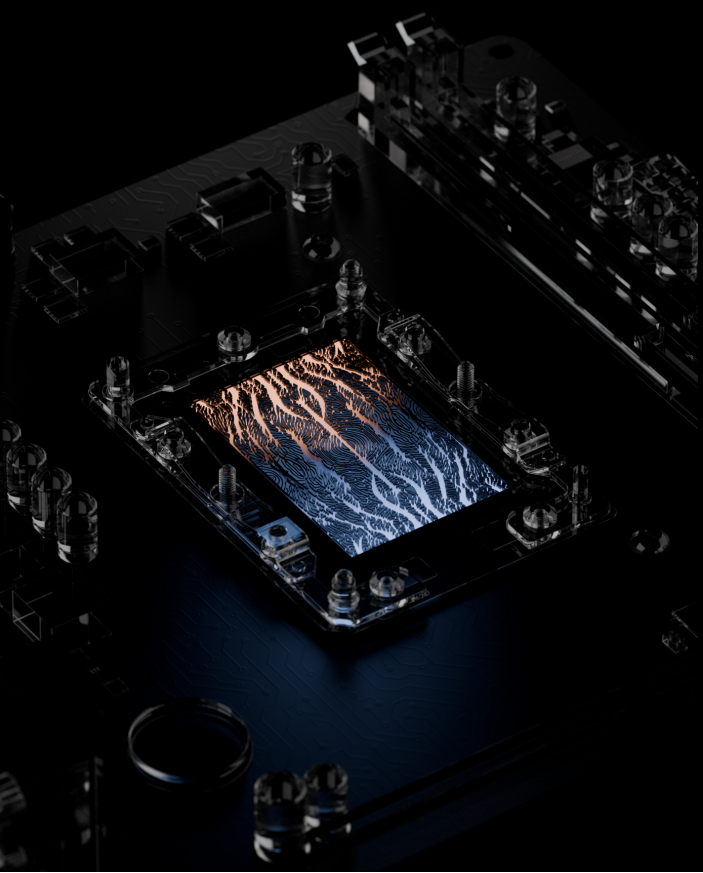


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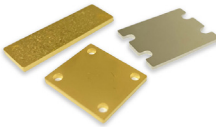
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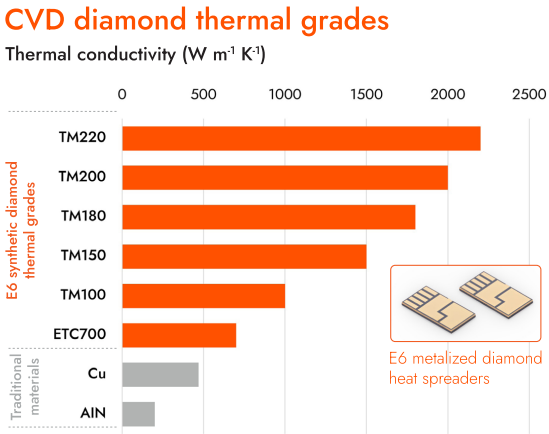
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vchiriac@gctg-llc.com
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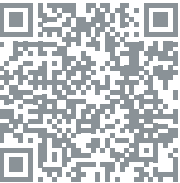
Manifold/Blade
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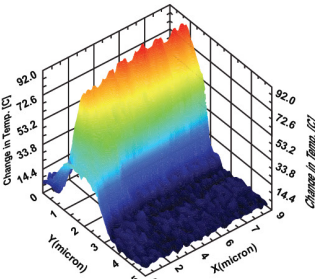
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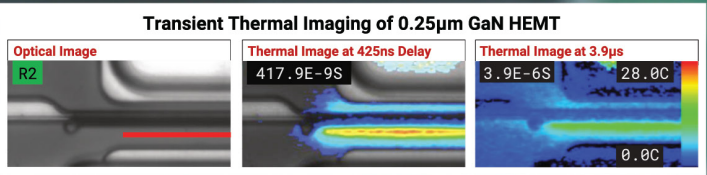
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Topic/Session	Primary Chair First Name	Primary Chair Last Name	Topic/Session Primary Chair Affiliation
Session 01- 01: Heterogeneous Integration -I	Timothy	Chainer	IBM
Session 01-02: Heterogeneous Integration-II	Hussameddine	Kabbani	Meta
Session 02-01 Single Phase Liquid Cooling - I	Harsha	Bojja	Microsoft
Session 02-02: Two Phase Cooling - I	Rajesh	Kasukurthy	
Session 02-03: Data Center Metrics and Modeling	Lochan Sai Reddy	Chinthaparthu	University of Texas at Arlington
Session 02-04: Single Phase Liquid Cooling - II	Cheng	Chen	Meta
Session 02-05: Two Phase Cooling - II	Rajesh	Kasukurthy	AMD
Session 02-06: Two Phase Cooling - III	Himanshu	Modi	Nvidia
Session 03-01: Electronics Packaging (Assembly and Encapsulation)	Sukrut	Phansalkar	University of Maryland, College Park
Session 03-02: Power Electronics and Batteries	Patrick	McCluskey	University of Maryland, College Park
Session 03-03: Electronics Packaging (Solder I)	Unique	Rahangdale	University of Texas at Arlington
Session 03-04: Electronics Packaging (Thermal Management)	Sukrut	Phansalkar	University of Maryland, College Park
Session 03-05: Electronics Packaging (Solder II)	Nick	Ginga	University of Alabama in Huntsville
Session 03-06: Electronics Packaging (Substrates, Underfill, and TIMs)	Unique	Rahangdale	University of Texas at Arlington
Session 04-01: Power/RF Electronics and Photonics (Emerging Active Cooling & Reliability)	Winston	Zhang	University of Illinois at Urbana
Session 04-02: Power/RF Electronics and Photonics (Wide Bandgap Semiconductors and Photonics)	Bikramjit	Chatterjee	Lawrence Livermore National Lab
Session 05-01: Multiscale Thermal Transport and Energy Storage - I	Jorge	Padilla	Google LLC
Session 05-02: Multiscale Thermal Transport and Energy Storage - II	Qilong	Cheng	Berkeley
Session 05-03: Multiscale Thermal Transport and Energy Storage - III	Solomon	Adera	University of Michigan
Session 05-04: Multiscale Thermal Transport and Energy Storage - IV	Jorge	Padilla	Google LLC
Session 06-01: Process Monitoring & Modeling for Additive Electronics	Pradeep	Lall	Auburn
Session 06-02: Printed Electronics for Defense & Extreme Environments	Jorge	Cardenas	RTX
Session 06-03: Advanced Hybrid Electronics Processing & Reliability - I	Benjamin	Leever	Air Force Research Laboratory
Session 06-04: Advanced Hybrid Electronics Processing & Reliability - II	Jorge	Cardenas	RTX
