



PRESS RELEASE

CEA-LETI WILL PRESENT 20 PAPERS (5 INVITED) AT PHOTONICS WEST 2020 & HOST A WORKSHOP ON DISRUPTIVE PHOTONICS CONCEPTS FOR NEW APPLICATIONS & MARKETS

GRENOBLE, France – Jan. 6, 2020 – Leti, an institute of CEA-Tech, will present five invited papers, 20 in total, at Photonics West 2020 in San Francisco, Feb. 1-6. In addition, its teams will introduce the institute's latest transfer-ready solutions for all-wavelength imaging, information display systems, light-emissive components, optical data communications, optical sensors, and other advances at the **French Pavilion in booth 857A**, Moscone Center, during the event.

CEA-Leti also will host a workshop and networking-cocktail reception for invited guests beginning at 5:15 p.m., Feb. 5, at the W San Francisco hotel. Presentations at the event will include a keynote entitled "Working backwards from the customer to the sensor" by Pat Tang, vice president of hardware technology and machine learning at Amazon Lab126 in Sunnyvale, Calif. The workshop, which will focus on disruptive photonics concepts for new applications and markets, will begin with introductions by Emmanuel Sabonnadière, CEA-Leti CEO, and Agnès Arnaud, head of the institute's Optics & Photonics Division.

Workshop topics include:

- New miniature sensors of particulate matter using angular spectral imaging, Laurent Duraffourg CEA-Leti's photonics sensors lab manager
- Toward miniaturized solid-state Lidar using the convergence between silicon photonics & electronics, Francois Simoens, CEA-Leti, executive strategic program manager
- Computational microscopy, Cédric Allier CEA-Leti, Ph.D. project manager, live cell imaging
- Low-loss silicon photonics platform for quantum technologies, Eleonore Hardy, CEA-Leti, business developer, silicon photonics

On Feb. 4-6 in **booth #857A**, CEA-Leti's multidisciplinary optics-and-photonics teams will demonstrate their advances in several technologies, including:

- NeoLed: compact, low-cost & long-lifespan, distributed-switch LEDs.
- LensFree: an imaging technology for point-of-care analysis and pathology screening.
- LiFi-multicell: the world's first smart orchestrator for interference-free LiFi networks.
- Pixcurve: technology that makes imaging or photographic products lighter and more compact.
- Scintil: silicon photonic circuits with wafer-level integrated lasers.
- Photonic sensors: toward low-cost on-chip chemical sensors.
- Silicon photonics: design, manufacturing, testing & packaging solutions.

CEA-Leti will present major scientific results this year at the BiOS and OPTO conferences. Among the 20 papers:

BIOS CONFERENCE

11225-4 Clinical and Translational Neurophotonics 2020

Saturday, Feb. 1

Session 2 10:40 AM to 11:40 AM -- Optical Spectroscopy: Pre-Clinical II
Error-propagation approach to design of a CW NIRS instrument for deep layer measurements: neonate head application



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11225-5 Clinical and Translational Neurophotonics 2020

Saturday, Feb. 1

Session 2 10:40 AM to 11:40 AM -- Optical Spectroscopy: Pre-Clinical II
Accurate identification of the superficial layer for a NIRS short-channel approach: neonate cerebral oximetry application

11249-39 Quantitative Phase Imaging VI

Monday, Feb. 3

Session 11 1:40 PM to 3:00 PM -- QPI Algorithms I
Alternation of inverse problem and deep learning approaches for phase unwrapping in lens-free microscopy

11223-13 Photonic Diagnosis, Monitoring, Prevention, and Treatment of Infections and Inflammatory Diseases 2020

Monday, Feb. 3

Session 3 1:30 PM to 3:20 PM -- Photonic Diagnosis III
Phage susceptibility testing with lensless imaging technique

11243-26 Imaging, Manipulation, and Analysis of Biomolecules, Cells, and Tissues XVIII

Tuesday, Feb. 4

Session 7 1:20 PM to 3:30 PM -- Cytomics II
A simple, compact and robust phase and fluorescence microscope for cell cycle study

OPTO CONFERENCE

11276-5 Optical Components and Materials XVII

Tuesday, Feb. 4

Session 2 10:30 AM to 11:50 AM -- Optical Modulators
Franz-Keldysh modulation in GeSn-based heterostructures

11280-6 Gallium Nitride Materials and Devices XV

Tuesday, Feb. 4

Session 1 10:30 AM to 12:30 PM -- Growth I: Bulk Growth and Epitax
Gallium pollution in an AIXTRON close coupled showerhead reactor and its serious effect on the growth process stability of InGaN layers for optoelectronic applications

