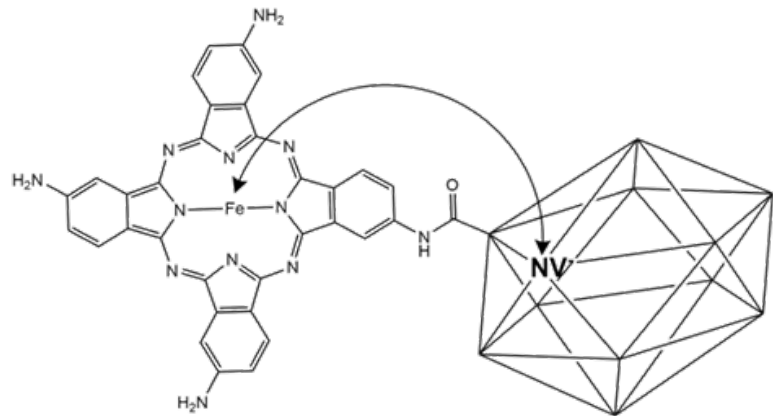
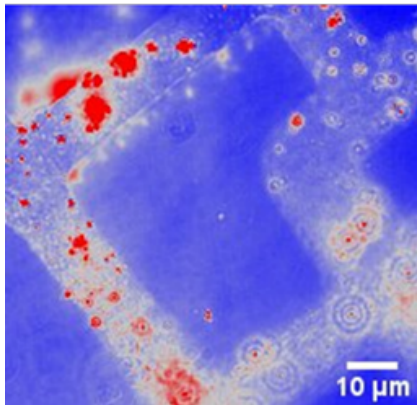




Optics and Photonics Group Lunchtime Seminar

“Sensing using nitrogen vacancies in diamond”

Valentin Radu



13:30 Wednesday 04 May 2022
C24 Coates building
All Welcome

http://optics.nottingham.ac.uk/wiki/seminars_2022

Add to Calendar



“Sensing using nitrogen vacancies in diamond”

Valentin Radu

13:30 Wednesday 04 May 2022

C24 Coates building

All Welcome

MS Teams link

Nitrogen vacancies (NV) in diamond are atomic scale fluorescent paramagnetic centres used as sensors of local strain, temperature, paramagnetic species, magnetic and electric fields. They comprise substitutional nitrogen atoms each neighbouring a lattice vacancy. Their spin state can be read out optically which make them attractive for non-invasive sensing and imaging applications in physical and life sciences. In their negatively charged state (NV⁻) the defects exhibit spin dependent fluorescence which can be modulated using microwaves. The nanoscale sensing range of NV-s enables their operation without extensive magnetic shielding from ambient magnetic noise and it also requires positioning of NV-s in close proximity to the surface of the object/species of interest without compromising spin properties, optical addressability, or charge stability. The talk will discuss recent results and challenges related to functionalisation, conjugation, and targeting of NV-containing diamond.