



## Photonics West 2025

### Silicon Photonics Pioneer CEA-Leti Will Unveil Major R&D Gains

At Photonics West, Jan. 25-30, Including Invited Paper

On Optical Phased Arrays for LiDAR Applications

*The Institute Also Will Host Its Annual Photonics Workshop*

*And Networking Event During the Conference*

GRENOBLE, France – Jan. 7, 2025 – CEA-Leti will present six papers at [Photonics West](#), including an invited one, detailing its recent breakthroughs and major results for the future of photonics-based applications Jan. 25-30 in San Francisco.

Topics to be covered in the six papers include:

- silicon photonics for computing, AI, communication & quantum technologies,
- integrated solutions for biosensing with integrated mid-infrared laser sources,
- integrated frequency-modulated continuous-wave LIDARs based on flash illumination, or

optical phased array beam steering.

“This year’s conference is a key opportunity for CEA-Leti to present breakthrough solutions that address the challenges our industrial partners face in their effort to bring enhanced silicon-photonics applications to computing, AI, communication, quantum technology, LIDAR, and other fields,” said Laurent Fulbert, deputy head of CEA-Leti’s Optics and Photonics Division.

In addition to the presentations at the Moscone Center, the institute will host its annual [Leti Photonics Workshop](#) at the San Francisco Museum of Modern Art from 5:30-7:00 p.m., Jan. 29. This event will feature a **keynote address from Samuel Sheng, director, Sensing Systems and Technologies at Google. A networking event will follow the workshop.**

In addition, CEA-Leti's booth in the Moscone Center French Pavilion will exhibit silicon photonics components, QCL-based optical sensors, MicroLEDs for display & optical communications.

*Booth #5129/North Hall French Pavilion Moscone Center*

## Six Presentations | OPTO Conference

### Jan. 27

- *“Recent developments in optical phased arrays for LiDAR applications”*, by Sylvain Guerber

10:45 a.m. - 11:15 a.m.

Mosccone Center, Room 305 (Level 3 South)

### Invited paper

- *“Fabrication and analysis of directional micro-holograms for a new generation of displays”*, by Salaheddine Toubi

5:35 p.m. - 5:55 p.m.

Mosccone Center, Room 2002 (Level 2 West)

### Jan. 29

- *“Towards fully integrated frequency comb based transceivers”*, by Baptiste Routier

9:10 a.m. - 9:30 a.m.

Mosccone Center, Room 305 (Level 3 South)

- *“Miniaturization of a wide-angle 3D FMCW flash LIDAR,”* by Laurent Frey

10:40 a.m. - 11:00 a.m.

Mosccone Center, Room 313 (Level 3 South)

- *“Design and integration of hybrid IIIV/Si mid-infrared laser sources and photonic circuits for chemical sensing applications”*, by Maxime LePage

5:10 p.m. - 5:30 p.m.

Mosccone Center, Room 306 (Level 3 South)

- *“Design of grating coupler with large and flat illumination far-field profile for FMCW flash LIDAR,”* by Paul Camus

6 p.m. – 8 p.m.

Mosccone Center, Room 2003 (Level 2 West)

In addition to the papers for which CEA-Leti experts were the primary authors, the institute also contributed to 10 papers that will be presented by its associated research organizations.

[Leti Photonics Workshop](#)

Institute experts will present cutting-edge results for the future of photonics-based applications, such as displays, and optical communications & sensors. The workshop will be followed by a networking event from 7:30 to 9:00 pm. in the museum.

### **Speakers and Topics**

#### **Florian Cardinaux**

Consul General of France in San Francisco

*Welcome*

#### **Cyril Fellous**

Head of Optics & Photonics Division, CEA-Leti

*How optics and photonics at CEA-Leti addresses new challenges; FAMES Pilot Line and beyond*

#### **Samuel Sheng**

Director, Sensing Systems and Technologies, Google

*Keynote*

#### **Vincent Destefanis**

Optical Sensors Partnership Manager, CEA-Leti

*Smaller, smarter, cheaper: a new generation of photonic sensors*

#### **Vygintas Jankus**

Display Partnership Manager, CEA-Leti

*MicroLED optical link for next-generation computing*

#### **Pierre Damien Berger**

MEMS Partnership Manager, CEA-Leti

*Silicon optomechanics: sensing through light, a leap in performance*

#### **Nicolas Lio Soon Shun**

Thermal and Terahertz Imaging Partnership Manager, CEA-Leti

*High performance avalanche photodiodes for free space optical communications and more*

#### **Michael Tchagaspian**

EVP Strategic Partnership, CEA-Leti

*How does a partnership with CEA-Leti work?*

**Register for the workshop [here](#)**

### **About CEA-Leti (France)**

*CEA-Leti, a technology research institute at CEA, is a global leader in miniaturization technologies enabling smart, energy-efficient and secure solutions for industry. Founded in 1967, CEA-Leti pioneers micro-& nanotechnologies, tailoring differentiating applicative solutions for global companies, SMEs and startups. CEA-Leti tackles critical challenges in healthcare, energy and digital migration. From sensors to data processing and computing solutions, CEA-Leti's multidisciplinary teams deliver solid expertise, leveraging world-class pre-industrialization facilities. With a staff of more than 2,000 talents, a portfolio of 3,200 patents, 11,000 sq. meters of cleanroom space and a clear IP policy, the institute is based in Grenoble, France, and has offices in Silicon Valley, Brussels and Tokyo. CEA-Leti has launched 76 startups and is a member of the Carnot Institutes network. Follow us on [www.leti-cea.com](http://www.leti-cea.com) and @CEA\_Leti.*

### **Technological expertise**

*CEA has a key role in transferring scientific knowledge and innovation from research to industry. This high-level technological research is carried out in particular in electronic and integrated systems, from microscale to nanoscale. It has a wide range of industrial applications in the fields of transport, health, safety and telecommunications, contributing to the creation of high-quality and competitive products.*

*For more information: [www.cea.fr/english](http://www.cea.fr/english)*