MQ Photonics Research Centre Webinars

When: Wednesday 20 May 2020
Time: 2 PM
Where: Zoom invitation Join from a PC, Mac, iPad, iPhone or Android device: Please click this URL to start or join: https://macquarie.zoom.us/j/638365482 Join from dial-in phone line: Dial: +61 2 8015 2088 Meeting ID: 638 365 482

Speaker: *Dr. Carlo Bradac*

Title: **Room-temperature manipulation of spin defects in two-dimensional van der Waals materials**

Abstract: Two-dimensional, van der Waals materials offer unique physics, with interesting opto-electronic and nano-photonic effects, and they are also attractive due to their ease of integration and interfacing in stacks of heterogenous, atomically-thin structures for devices. In this talk, I will present our current work exploring the 2D material, hexagonal boron nitride (hBN). We identified defects in hBN which show spin-dependent photoluminescence similar to the well-known nitrogen-vacancy centre in diamond. I will discuss advantages as well as challenges of this new system for quantum technologies.

Bio: *Dr Carlo Bradac is a Research Fellow at the University of Technology, Sydney. He graduated in Engineering for Physics and Mathematics at the Polytechnic of Milan and received his PhD in Physics at Macquarie University. After postdocs at Sydney University and Macquarie University, he is now at the University of Technology Sydney, where he holds a Chancellor's Postdoctoral Research Fellowship and a DECRA Fellowship. His research focuses on quantum materials and their applications for optics, photonics and sensing.*