

# ECTC

The 68th IEEE Electronic Components and Technology Conference

# CALL FOR PAPERS

Sheraton San Diego Hotel & Marina • San Diego, California, USA • May 29 – June 1, 2018

## Introduction



On behalf of the IEEE Electronic Components and Technology Conference (ECTC) Program Committee, it is my pleasure to invite you to submit an abstract for the 68th ECTC, to be held May 29 – June 1, 2018, at the Sheraton San Diego Hotel & Marina in San Diego, California, USA.

This premier international conference, sponsored by the IEEE Electronics Packaging Society (IEEE EPS, formerly the IEEE CPMT Society), covers a wide spectrum of

electronic packaging technology topics, including components, materials, assembly, interconnect design, device and system packaging, wafer-level packaging, sensors and the Internet of Things (IoT), optoelectronics, silicon photonics, 2.5D and 3D integration technology, and reliability.

The ECTC Program Committee, with more than 200 experts from broad-ranging technical areas, is committed to creating an engaging technical program for all. ECTC typically attracts more than 1,400 attendees from over 25 countries. Last year's 67th ECTC in Orlando, Florida, had 1,439 attendees, with 337 papers and interactive presentations featured in 41 sessions. The 68th ECTC will continue with that tradition by being the premium venue to showcase all the latest developments in the electronic components industry where packaging has become a way to achieve device and system performance scaling.

The 68th ECTC program will include six parallel technical sessions in the mornings and afternoons over three days, along with other special topic panel discussions to present high-level trends and best practices in the industry. Professional Development Courses (PDCs) will also be offered by world-class experts, enabling participants to broaden their technical knowledge base.

The technical program and PDCs will be supplemented by Technology Corner Exhibits, which provide an opportunity for leading companies in the electronic components, materials, and packaging fields to exhibit their latest technologies and products. Last year's 67th ECTC featured a record number of 106 exhibitors.

As the Program Chair of the 68th ECTC, I invite you to submit an abstract between 250 and 750 words that describes the scope, content, and key points of your proposed technical paper at [www.ectc.net](http://www.ectc.net). You are also welcome to submit proposals for PDCs. The deadline for abstract and proposal submission is October 9, 2017. Manuscripts conforming to the ECTC format are due by February 23, 2018, for inclusion in the Conference Proceedings. All abstracts and manuscripts must be original, free of commercial content, and non-confidential.

On behalf of the ECTC Program Committee, I look forward to seeing you at the Sheraton San Diego Hotel & Marina, San Diego, California, USA at the 68th ECTC, May 29 – June 1, 2018.

Chris Bower – 68th ECTC Program Chair  
X-Celeprint, Inc., Research Triangle Park, North Carolina, USA

## Major Topics

All submitted abstracts are rated by the ECTC technical subcommittee members. Highly rated abstracts are accepted for presentation at the ECTC conference. It is important that authors identify the subcommittees whose topic areas best fit their abstracts. Abstracts should include original and previously unpublished, non-confidential, and non-commercial information on new developments, technology, and knowledge in the areas including, but not limited to, those given below for each technical subcommittee.

**Advanced Packaging:** Fan-out & fan-in packages; Wafer & panel level processes; 2.5D, 3D, TSV & Interposer; Heterogeneous integration & SiP; Embedded & advanced substrates; Advanced flip-chip; CSP & PoP; MEMS, sensors & IoT; Power modules; Automotive; Bio, medical, flexible, wearable; High-performance computing.

**Applied Reliability:** Reliability of TSV, 2.5D, 3D, fan-out, WL CSP, WLFO, PLFO, SiP & MCM; Interconnect reliability in flip chip, wire bond and BGA; Product reliability including LED, IoT, and automotive; Reliability/life test methods & models; Failure analysis techniques & materials characterization; Drop/dynamic mechanical reliability; System level reliability; Automotive & harsh environment reliability.

**Assembly and Manufacturing Technology:** Embedded/hybrid package manufacturing; Wearable/IoT package assembly; Healthcare/fitness component assembly; Warpage management in board level assembly; Thin die/mold/package handling and assembly; Large package (SiP, SiM, MCP) integration and processing; Panel level manufacturing for fan-in, fan-out; Dicing and singulation technology.

**Emerging Technologies:** Wearable and implantable medical electronics including sensors/actuators, flexible, stretchable, disposable, dissolvable, self-healing packaging; Emerging MEMS & NEMS; 3D printing, self-alignment, emerging assembly, lab-on-chip & novel additive technologies; Packaging for autonomous sensors, photovoltaic, and heterogeneous integration; Security, anti-counterfeiting & smart electronics.

