

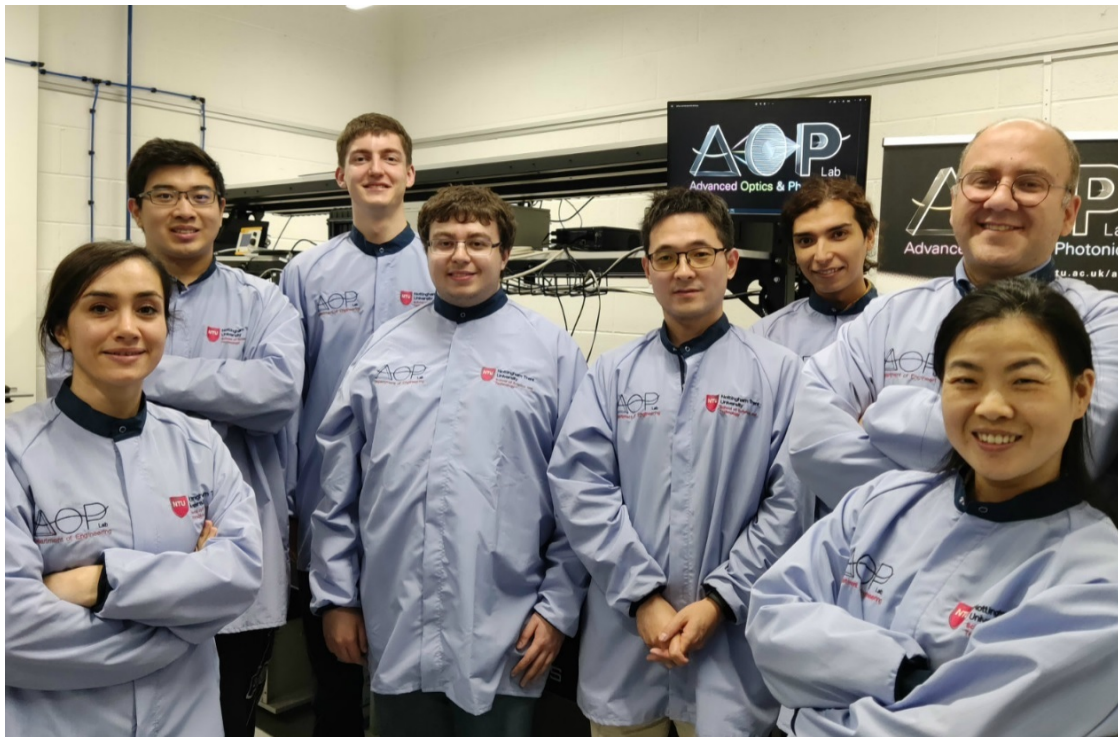


Optics and Photonics Group  
Lunchtime Seminar

# “Can we tame the light waves?”

Prof Mohsen Rahmani

*Nottingham Trent University*



13:30 Wednesday 15 March 2023  
Coates Building - C24  
All Welcome

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# “Can we tame the light waves?”

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MS Teams link

Light-matter interactions can be highly controlled via nanoscale structures, hundreds of times thinner than a human hair. Indeed, a single-layer of designed and engineered subwavelength nanostructures, so-called metasurfaces, can resonantly couple to the incident light and manipulate the light's behaviour on demand. Metasurfaces can reproduce the functions of bulk optics and, on occasions, can offer new functionalities that are not possible with conventional diffractive optics. In this webinar, Rahmani will review the research activities of the newly formed Advanced Optics and Photonics Group at Nottingham Trent University on light-matter interaction with nanoparticles. He will discuss the group activities on employing metallic, dielectric and semiconductor metasurfaces to control the light intensity, frequency and propagation direction. He will demonstrate how metasurfaces can lead to several exciting applications, including near-infrared imaging, flat optics and ultra-sensitive biochemical sensing. Meanwhile, given the similar research activities at the University of Nottingham, Rahmani is looking to explore and strengthen the mutual platforms for collaborations.