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MQ Photonics Research Centre Seminar

Wednesday, 1 September 2021, 2:00 pm (Sydney time)
(Online via the zoom link below)

Creation of time reversed optical waves

Dr Joel Carpenter

University of Queensland

Abstract:

In this talk, a new type of beam shaper will be discussed, capable of generating arbitrary vector spatiotemporal beams, where the user can define the amplitude, phase and polarization independently for each point in space and time. This beam shaper was recently used to demonstrate time reversed optical waves. Such waves propagate through complex media, as if watching a traditional scattering process in reverse. Starting as a complicated 'pre-scattered' wave, which then becomes a desired target field at the distal end of the complex media.

Speaker biography:

Dr Joel Carpenter is a Senior Lecturer at the University of Queensland. His research focuses on the measurement and manipulation of light's spatiotemporal properties. He received his PhD in Electrical Engineering from the University of Cambridge, UK in 2012 for his work on Mode Division Multiplexing in optical telecommunications before working as a postdoctoral researcher at the University of Sydney, Australia. In 2015, Joel returned to his hometown of Brisbane to take up a faculty position at the University of Queensland.

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