**High-Speed, Wireless & Components:** Electrical modeling, analysis, design, integration, and characterization of novel electronic packages, interconnects,

components, modules, and systems; High-speed or wireless applications from digital to analog to RF, low to high power, DC to THz, nano to microscales, and beyond; Corresponding simulation and measurement methods.

**Interconnections:** Interconnections for fan-out & fan-in wafers & panels; Interconnects and TSV for 2.5D/3D, SiP, Si/glass/organic interposers, PoP & WLP; Flip chip, solder bumping, Cu pillar & thermocompression bonding technology; IMC interfaces, wirebonds & conductive adhesives; Interconnects for bio-medical, automotive, datacenters, cloud, network, and harsh environments.

**Materials & Processing:** Wafer & panel level packaging materials; Materials for harsh environments; Packaging substrates; Flexible, stretchable, bendable & wearable electronics; Battery materials; Wafer bond/debond materials; TSV; Emerging electronic materials & processes; Novel conductive and non-conductive adhesives; Solder metallurgy; Dielectrics and underfill; Molding compounds; Thermal interface materials; Optoelectronic materials; Advanced wire bonding.

**Optoelectronics:** Wafer & panel level photonic packaging; Photonic integrated circuits; Photonic interposers; Optical interconnects; Waveguide technology; Optical printed circuit boards; Optical sensors; Silicon and III-V photonics; Micro-optical systems; Photonic SiP; 3D photonics; Novel LEDs & high-power lasers; MicroLED; Visible light communication; Optoelectronic assembly, materials and reliability.

**Thermal/Mechanical Simulation & Characterization:** Component, board & system level modeling for microelectronics; 3D/2.5D; TSV; Interposer; SiP; WLP; BGA; Embedded actives/passives; Power modules; LEDs; MEMS; Thin wafer/die handling; Wire bonding & assembly processes; Modeling of fracture mechanics, fatigue, electro-migration, warpage, delamination, drop test & material attributes; Novel modeling including multi-scale and multi-physics; Novel characterization methodologies.

**Interactive Presentations:** Highly encouraged at ECTC, presenter and attendee often communicate more efficiently here than in oral presentations. Abstracts can relate to any electronics packaging topic. Interactive presentation session papers are published and archived in equal merit with the other ECTC papers.

Visit the ECTC website ([www.ectc.net](http://www.ectc.net)) for additional conference information.

Call for Professional Development Courses

See page two.

## Abstract and Manuscript Submission

You are invited to submit an abstract between 250–750 words that describes the scope, content, and key points of your proposed paper via our website at [www.ectc.net](http://www.ectc.net). Additional details on how to submit abstracts electronically can be found on the ECTC website under the “Author Information” tab. Submitted abstracts become the property of ECTC, and ECTC reserves the right to publish the abstracts accepted for the conference. ECTC also reserves the right to prohibit, limit, or reject any editing of submitted abstracts. Abstracts accepted for the conference may not be edited until manuscript submission. Abstracts must be received by **October 9, 2017**. Your submission must be cleared by management and co-authors as applicable and include the affiliation, contact telephone number, and email address for all authors, along with the mailing address for the presenting author. Please select two different program subcommittees in order of preference that should evaluate your submission for acceptance. Authors will be notified of paper acceptance with instructions for publication by December 11, 2017. At the discretion of the Program Committee, submitted abstracts may be considered for Interactive Presentation sessions.

Manuscripts conforming to the ECTC format are due in final form for publication in the Conference Proceedings by February 23, 2018.

**Manuscripts not submitted by this date may be removed and replaced in the final program at the discretion of the Program Committee.** The submitted content must be original, previously unpublished, non-confidential, and without commercial content. All submitted manuscripts are checked for plagiarism and excessive self-duplication of previously published work through the IEEE CrossCheck system. For additional information regarding abstract and paper submission, please contact:

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## Special Paper Recognition

**Best Paper Award:** Each year the ECTC selects the best paper whose author(s) receive an ECTC personalized wall plaque and share a check for \$2,500.

**Best Interactive Presentation Award:** Each year the ECTC selects the best Interactive Presentation paper whose author(s) receive an ECTC personalized wall plaque and share a check for \$1,500.

**Outstanding Paper Award:** An outstanding conference paper is also selected for special recognition by the ECTC. The author(s) receive a personalized wall plaque and share a check for \$1,000.

