OPTICS & PHOTONICS
UNIVERSITY OF NOTTINGHAM

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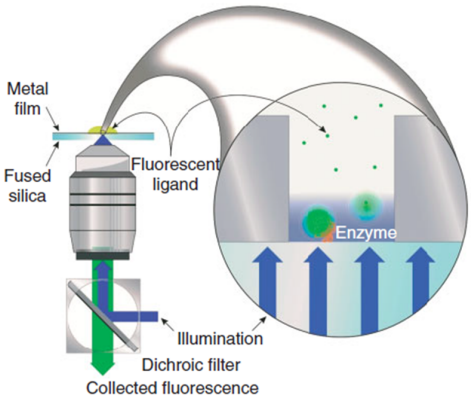
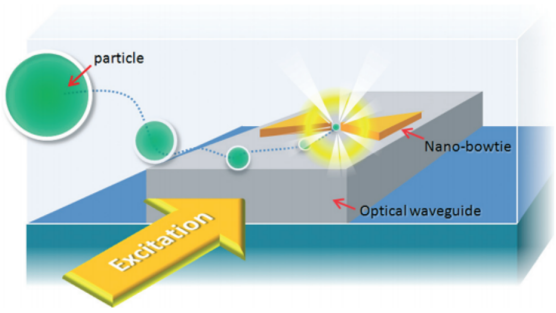
Optics and Photonics Group Lunchtime Seminar

"Development of plasmonic-based devices with applications in bio-engineering and photonic integrated circuits"

Hamed Pezeshki



Punj, Deep, et al. *Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology* 6.3 (2014): 268-282.



Lin, Pin-Tso, et al. *Lab on a Chip*14.24 (2014): 4647-4652.

Abstract

1:00pm Wednesday 22nd May 2019
203 Tower building
All Welcome

http://optics.nottingham.ac.uk/wiki/Talks_2019

“Development of plasmonic-based devices with applications in bio-engineering and photonic integrated circuits”

Hamed Pezeshki

1:00pm Wednesday 22nd May 2019

203 Tower building

All Welcome

In this talk, we report on development of plasmonic nanoantennas and waveguide-coupled devices for single molecule biosensing applications in the near infrared regime such as optical trapping and interrogation of single molecules. Nanoantennas uses localised surface plasmons to create a near-field nanoscale trap by inducing a strong gradient force. For nanoantennas to contribute to lab-on-a-chip devices an effective and portable route for coupling light in is needed. Our approach of development of waveguide-coupled devices uses waveguides, capable of guiding light with low-loss, that are integrated with nanoantennas to produce a biosensing platform, compatible with integrated circuits. Furthermore, we exploit the properties of plasmonic nanoantennas to implement other functionalities with applications in photonic integrated circuits such as polariser converter.