Felicidades al nuevo graduado de doctorado del ICFO

El Dr. Gaurav Kumar se ha graduado con una tesis titulada ? Colloidal Quantum Dots Based Bolometer'

March 11, 2024

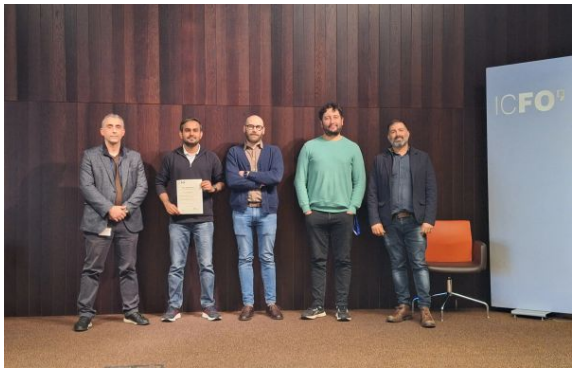
Felicitamos al Dr. Gaurav Kumar que hoy ha defendido su tesis en el Auditorio de ICFO.
El Dr. Kumar obtuvo su master en Electronica por la Universidad de Delhi en India. Se unio como estudiante de doctorado en el grupo de investigacion de Functional Optoelectronic Nanomaterials en ICFO dirigido por el profesor ICREA Dr. Gerasimos Konstantatos.
La tesis del Dr. Kumar titulada ?Colloidal Quantum Dots Based Bolometer' fue supervisada por el profesor 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.

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



Comite de Tesis