POSEIDON project has started - Aiming for a breakthrough in nanophotonic devices

The FET-OPEN project POSEIDON had its kick-off meeting on January, 23-24, 2020 in Aachen, in the facilities of AMO GmbH. POSEIDON is a project funded by the European Union's Horizon 2020 research and innovation programme, which aims at developing a radically new bottom-up approach for integrated light sources for silicon photonics.

"We will tear down the massive costs and complexity barriers of current top-down approaches for fabricating photonic integrated circuits", says the project coordinator Anna Lena Giesecke from AMO GmbH. "The idea is to integrate light sources directly into the photonic circuits by exploiting the self-assembly of active colloids on chips. In this way, we will be able to realize cheap and yet very powerful optical devices, with a very broad range of applications, from data centers to medical sensors."

If the range of potential applications is broad, the project target explicitly the usual wavelengths of data-communications, with the goal of realizing cheap and efficient optical switches to drastically improve the energy efficiency of data-centers and network performance. The project itself is extremely exciting from the scientific and the technological point of view, as it requires developing a multi-scale approach to design and control the self-assembly of the colloids with nanometer-scale resolution in all three spatial directions directly on photonic integrated circuit.

The project involves eight partners, which represent the top EU innovation-performers in modelling and simulation (UHULL, CSIC), colloid synthesis (USIEGEN, CIC), hierarchical assembly (FAU, UHULL), development of electrically pumped colloidal light sources (UHULL, UCAM, AMO) and fabrication of photonic integrated circuits (AMO). The coordination and dissemination of the project is supported by AMIRES. POSEIDON is also endorsed by key innovation players (IBM, Hitachi, Mellanox, Causeway Sensors, Senseair), which are involved in defining the target specifications and impact monitoring of the new technology. **More information on the project can be found at https://poseidon-fet.eu/ (full version available in March 2020).**

POSEIDON project has a duration of 48 months. Keep tuned on the upcoming project results!

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