Session 06-05: Stretchable & Wearable Electronics	Jorge	Cardenas	RTX
Session 08-01: Interactive Presentations (Posters)	Georges	Pavlidis	University of Connecticut
Session 09-01: Micro/Nano Mechatronics, Microelectromechanical Systems and their Applications to Internet of Things - I	Shintaro	Itoh	
Session 09-02: Micro/Nano Mechatronics, Microelectromechanical Systems and their Applications to Internet of Things - II	Yasushi	Tomizawa	Toshiba Corporation
Session 10-01: Mechatronics, Tribology, and Control of Information Storage Systems and Robotics	Qilong	Cheng	Berkeley
Session 11-01: Advanced Simulation in Science and Engineering - 1	Kentaro	Tanaka	Tokyo University of Marine Science and Technology
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Yang	Cheng	160167	Validation of High Density Fanout Interposer Through Test Vehicles	Session 01- 01: Heterogeneous Integration -I	Tuesday, October 28, 2025
Sano	Taisei	160267	Simultaneous Viscosity and Velocity Measurement of Suspension by Means of Tracking DLS Technique	Session 06-01: Process Monitoring & Modeling for Additive Electronics	Tuesday, October 28, 2025
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Pinkus	Ilan	160614	Design and Evaluation of High-Performance Copper Tungsten Diamond Pin Cold Plates for Direct-to-Chip Single-Phase Liquid Cooling	Session 02-01 Single Phase Liquid Cooling - I	Tuesday, October 28, 2025
Dasgupta	Abhijit	162422	Modeling Component Separation Failure in Printed Hybrid Electronics Under Extreme Mechanical Shock	Session 06-02: Printed Electronics for Defense & Extreme Environments	Wednesday, October 29, 2025
Park	Jongchan	162638	Application of Laser Assisted Soldering for Replacing Massive Reflow in SBM Process	Session 03-03: Electronics Packaging (Solder I)	Tuesday, October 28, 2025
Rurup	Jeremy	162997	A Design-to-Manufacture Workflow for Aerosol Jet Printing Using Inline Measurements	Session 06-01: Process Monitoring & Modeling for Additive Electronics	Tuesday, October 28, 2025
Jadhav	Hrushikesh	163367	Thermal Management of Power Electronics via Direct Immersion Cooling	Session 05-01: Multiscale Thermal Transport and Energy Storage - I	Wednesday, October 29, 2025
Shaeri	Mohammad Reza	163657	3D-Printed Condensers With Gradient Wick Structures to Enhance Filmwise Condensation	Session 03-04: Electronics Packaging (Thermal Management)	Wednesday, October 29, 2025
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Nirapure	Pranay	163830	A Novel Vision-Based Framework for Detecting Changes in Heat Flux in Pool Boiling Using Morphological Similarity	Session 05-01: Multiscale Thermal Transport and Energy Storage - I	Wednesday, October 29, 2025
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Badkoobeh	Saber	168483	Physic-Informed Ai-Based Structural Optimization for Extreme Thin-Film Evaporation	Session 05-04: Multiscale Thermal Transport and Energy Storage - IV	Thursday, October 30, 2025
