

School of Physics and Astronomy

DIRECTOR'S COLLOQUIUM

Bosonic condensate of exciton polaritons: a quantum system out of equilibrium.



Associate Professor Elena Ostrovskaya
Australian National University

The Nobel prize winning experimental discovery of Bose-Einstein condensates of ultracold atoms back in 1995 has, for the first time ever, offered us a macroscopic window into the quantum world. A decade later, a condensate of exciton polaritons - cavity photons strongly coupled to electron-hole pairs in a semiconductor - was realised. Unlike condensates of ultracold atoms, exciton-polariton condensates are driven-dissipative and can survive up to room temperature, which gives us an opportunity to study non-equilibrium quantum systems on an accessible experimental platform. The Polariton BEC group at the ANU has, in recent years, put a lot of effort into investigating how the non-equilibrium nature of exciton polaritons affects fundamental properties of their quantum condensates. In my talk, I will review some of this effort, and in particular focus on our attempt to settle an existing controversy regarding the most basic parameter of this system – the strength of polariton-polariton interactions.

Date:	Wednesday 29 May
Time:	2pm
Venue:	L1, Large Seminar Room, 10 College Walk, Clayton

Info: meera.parish@monash.edu