11280-46 Gallium Nitride Materials and Devices XV

Thursday, Feb. 6

Session 9 11:15 AM to 12:30 PM -- MicroLED and Nanostructured Devices I
X-ray photoelectron spectroscopy analysis of InGaN surfaces after chemical treatments and atomic layer deposition of Al₂O₃ thin films: application to μ LED

11284-13 Smart Photonic and Optoelectronic Integrated Circuits XXII

Monday, Feb. 3

Session 3 3:45 PM to 6:35 PM -- Integration, Manufacturing and Photonic Circuits
Immersion lithography introduction in Si photonics platform

11284-38 Smart Photonic and Optoelectronic Integrated Circuits XXII

Wednesday, Feb. 5

Session 8 8:00 AM to 10:05 AM -- Mid-Infrared Optoelectronics I
Ge platforms for mid-infrared applications



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11284-56 Smart Photonic and Optoelectronic Integrated Circuits XXII

Wednesday, Feb. 5

Session 11 4:50 PM to 6:20 PM -- Control, Manipulation, and Detection of Photons
Wideband Si/Sin polarization splitter/rotator simulations for standard datacom integrated photonic circuit

11285-9 Silicon Photonics XV

Monday, Feb. 3

Session 2 2:00 PM to 3:30 PM -- Optical Communications I
Advanced Si photonics platform for high-speed and energy-efficient optical transceivers for datacom

11285-30 Silicon Photonics XV

Tuesday, Feb. 4

Session 6 4:10 PM TO 5:50 PM -- Ge/Si Integration
Impact of carrier confinement on the emission of mid-infrared GeSn heterojunction LEDs

11285-37 Silicon Photonics XV

Wednesday, Feb. 5

Session 8 11:00 AM TO 12:30 PM -- Optical Detection and Sensing I
Micro PA detector: pushing the limits of mid IR photoacoustic spectroscopy integrated on silicon

11285-39 Silicon Photonics XV

Wednesday, Feb. 5

Session 8 11:00 AM TO 12:30 PM -- Optical Detection and Sensing I
High-speed integrated waveguide lateral Si/Ge/Si photodiodes with optimized transit time

11287-24 Photonic Instrumentation Engineering VII

Wednesday, Feb. 5

Session 6 3:50 PM to 5:30 PM -- Sensors and Ruggedized Systems I
Millimeter-sized particle sensor using a wide FoV monolithic lens assembly for light scattering analysis in Fourier domain

11287-25 Photonic Instrumentation Engineering VII

Wednesday, Feb. 5

Session 6 3:50 PM to 5:30 PM -- Sensors and Ruggedized Systems I
Resonant optomechanical transduction for photoacoustic detection,

11287-43 Photonic Instrumentation Engineering VII

Thursday, Feb. 6

Session 10 3:30 PM to 5:00 PM -- Photonic Instrumentation for Consumer Applications
A miniaturized optical sensor for particulate matter counting and classification

11288-7 Quantum Sensing and Nano Electronics and Photonics XVII

Sunday, Feb. 1

Session 3 1:30 PM TO 3:05 PM -- Quantum Cascade Lasers I
Enabling low-cost QCL by large scale fabrication on CMOS pilot line



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11290-24 High Contrast Metastructures IX

Tuesday, Feb. 4

Session 6 3:40 PM TO 5:40 PM -- Metasurface/Metastructure: Design and Topological Concept

Efficient pixel-by-pixel optimization of silicon photonic devices

11302-70 Light-Emitting Devices, Materials, and Applications XXIV

Posters

Wednesday, Feb. 5 6:00 PM to 8:00 PM

Characterization of micro-pixelated InGaP/AlGaInP quantum well structures

About CEA-Leti (France)

Leti, a technology research institute at CEA Tech, is a global leader in miniaturization technologies enabling smart, energy-efficient and secure solutions for industry. Founded in 1967, Leti pioneers micro- & nanotechnologies, tailoring differentiating applicative solutions for global companies, SMEs and startups. CEA-Leti tackles critical challenges in healthcare; Leti's multidisciplinary teams deliver solid expertise, leveraging world-class pre-industrialization facilities. With a staff of more than 1,900, a portfolio of 2,700 patents, 91,500 sq. ft. of cleanroom space and a clear IP policy, the institute is based in Grenoble, France, and has offices in Silicon Valley and Tokyo. CEA-Leti has launched 60 startups and is a member of the Carnot Institutes network. us on www.leti-cea.com and @CEA_Leti.

CEA Tech is the technology research branch of the French Alternative Energies and Atomic Energy Commission (CEA), a key player in innovative R&D, defence & security, nuclear energy, technological research for industry and fundamental science, identified by Thomson Reuters as the second most innovative research organization in the world. CEA Tech leverages a unique innovation-driven culture and unrivalled expertise to develop and disseminate new technologies for industry, helping to create high-end products and provide a competitive edge.

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