Seminários de Física

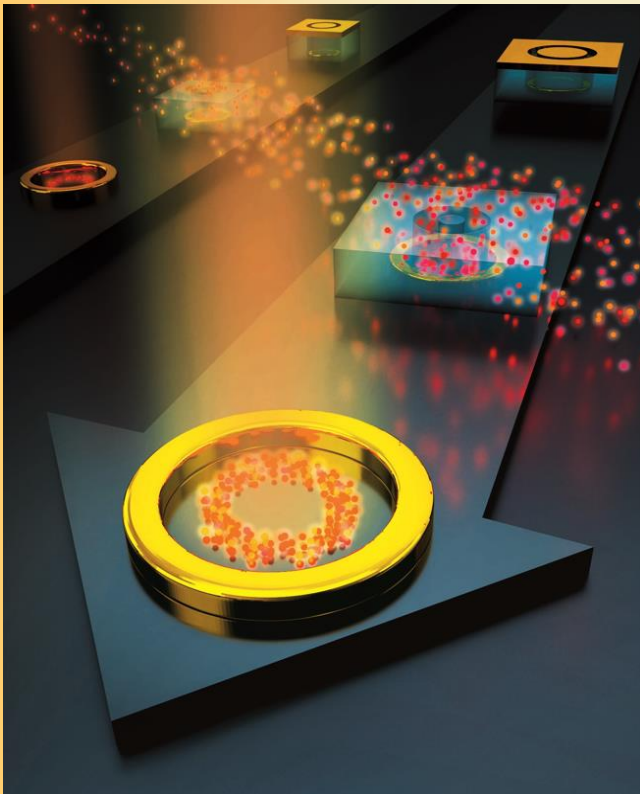## Centro de Física da Universidade do Minho

**Quarta-Feira, 17 de Julho às 14:30h
Anfiteatro de Física, Escola de Ciências, edifício 6
do Campus de Gualtar**

Getting colloidal nanomaterials to behave: challenges and applications

Aliaksandra Rakovich - Physics Department of King's College London

Resumo: Many nanomaterials possess unique and advantageous properties, yet their integration into technologies has been limited. In part, this has been due to lack of cheap and scalable fabrication techniques, and in part due to lack of control over the constituent nanomaterials. In this talk I will discuss some of the ways in which we control nanomaterials, either passively or actively, to build hierarchal structures made from nanomaterials or to control the interactions between them. The discussion will include the use of self-assembly of plasmonic nanoparticles into larger structures or controllably onto substrates for low-cost sensing applications; the development of combinatory fabrication processes for reproducible surface-enhanced fluorescence-based structures; and the design of electrodes for simultaneous dielectrophoretic and plasmonic trapping of nanomaterials.

Acerca da Palestrante: Aliaksandra Rakovich received her PhD Ireland in 2011 under the supervision of Prof. John F. Donegan (Trinity College Dublin). Subsequently, she moved to the Physics Department of Imperial College London, where she worked as a Research Associate for 5 years in the Experimental Solid State Group, under the supervision of Prof. Stefan A. Maier. She is now a Royal Society University Research Fellow and a lecturer in the Physics Department of King's College London. Her expertise lies at the interface of physics, chemistry, and biology, and her current research focuses on translating the principles found in naturally-occurring energy-transducing systems to solid-state nanophotonic devices, control of relative positioning of nanomaterials on substrates and in solution, and the use of nanomaterials for bio-applications.