EPTC 2021

23rd Electronics Packaging Technology Conference

1st - 3rd Dec 2021, Singapore

IEEE EPS Flagship Conference

FINAL CALL FOR PAPERS

ABOUT EPTC

The 23rd IEEE Electronics Packaging Technology Conference (EPTC2021) is an international event organized by the IEEE RS/EPS/EDS Singapore Chapters and co-sponsored by IEEE Electronics Packaging Society (EPS). EPTC2021 conference will feature keynotes, technical sessions, technology talks, exhibition corners and networking activities. It aims to provide a platform to cover the technology developments in the complete spectrum of electronics packaging from design to manufacturing. Since its inauguration in 1997, EPTC has established a highly reputed electronics packaging conference in Asia and selected as an EPS flagship conference in the Asia-Pacific Region 10, covering diverse areas of electronic packaging technology topics. These include modules, components, materials, equipment technology, assembly, reliability, interconnect design, device and systems packaging, heterogeneous integration, wafer-level packaging, flexible electronics, LED, Internet of things (IOT), 5G, autonomous vehicles, photonics, emerging technologies, 2.5D/3D integration technology and, smart manufacturing.

The EPTC technical program Committee, with more than 100 experts from diverse technology areas in semiconductor packaging, is committed to creating an engaging technical program for the packaging community. Last year, the 22nd EPTC was conducted on a virtual platform due to the pandemic. More than 680 attendees attended from more than 30 countries worldwide, with 135 video presentations across the 26 technical sessions. Additionally, technology talks from industry and academic experts have been introduced. The technical program and Technology talks will be supplemented by Exhibitors technology corner, which provide an opportunity for leading companies to exhibit their latest technologies and products. If the pandemic situation improves towards the end of the year and international travel restrictions are lifted, a hybrid conference mode may be introduced to include one or two days of in-person sessions.

CONFERENCE TOPICS

You are invited to submit abstract(s) on new research and developments in the following packaging categories:

Advanced Packaging: Flip-chip, 2.5D & 3D, embedded passives & actives on substrates, chiplets, system in packaging, embedded chip packaging technologies, panel-level packaging, RF, microwave & millimeter-wave, power and rugged electronics packaging. Advanced packaging solutions for 5G, IoT, cloud computing, autonomous vehicles, antennas, sensors, power transfer, EM shielding, RF to THz communications.

TSV/Wafer Level Packaging: Wafer-level packaging, embedded chip packaging, 2.5D/3D integration, Silicon, SiC & Glass interposer, CoWoS, FoCoS, InFo, eWLB, bumping technologies, and so forth.

Interconnection Technologies: Au/Ag/Cu/Al Wire-bond / Wedge bond technology, Flip-chip & Cu pillar, Solder alternatives, Cu to Cu, wafer-level bonding & die attachment (Pb-free), Fan-out, panel-level, chiplets, SiP, micro-bump, high I/O thermo-compression/hybrid bonding, fine-pitch/multi-layer RDL, printable interconnects, conductive/ nonconductive adhesives, low-temperature solder, interconnects design and technology for emerging applications.

Emerging Technologies: Novel and unique packaging and material technologies for soft and intelligent packaging, flexible hybrid electronics, implantable biosensors and bioelectronics, packaging for extreme harsh environment, green/bio-resorbable packaging; packaging of MEMS & NEMS, packaging for wide bandgap devices, quantum computing, packaging sensing and communication.

Materials and Processing: Photoresist, polymer dielectrics, solder, die-attach, underfill, substrates, lead-frames, materials for wafer & panel-level packaging; harsh environments; wafer bonding/ debond materials; emerging electronic materials & processes; novel solder metallurgies; molding compounds; thermal interface materials; advanced wire-bonding, conductive adhesives. PCB for advanced packaging, assembly processes using newer materials. Substrates in the large/ultra-large package (SiP, SIM, MCP) integration

Assembly and Manufacturing Technology: Embedded/hybrid package manufacturing processes; warpage control and management in board-level assembly; thin die/package handling and assembly advance in flexible and printed electronics manufacturing Large/ultra-large package (SiP, SIM, MCP) integration and manufacturing; thermally enhanced packaging and assembly challenges. Additive manufacturing. Panel-level manufacturing and assembly. Heterogeneous integration and manufacturing.

Electrical Simulation & Characterization: Power plane modelling, Signal integrity analysis by simulations and characterization, 2D/2.5D/3D package level high-speed signal design, characterization and test methodologies.

Mechanical Simulation & Characterization: Thermal-mechanical interaction, moisture, fracture, fatigue, dynamic impact modelling and characterization. process modelling, etc.

Thermal Characterization & Cooling Solutions: Thermal characterization and simulation, component, system and product level thermal management and characterization

Quality, Reliability & Failure Analysis: Silicon, component, board and system-level reliability assessment, interfacial adhesion, accelerated testing, failure characterization.