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Kobayashi	Takehiro	168763	A Molecular Dynamics Study on the Self-Assembled Monolayer of Organic Additives in Boundary Lubrication	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
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Suthar	Rohit	168855	Performance Characterization of Immersion Compatible Thermal Interface Materials for Single-Phase Immersion Cooling Application Across Various Operating Parameters	Session 03-06: Electronics Packaging (Substrates, Underfill, and TIMs)	Thursday, October 30, 2025

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Pavlidis	Georges	171437	Thermal Guidelines for Silicon Doped Microheaters for Optical Phase Change Memory	Session 04-02: Power/ RF Electronics and Photonics (Wide Bandgap Semiconductors and Photonics)	Wednesday, October 29, 2025
Eguchi	Takehiko	171438	Hdd Mechanical Dynamics Design Guideline for Acoustic Vibrations in Data Center Storage	Session 10-01: Mechatronics, Tribology, and Control of Information Storage Systems and Robotics	Thursday, October 30, 2025
Ahmadian Elmi	Mohammad	171460	Integrated Experimental, Numerical, and Machine Learning-Based Optimization of Two-Phase Skived Fin Cold Plates	Session 02-05: Two Phase Cooling - II	Wednesday, October 29, 2025
Song	Yuxi	171461	Emergent Tribological Properties From Conformational Transitions in Adsorbed Polymer Films	Session 10-01: Mechatronics, Tribology, and Control of Information Storage Systems and Robotics	Thursday, October 30, 2025
Baek	Soo-Whang	171471	Optimal Design for Improving Torque Characteristics of Axial-Flux Consequent Pole Motors	Session 11-02: Advanced Simulation in Science and Engineering - II	Thursday, October 30, 2025
Park	Kyoung-Su	171496	Force Sensoed Ttv Control for Ultra-Thin Wafers in Semiconductor Back-Grinding Process	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
Itoh	Shintaro	171507	Electrophoresis of Dna Molecules Using Hydrated Polymer Brush Film as a Molecular Sieve	Session 09-02: Micro/ Nano Mechatronics, Microelectromechanical Systems and their Applications to Internet of Things - II	Thursday, October 30, 2025
Azuma	Naoki	171515	Stretching Linear and Circular Dnas Using Nanogaps Formed by Spherical Lens Contact for Single-Molecule Analysis	Session 09-02: Micro/ Nano Mechatronics, Microelectromechanical Systems and their Applications to Internet of Things - II	Thursday, October 30, 2025
Gao	Ang	171526	Digital Twin of the Hybrid Bonding Unit Process With Integrated Virtual and Physical Metrology	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
MAZUMDER	GOLAM RAKIB	171527	Modeling the Impact of Mechanical Induced Damage on Anand Parameters and Thermal Fatigue Life in Sac305 Solder Joints	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
SUMAIYA	OMMA	171528	Finite Element Modeling of the Effect of Prior Isothermal Aging on the Thermal Fatigue Life of Pbga Packages	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
