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MQ Photonics Research Centre Seminar

Wednesday, 22 September 2021, 2:00 pm (Sydney time)
(Online via the zoom link below)

An integrated hybrid chip-fibre platform for the generation of mid-infrared light

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Abstract:

The mid-infrared region of the electromagnetic spectrum ($\approx 2.5 - 15 \mu\text{m}$) is known as the fingerprint region as virtually all molecules have their rotational and vibrational absorption lines in this region. This makes it important for applications in medicine (e.g. non-invasive breath analysis, early cancer detection), environmental monitoring, material processing (e.g. polymers), chemical and bio-molecular sensing, and defence. To unlock the potential of mid-infrared, the development of field-deployable mid-infrared light sources that can be utilised in practical applications is required. My PhD research project investigates the feasibility of fabricating integrated femtosecond-laser written photonic chips that can be directly coupled to mid-infrared optical fibres for the development of fully integrated mid-infrared light sources.

Speaker biography:

Sobia Rehman is a final year PhD student within the Department of Physics and Astronomy at Macquarie University under the supervision of A/Prof. Alex Fuerbach and Dr. Toney Fernandez. She completed her Master of Research at Macquarie University in 2018 and then continued her studies towards a PhD degree. She is currently working on the inscription of low loss optical waveguides in mid-infrared compatible glasses with the ultimate goal of fabricating 3D wavelength selective integrated couplers that serve as a building block for a monolithic mid-infrared ring laser cavity.

URL to join: <https://macquarie.zoom.us/j/85829287435>
Dial-in phone line: +61 2 8015 2088, Meeting ID: 858 2928 7435

