



CLP Day: Photonic Chips for Information and Quantum Applications

Uniting international experts from different sectors with a shared interest in advancing this strategic technology

April 22, 2024

The Corporate Liaison Program (CLP) Day is a periodic meeting where ICFOians, representatives of international platforms, multinational corporations, local business representatives and researchers of other institutions have the opportunity to interact with experts from around the world in a particular sector. A different theme of the event is chosen every year, bringing together ICFO researchers with consolidated research expertise related to this field with experts with shared interests hailing from different sectors.

This year's event was focused on [Photonic Chips for Information and Quantum Applications](#).

Semiconductor manufacturing and innovation moved to a position of strategic international concern when the precarity of the global supply chain was demonstrated by pandemic-induced disruptions in chips production, largely concentrated in Taiwan and South

Korea. With the central role of chips in the global economy in mind, both the European Union member states through acts like the 2023 [European Chips Act](#) and the United States through the [2022 Chips Act](#), aim to strengthen the chip industry and related technologies. In Spain, efforts are being channelled by means of the [PERTE Chip Program](#) (Strategic Project for Microelectronics and Semiconductors) within the Spanish Recovery, Transformation and Resilience Plan.

ICFO, through its leadership in photonics, is exploring new application realms by means of Photonic Integrated Chips (PICs), which integrate the generation, transport and detection of light to perform information processing functions equivalent to electronic chips but using photons for the same purpose. Due to their intrinsic characteristics, PICs are more efficient, more sustainable, faster, more compact and with higher processing capacity than their traditional electronic counterparts, which makes them ideal for emerging applications of enormous economic and industrial relevance, such as quantum technologies for ultra-secure communications, next-gen computing, aerospace, automotive chips, bio-sensing and medical devices, among others.?

Accordingly, this year's CLP Day program was designed to reflect the strategic international importance of chips and how photonics and the quantum properties of light can contribute to the above objectives. **Lucilla Sioli**, Director for AI and Digital Industry from the European Commission, as well as **Jaime Martorell**, the special commissioner for Spain's PERTE Chip, began the program by outlining the efforts which are supporting R&D and industrial deployment of Chips at the EU and National levels. Leading researchers and representatives of European projects in PIC pilot lines and up-scaling facilities, as well as company representatives from a range of market verticals where PICs are already playing a key role, followed, giving unique and profound insights as to what is being done, and where future collaborative efforts are needed, to advance the development and commercialization of these technologies of strategic importance to the European Commission and the European industry.

More than 150 participants attended the event and contributed to the discussions. The event succeeded in bringing together experts from around the world for constructive, interdisciplinary discussions that are the necessary building blocks for advances in technology of strategic international importance.

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