Maruf	Mahbub Alam	171529	Effects of Aging on the Mechanical Properties and Microstructure of Sac-Lts Hybrid Solders With Varying Bismuth Concentrations	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
Chakraborty	Souvik	171530	Analyzing the Effect of Bi Content on the Thermomechanical Behavior of Hybrid Sac-Lts Solders	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025

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Vanukuri	Venkatareddy	171550	Optimizing Thermal Management in Next-Generation Aircraft: The Role of Oscillating Heat Pipes (Ohp)	Session 03-04: Electronics Packaging (Thermal Management)	Wednesday, October 29, 2025
Ryu	Jong Eun	171552	Package-Related Degradation Simulation in a Sic Jfet/si Mosfet Cascode Under Power Cycling Test	Session 03-02: Power Electronics and Batteries	Tuesday, October 28, 2025
Norris	Matthew	171560	A High Temperature Ltcc Based Packaging Scheme for Power Electronics	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
Bolanos	Sergio	171572	The Effect of Sb Concentration on the Fatigue Properties of Sac405	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
Kim	Seokjun	171574	Thermal Analysis of Multi-Finger Gan Hemts Using Gate Resistance Thermometry, Raman Thermometry, and Infrared Thermal Microscopy	Session 04-02: Power/ RF Electronics and Photonics (Wide Bandgap Semiconductors and Photonics)	Wednesday, October 29, 2025
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Choe	Jihun	171994	Simultaneous Non-Contact Measurement of Temperature and Deformation of a Silicon Membrane Heater	Session 05-03: Multiscale Thermal Transport and Energy Storage - III	Tuesday, October 28, 2025
Majakoti	Saroj	172043	A Nanoindentation and Inverse Finite Element Modeling-Based Study of High Temperature Attachment Material for Obtaining Elasto-Plastic Behavior.	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
Bashyal	Bishal	172090	Comparative Performance Analysis of Semi-Additive Rectifier Circuits Using SAC305 and High-Temperature Solder/TLPS Interconnects Under Extreme Thermal Conditions (-40°C to 250°C)	Session 06-02: Printed Electronics for Defense & Extreme Environments	Wednesday, October 29, 2025
Milne	Jason	172140	Printed and Flexible Electronics for Aerospace and Defense Applications	Session 06-02: Printed Electronics for Defense & Extreme Environments	Wednesday, October 29, 2025
Kabaria	Hardik	172287	Breaking the Bottleneck in Thermal Simulation for Electronic Packaging	Session 03-04: Electronics Packaging (Thermal Management)	Wednesday, October 29, 2025
Lin	Yujui	172316	The Evaporator With the Multi-Hierarchy Wicking Structure for an Improved Two-Phase Cooling Performance	Session 05-02: Multiscale Thermal Transport and Energy Storage - II	Thursday, October 30, 2025
Min	Luke	172361	Direct Measurement of Phonon-Boundary Scattering in Single-Crystal Diamond Microparticles	Session 01-02: Heterogeneous Integration-II	Thursday, October 30, 2025

