

## **Seminar Invitation: Zhentian Qian (University of Cambridge) – 30 March 15:00**

Zhentian Qian will be visiting the Nägerl Group from the University of Cambridge on Monday, 30 March, and will give a talk at 15:00 in **Seminar Room 4 West**. You are warmly invited to join.

The topic of the talk will be:

- 1. Quantum Droplets Stabilised by Three-Body Elastic Interactions**

Numerical simulations exploring a new stabilisation mechanism for self-bound quantum droplets via elastic three-body interactions, covering ground-state structure, collective excitations, formation dynamics, and experimental feasibility in potassium-39.

And time permitting, Zhentian will also cover:

- 2. Observation of a Tripartite Quantum Phase for Coexisting Extended, Localised, and Critical States**

Experimental realisation of the tripartite quantum phase — in which extended, localised, and critical states coexist — using an incommensurately driven s-p orbital optical lattice with ultracold  $^{87}\text{Rb}$  atoms, with direct identification of all three state types via momentum-space imaging and transport measurements.