**Outstanding Interactive Presentation Award:** An outstanding Interactive Presentation paper is also selected for special recognition by the ECTC. The author(s) receive a personalized wall plaque and share a check for \$1,000.

**Intel Best Student Paper Award:** Intel Corporation is sponsoring an award for the best paper submitted and presented by a student at ECTC. The winning student will be presented with a wall plaque and a check for \$2,500. See next column for details.

**Texas Instruments Outstanding Student Interactive Presentation Award:** Texas Instruments is sponsoring an award for the best student interactive presentation at ECTC. The winning student will be presented with a wall plaque and a check for \$500.

## Technology Corner Exhibits

### Reserve Your Space Early!

Exhibit your products or services to more than 1,400 engineers and managers from all areas of the microelectronics packaging industry. These include: materials & processes for semiconductor packaging, assembly and interconnect technologies, test & other equipment, market research, and research centers.

Two days: May 30 and 31, 2018

With 100 of 106 exhibition booths at the 68th ECTC reserved already, mostly by returning exhibitors from the 67th ECTC, applications are still being accepted for participation in the Technology Corner Exhibits. For information and an application contact Joe Gisler at [gislerhj.ectc@mediacombb.net](mailto:gislerhj.ectc@mediacombb.net). Additional information is available at [www.ectc.net](http://www.ectc.net) under Technology Corner Exhibits.

## Sponsorship Opportunities to Enhance Your Presence at ECTC

ECTC also offers excellent opportunities for promotion and visibility through sponsorships of the gala event, badge lanyard, USB flash drive proceedings, media, luncheons, refreshment breaks, program, and the student reception. Additional information is available at [www.ectc.net](http://www.ectc.net) under Sponsors. Please contact:

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## Call for Professional Development Courses

Proposals are solicited from individuals interested in teaching educational, four-hour long Professional Development Courses (PDCs) on topics described on the previous page. From the proposals received, 18 PDCs will be selected for the 68th ECTC on Tuesday, May 29, 2018. Each selected course will be given a minimum honorarium of \$1,000. In addition, instructors of the selected courses will be offered the speaker discount rate for the conference. Attendees of the PDCs will be offered Continuing Education Units (CEUs). These CEUs are recognized by employers as a formal measure of participation and attendance in “noncredit” self-study courses, tutorials, symposia, and workshops.

Using the format “Course Objectives/Course Outline/Who Should Attend,” 200-word proposals must be submitted via the ECTC website at [www.ectc.net](http://www.ectc.net) by **October 9, 2017**. Authors will be notified of course acceptance with instructions by December 11, 2017. If you have any questions, contact:

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## IEEE Electronics Packaging Society Travel Grant

IEEE Electronics Packaging (formerly IEEE Components, Packaging and Manufacturing Technology Society) is pleased to continue the IEEE EPS Travel Grant Program for the 68th ECTC. The goals of this award are to foster maximum student participation in ECTC and to recognize students with superior ECTC papers.

**Description:** Grants are available to apply towards actual travel expenses, including airfare, hotel, and meals. Grants will be awarded competitively, based on abstracts submitted by student authors. The student who is named as the primary author of each winning abstract will receive a travel grant.

**Eligibility:** The competition is open to all full-time graduate students enrolled at an accredited institution in a program of study within the scope of ECTC. The student must be listed as the primary author on the abstract. A maximum of two authors (one per paper) from any one institution will receive a travel grant.

**Application Process:** To apply, check the “IEEE EPS Society Travel Grant” box in the “Awards” section of the online abstract submission form. Pre-selected abstracts based on technical committee scores will be requested to submit an extended abstract.

## Intel Best Student Paper Award

Intel Corporation is sponsoring an award for the best paper submitted and presented by a student at the ECTC. The winning student will be presented with a wall plaque and a check for \$2,500.

**Eligibility:** To be considered for the award, the student must be a full-time student for at least one semester after the conference conclusion. The student must be the lead author and present the paper at the 68th ECTC. It is the convention at ECTC for the presenter to be listed as the first author. Finalists will be determined by review of the completed manuscripts by the judging committee. Manuscripts will be reviewed for relevance to the competition topics, technical content, and originality. The author of the best student paper will be notified after the conference and must submit an affidavit from the student’s faculty advisor certifying that the student meets the eligibility requirements.

**Application Process:** To enter the Intel Best Student Paper Award competition, please check the “Intel Best Student Paper Award” box in the “Awards” section of the online abstract submission form.

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