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Zhang	Xiaojing	172504	Computer Vision-Enabled Local Heat Transfer Coefficient Mapping in Micro Flow Boiling	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
Zhang	Xiaojing	172581	Computer Vision-Enabled Local Heat Transfer Coefficient Mapping in Micro Flow Boiling	Session 05-02: Multiscale Thermal Transport and Energy Storage - II	Thursday, October 30, 2025
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Ramirez	Jachin	173431	Implementation of Heat Pipes for High-Power Dual In-Line Memory (Dimm) Cooling	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
Manepalli	Vivek	173467	Pushing the Limits of Dielectric-Based Liquid Cooling Using Encapsulated Phase Change Material Slurries	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
Mittakolu	Roshith	173472	Rethinking Dielectric Fluids: Microencapsulated Phase Change Materials and a Utilization Metric for Microchannel Heat Sinks	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
Barua	Sonkolon	174056	Impact of Oil Immersion Cooling on Thermal Fatigue in 3d Heterogeneous Packages With Tsvs and Solder Joints	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
Min	Luke	174068	Direct Measurement of Phonon-Boundary Scattering in Single-Crystal Diamond Microparticles	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
Kulkarni	Ritwik Vijaykumar	174069	Impact of Thermo-Mechanical Stresses on Polymeric Thermal Interface Material Performance	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
Coughlin	Matthew	174073	Mechanical Reliability of Pin Fin and Liquid Metal (Pflm) Thermal Interface Materials (Tims)	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
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Zaghari	Pouria	174075	Multiphysics Predictive Modeling of Thermomechanical Degradation in Sic Jfet/si Mosfet Cascode Structures	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
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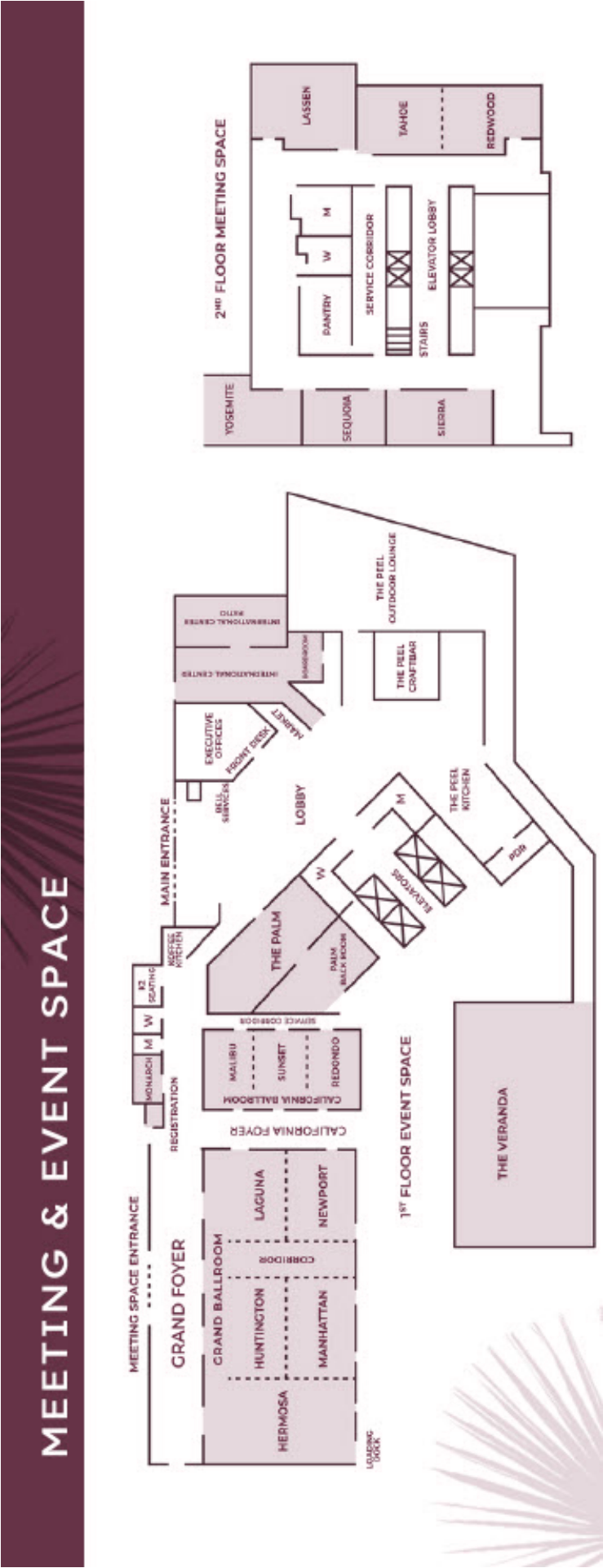
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Yang	Yunchun	174154	Direct-on-Chip Two-Phase Confined Jet Impingement Cooling With Integrated Phase Separation Membrane	Session 02-06: Two Phase Cooling - III	Thursday, October 30, 2025
Harsha	Aditya	174747	High-Temperature Reliability of Flexible Printed Circuits on Biodegradable Substrates With Water-Based Inks and Room-Temperature Adhesives	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
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Jha	Avhishek	174759	Performance Evaluation of Additively Printed Multi-Layer Flexible Hybrid Electronic Circuit Tested Under Different Real-Life Loads	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025
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Piyumal	Yasitha	174761	Thermal Aging-Induced Degradation of Fracture Toughness in Non-Pfas Potting Materials	Session 08-01: Interactive Presentations (Posters)	Tuesday, October 28, 2025

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