Advanced Optoelectronics and Displays: Design, simulation, interconnection, packaging, integration and materials for optoelectronics and novel displays - micro/mini/nano LED, foldable and flexible displays, augmented reality and virtual reality and wearable displays. Silicon and III-V photonics; optical sensors, interconnects, interposers, quantum device packaging; photonics SiP; free-space optical communications, waveguide; automotive photonics, 3D sensing; optoelectronic fiber coupling assembly, materials and reliability; fiber optic transceivers. electro-optical integration.

Smart Manufacturing and Equipment Technology: Smart Manufacturing in packaging, cycle time, data analytics, advanced metrology, machine learning, artificial intelligence, advanced equipment for assembly, packaging and handling Digital Twin and process simulation.

IMPORTANT DATES

Online abstract submission start	**Apr 30th 2021**
Closing of abstract submission	~~**Jun 30th, 2021**~~ ~~**July 15th 2021**~~ **July 26th 2021**
Notification of acceptance	**Aug 1st 2021**

Please check on http://www.eptc-ieee.net for the latest updates.

ABSTRACT AND PAPER SUBMISSION

You are invited to submit an abstract between 500–750 words long and clearly state the purpose, methodology, results (which must include data, drawings, graphs and photographs) and conclusions of the work. Additional details on abstracts submission can be found on the EPTC website. Abstracts must be received by **July 26th, 2021**.

Your submission must be cleared by your management and co-authors as applicable and include the authors' affiliations and e-mail addresses. All submissions should be made in English, either in pdf or MS word format. Please select the appropriate technical committee as per your abstract content from the drop-down list so that the right technical committee can evaluate your submission for acceptance. Accepted abstracts will be notified for the full paper submission with instructions for publication by August 1st, 2021. At the discretion of the technical committee, submitted abstracts may be considered for interactive presentation. The final manuscript for publication in the conference proceedings is due on September 10th, 2021. The conference proceeding is an official IEEE publication, and the accepted papers that are registered and presented (oral & interactive) will be available in IEEE Xplore.

BEST PAPER AWARDS

Awards in the form of cash and certificates will be given to the best oral papers from Academia, Industry and Students. More details are available on the EPTC website.

CALL FOR TECHNOLOGY TALKS

In the last EPCT-2020, Technology talks by industry and academics experts in advanced packaging have been introduced. It has a tremendous response from the EPTC attendees. We are inviting industry and academic experts in packaging R&D and Manufacturing supplier industries (materials, equipment and services) on technology innovation, challenges, potential gaps, product and services road map. More details are updated on the conference website, and proposals for technology talks can be submitted at **technicalchair@eptc-ieee.net**.

CALL FOR PROFESSIONAL DEVELOPMENT COURSES

EPTC 2021 would like to offer PDC from the industry and academics experts in advanced packaging. We are inviting industry and academic experts in Advanced packaging applications. More details are updated on the conference website, and proposals for PDC can be submitted at **pdcchair@eptc-ieee.net**.

CALL FOR EXHIBITION / SPONSORSHIPS

Detailed exhibition and sponsorship opportunities are available on the conference website. For enquiries, please e-mail **exhibition@eptc-ieee.net** or **sponsorship@eptc-ieee.net**.

EPTC 2021: Website: http://www.eptc-ieee.net **E-mail:** secretariat@eptc-ieee.net Join us on Linkedin

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Keynote Talks

1st Keynote title to be confirmed.

Speaker: **Dr. Seungwook Yoon,** Corporate VP/Head of Team of Package Technology Strategy and Planning, – Samsung Electronics

Future directions for 3D Integration technologies, enabling further electronic system-level scaling benefits.

Speaker: **Dr. Eric Beyne,** Senior Fellow, VP R&D, Director 3D System Integration

Technology Talks

Roadmap based on holistic understanding of thermo-mechanical challenges from package to system to maximize silicon performance

Speaker: **Dr. Gamal Refai-Ahmed***, Xilinx Fellow*

Packaging materials as a key enabler for future megatrends.

Speaker: **Dr. Klemens Brunner,** President Heraeus Electronics (Geschäftsführer) at Heraeus Materials

Innovative Copper Electrodeposition Solutions for High Density Fanout (HDFO) Package Technology"

Speaker: **Dr. Bryan Buckalew,** Technical Director, Lam Research Corporation, USA

Hybrid Bonding – state-of-the-art and upcoming requirements

Speaker: **Dr. Paul Lindner** is EV Group's Executive Technology Director

Applied Materials – Title of presentation to be confirmed

Speaker: **Dr jinho An**

Panel Discussion

Theme of the panel topic: Supply Chain Ecosystem Challenges Impacting the Global Electronic Packaging

Panel Session Chair: **Dr. Kitty Pearsall** and Panel speakers' TBD

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