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Felicitats al nou graduat de doctorat de l'ICFO

El Dr Gaurav Kumar s'ha graduat amb una tesi titulada ?Colloidal Quantum Dots Based Bolometer'

March 11, 2024

Felicitem al Dr. Gaurav Kumar que avui ha defensat la seva tesi a l'Auditori de l'ICFO.
El Dr. Kumar va obtenir el seu master en Electronica a la Universitat de Delhi. Es va unir a l'ICFO com a estudiant de doctorat al grup de recerca de Functional Optoelectronic Nanomaterials dirigit pel professor ICREA Dr. Gerasimos Konstantatos.
La tesi del Dr. Kumar titulada de ?Colloidal Quantum Dots Based Bolometer' ha estat supervisada pel professor ICREA Dr. Gerasimos Konstantatos.

RESUMEN
Bolometer technology, crucial for uncooled thermal detection in thermography, industrial inspection, monitoring, surveillance application, relies on materials requiring sophisticated instrumentation for their growth and fabrication. The events of COVID-19 and the recent Nobel Prize in chemistry have underscored the need of low cost and easy to handle thermal imaging technology, as well as the potential of Colloidal Quantum Dots (CQDs) for high performance optoelectronic devices, respectively.
This thesis, explores a new material platform based on CQDs, and studies the suitability of CQDs for the Infrared (IR) bolometer technology. Various components of a bolometer device such as a thermistor and a metamaterial absorber have been demonstrated with the use of CQDs, and a complete bolometer device fabrication have been achieved. The work presented in this thesis lays the groundwork and is anticipated to contribute to the continuous advancement and improvement of uncooled IR sensing devices, paving the way for low-cost development and wider dissemination of IR bolometer technology.

Comissio de Tesi:
Dr. Agustin Mihi, Institute of Materials Science of Barcelona (ICMAB - CSIC)
Prof. Dr. Pelayo Garcia, ICFO
Dr. Francesco Di Stasio, Instituto Italiano di Tecnologia

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Comissio de Tesi