

S012 Optical fibre-based detection of DNA hybridisation
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A dual-peak long period fibre grating, inscribed in an optical fibre has been employed to sense DNA hybridisation in real time, over a 1 hr period. One strand of the DNA was immobilised on the fibre, while the other was free in solution. After hybridisation, the fibre was stripped and repeated detection of hybridisation was achieved, so demonstrating re-usability of the device. Neither strand of DNA was fluorescently or otherwise labelled. This presentation will provide an overview of our early-stage experimental data and methodology, examine the potential of fibre gratings for use as biosensors to monitor both nucleic acid and other biomolecular interactions and will be accompanied by a summary of the theory and fabrication of fibre gratings from a biological standpoint. Finally, the potential to improve signal strength and possible future directions of fibre grating biosensors will be addressed.