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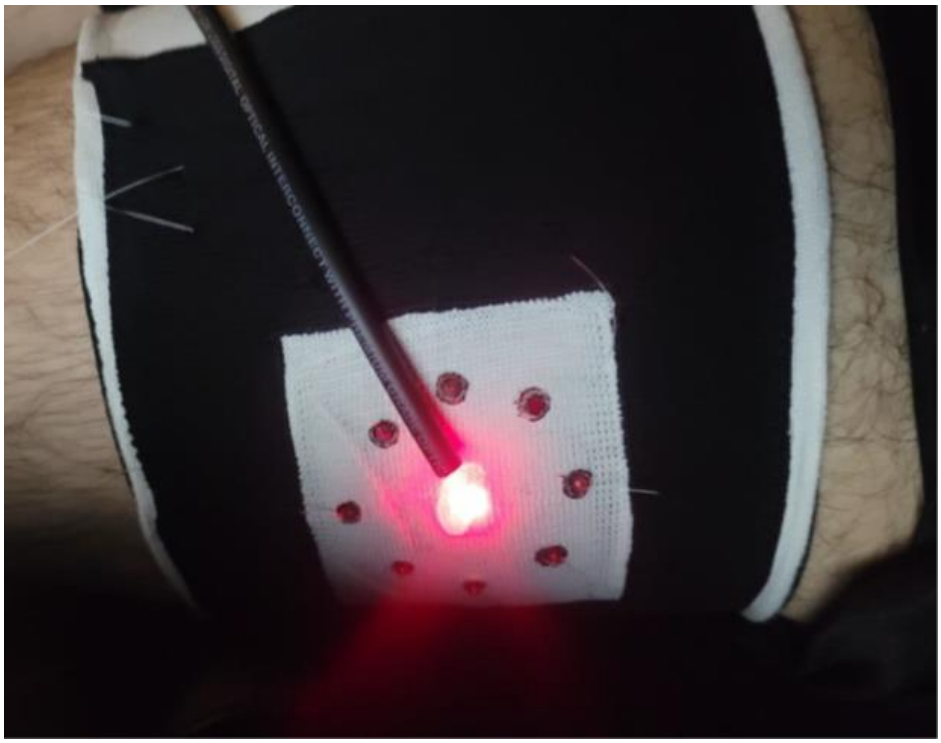
OPTICS & PHOTONICS
UNIVERSITY OF NOTTINGHAM

Optics and Photonics Group
Lunchtime Seminar

"Photonic Textile Sensing for Sports and Healthcare"

Dr James Bradbury

Optics and Photonics Group



13:30 Wednesday 7 June 2023
Life Sciences Building - B3
All Welcome

Add to Calendar

http://optics.eee.nottingham.ac.uk/wiki/Seminars_2022-2023

“Photonic Textile Sensing for Sports and Healthcare”

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13:30 Wednesday 7 June 2023

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All Welcome

MS Teams link

The focus of this research was to develop a sensor that can be used to assess muscle performance during exercise. A novel, textile-based fibre optic sensor (TBFOS) is designed and produced to perform Near Infrared Spectroscopy (NIRS) on the thigh, to produce muscle oxygen saturation (SmO2) measurements. As the TBFOS requires pressure to be applied to the limb to hold the sensor in place, a fibre optic pressure sensor (FOPS) is also developed, to measure the compression applied by a textile. The intended application of this research would be to develop a full body suit that could be worn during resistance exercise to assess muscle performance, give early indication of fatigue, and to allow the effects of compression on muscle tissue to be investigated.

In this presentation, James will outline the work undertaken during his PhD research to develop early prototypes for these sensors and to provide proof of concept evidence for these technologies.