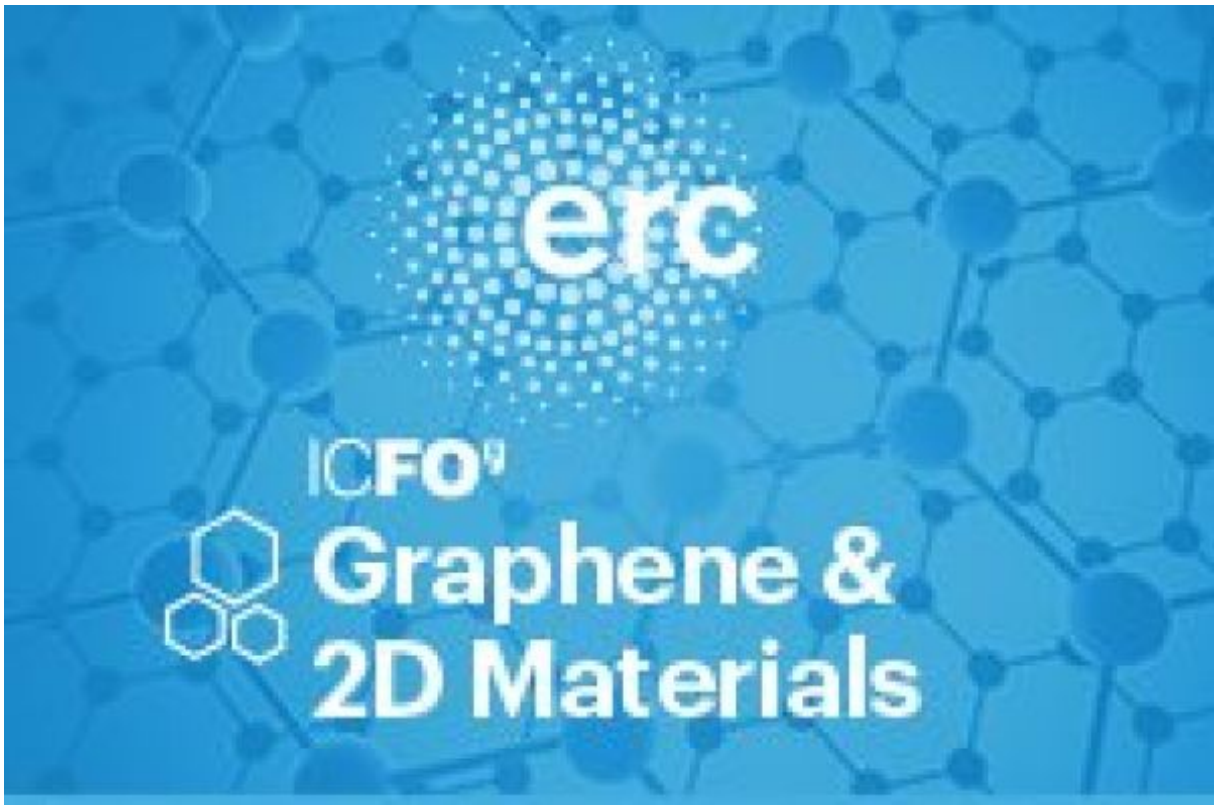

Proof of Concept Grant

ERC Funding to develop a hand-held hybrid graphene-quantum broadband spectrometer prototype.

May 07, 2018

The European Research Council, in its efforts to help ERC grant-holders to bridge the gap between their research and the earliest stage of a marketable innovation, created the Proof of Concept (PoC) funding scheme for researchers who have already been awarded an ERC grant. Not only does this program help ERC grantees to explore the innovation potential of their research and/or commercialize the results of their ERC-funded research, the program complements the efforts of ICFO?s Knowledge and Technology Transfer Unit (KTT), which proactively searches for ways to translate newly generated knowledge into new technologies.

ICREA Prof at ICFO Gerasimos Konstantatos has been awarded his second PoC to date, the nineth award of this kind for ICFO in the past six years, for the project titled **SPECTRODOT**. The main goal of of this project is to develop a low-cost, hand-held spectrometer prototype

with broadband range from 400 to 2500 nanometres.

Optical Spectrometry is a powerful non-destructive, high throughput technique used extensively for threat and hazardous substance detection, food inspection, process and environmental monitoring and quality control amongst others. This large market however is fragmented into many niche markets, mainly due to the different wavelength ranges of interest and the lack of adequate photodetector technologies to cover those various spectral regimes, all at once. Hybrid graphene-quantum dot photodetectors can enable versatile spectrometers covering the whole spectral range from UV to mid-IR.

The research group of Functional Optoelectronic Nanomaterials led by ICREA Prof. Konstantatos, in collaboration with prototype developer Stijn Goossens and researchers in the Quantum Nano-Optoelelectronics group led by by ICREA Prof Frank Koppens, will use hybrid Quantum Dot - Graphene photodetectors in this new technology.