IEEE ELECTRONICS PACKAGING SOCIETY

The 2024 IEEE 74th Electronic Components and Technology Conference

May 25 – May 29, 2024 • Gaylord Rockies Resort & Convention Center, Denver, Colorado, USA

ECTC PHOTONICS SESSION

Papers are solicited on topics related to the modeling, simulations, design, and technology of photonic components and system packaging.

TOPICS OF INTEREST INCLUDE:

Photonics Packaging for Diverse Applications including Communications, Computing, Sensing, Mobility

- Electronic – Photonic Co-integration: Co-Packaged Optics and Near-Packaged Optics (Photonics – Electronics - Laser Integration), photonic interposer including on-chip, chip-to-chip, board and system level, monolithic, heterogeneous, hybrid, photonics interposer, Fanout Wafer Level Packaging (FOWLP), optoelectronics PCB, through silicon via (TSV), through glass via (TGV)
- Photonic Integrated Circuit Packaging – fiber-to-PIC coupling including vertical gratings, expanded beam vertical coupling, edge coupling with advanced spot-size converters, adiabatic coupling, polymer wire-bond coupling, metallic micromirror array coupling, solder-reflow induced self-alignment
- Laser packaging including LEDs, VCSEL, DFB, QD lasers considering high optical power coupling (ELSFPs)
- Quantum Photonics: Quantum computing and communication (QKD networks), quantum sensors and measurement, Quantum PIC (QPIC) interconnect packaging, QPIC interposer packaging, quantum sensor interposer packaging (QSIP), ultra-low temperature optical packaging and subsystems, Cryogenic-to-outside world optical packaging, ultra-low loss optical connectors and fibers (hollow core)
- Equipment for photonic packaging: including HVM equipment such as pick-and-place tools for photonics packaging, testing, EDA tools for OPTO - Electrical, Mechanical, Thermal modeling and simulation of packaging technology.
- Applications: Telecom and datacom (transceivers), hyperscale and HPC (optical switching, neuromorphic networks), data storage (Heat Assisted Magnetic Recording), Healthcare (sensors for physical, biological, chemical diagnostics, non-invasive blood monitoring), Environment (climate and atmosphere monitoring, sensors for trace gas detection (e.g. fugitive methane) and Green Energy (photovoltaics, μ-LED, OLED, pollution sensing), Security, Safety and Defense (high power lasers), Quantum (quantum computation, communication and sensing), Aerospace and Automotive (LiDAR, optical phase arrays), Agriculture and Food (soil monitoring, crop analysis, olfactory sensors (e-noses), Industrial (factories of the future and sensors for robotics)
- Harsh and extreme environments: Vacuum, immersion cooling, cryogenic, high temperature and high pressure

Photonics components, subsystems and manufacturing

- Photonic Integrated Circuits (PICs) including silicon, silicon nitride, silica, polymer, EO polymer, lithium niobate, barium titanate, MgO and III-V, opto-fluidics, opto-mechatronics, plasmonics
- Micro-optical components (metallic, thermoplastic or glass) with micro-lens/micro-mirror arrays, V-grooves, self-alignment features
- Optical connectors for PIC and fibers, fiber arrays including polarization maintaining, multicore and hollow core fibers
- Photonic and optical component manufacture including 3D printing, stamping or moulding of micro-optical components
- Novel materials including semiconductors, glasses, plasmonic materials, meta-materials, photonic crystals, quantum dots, nanocrystals, nonlinear materials, doped materials, magneto-optical, electro-optical and random materials, perovskite, organic materials, organic-inorganic combinations, graphene, 2D materials, new biomaterials, liquid crystals, diamond NV centers
- Optical transceivers, quantum communication and computing devices, neuromorphic networks (AI), wearable sensors, e-noses, optogenetics, sensors for biological, chemical, pressure, temperature, humidity, spectrometry, opto-MEMS, RF and Microwave PIC

You are invited to submit a 750-word abstract via the ECTC Website http://www.ectc.net

Abstract On-Line Submission opens August 15, 2023
Abstract Due: October 9, 2023

(PLEASE SELECT PHOTONICS AS YOUR PRIMARY COMMITTEE FOR SUBMISSION)

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You may also submit directly to the committee chairs (above) – please include mailing address, telephone number, and e-mail