



## May 31 – June 3, 2022

21<sup>st</sup> Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems

### Important Dates

<b>Abstract Deadline:</b>	<b>Sept. 6, 2021</b>
Notification of Acceptance:	Oct. 18, 2021
Draft Paper Submission:	Dec. 20, 2021
Reviews Returned:	Feb. 7, 2022
Final Paper Submission:	Mar. 7, 2022



## Call for Abstracts

The IEEE ITherm Conference is the leading international conference for scientific and engineering exploration of thermal, thermomechanical and emerging technology issues associated with electronic devices, packages, and systems. ITherm 2022 will be a physical conference held along with the 72<sup>nd</sup> ECTC. Joint ITherm/ECTC registrations will be available at a significant discount. All abstracts are followed by full papers to be peer reviewed and published in the IEEE Xplore ITherm proceedings, with no technical presentation-only submissions. Student first authors will have the opportunity to apply for ITherm travel grants in order to participate in a Student Poster and Networking Session. ITherm 2022 will also feature keynotes by prominent speakers, vendor exhibits, panel discussions, invited technology talks, ECTC/ITherm joint networking events and short courses, an art-in-science exhibition, and a student design competition. Original papers are solicited in the following areas of interest:

### Component-Level Thermal Management

- 3D Packaging & Heterogeneous Integration
- Package-Integrated Thermal Management
- Embedded Cooling
- Hotspot and Impingement Cooling
- Thermal Interface Materials and Heat Spreaders
- Thermoelectric and Peltier Devices
- Heat Pipes, Vapor Chambers and Thermosyphons
- Single / Two-Phase Cold Plates and Heat Sinks
- RF and Power Electronics
- LEDs, Photovoltaics, and Optoelectronics
- Thermal Management of Electric Machines
- Pulsed Power Dissipation

### System-Level Thermal Management

- Air Cooling Techniques and Heat Exchangers
- Liquid Cooling Solutions
- Immersion Cooling and Refrigeration
- Pumps, Compressors, Fans and Blowers
- Phase Change Materials
- Automotive, Batteries and Thermal Storage
- Mobile and Internet of Things
- Telecommunication Systems
- Space and Aerospace
- Data Center Thermal Management
- Thermal Management in Electric Aircraft
- Modeling of Complex Thermal Systems
- Next-Gen Electronics Systems Co-Design

### Mechanics & Reliability

- Thermo-Mechanical Modeling and Simulation
- Mechanics and Reliability of Solder Joints and Interconnects
- Materials Characterization, Processing, and Models
- Failure Mechanics, Fatigue, and Damage Modeling
- Measurement of Deformations, Strains and Stresses
- Shock, Drop and Vibrational Analysis
- TSV / 3D Reliability and Packaging
- Mechanics in Assembly and Manufacturing
- Applied Reliability and Failure Analysis
- Process-Structure-Property Relations / Multi-Scale Analyses
- Accelerated Stress Testing and Modeling
- Lifetime Prognostics and Condition Monitoring

### Emerging Technologies and Fundamentals

- Boiling, Evaporation, and Condensation
- Convection in Microchannels, Microgaps, and Jets
- Pulsating / Oscillating and Non-Conventional Heat Pipes
- Nanoscale and Transistor-Level Thermal Transport
- Novel Materials and Fabrication Techniques
- Measurement and Diagnostic Techniques
- Numerical Methods, Nano-to-Macro Scale
- Experimental Methods, Nano-to-Macro Scale
- Prognostic Health Management and Reliability Analysis
- Wearable, Flexible, and Printed Electronics
- Additive Manufacturing
- Silicon Fabrication for Thermal Management Devices
- Predictive Analytics and Machine Learning

ITherm provides an opportunity for industrial and university participation in the form of financial support to ITherm 2022. All contributors will be given strong recognition both onsite and in the conference materials.



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