

seminars

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seminar

Tuesday 14th February

c/Faraday, 9

Conference Hall

Imdea Nanociencia

Ciudad Universitaria de Cantoblanco

12:00h

Application of Rare-Earth Doped NaYF₄ Nanocrystals For Biological Application

Dr. Jorge Rubio Retama

UCM, Madrid

Lanthanide doped nanocrystals exhibit unique luminescent properties, including the ability to convert near infrared long-wavelength excitation radiation into shorter visible wavelengths through a process known as photon upconversion. In recent years, they have been developed as a new class of luminescent optical labels that have become promising alternatives to organic fluorophores and quantum dots for biological applications, including medical imaging, smart drug delivery systems and sensors. These techniques offer low autofluorescence background, large anti-Stokes shifts, sharp emission bandwidths, high resistance to photobleaching, and high penetration depth and temporal resolution that enhance the selectivity and sensitivity of conventional methods

This seminar focuses on the recent development of various synthetic approaches, chemical tuning of upconversion properties, as well as biological applications of these luminescent nanocrystals.

Nanociencia y Nanotecnología: lo pequeño es diferente

Nanoscience and Nanotechnology: small is different