Research buffet afternoon tea

Come along to learn about the cutting-edge research conducted at the School of Mathematics and Statistics: find out what motivates academics to pursue the problems they are working to crack, and how you, too, can begin to participate in research.

You will hear three short research presentations, and an introduction to summer research opportunities you can participate in. You'll have an opportunity to ask questions, afternoon tea will be served, and there will be time for informal conversations.

Have an interested friend (of any gender) not in the mentoring program? Feel free to invite them along!

When: Thursday 4 August, 3-4:30pm
**Where:** Carslaw 351

Prof. Nalini Joshi: The Art of Asking Questions

The best way to advance our understanding of mathematics is to ask questions. I want to illustrate this with an example that came from Newton's investigation of whether the area swept out by a planet is defined by a polynomial equation. This leads directly to transcendental functions, a topic I've been obsessing over for a while.

Mx Daniel Tubbenhauer: Knots and Algebra

You may not have heard of knot theory, the mathematical study of knots. Inspired by real-world knots such as those in shoelaces and ropes, knot theory is a fairly new field of mathematics which nowadays sits in the intersection of algebra and geometry, with applications beyond mathematics itself. This talk is a friendly overview of how knots and algebra fit together nicely.
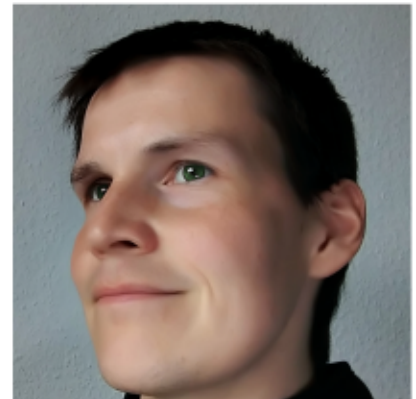
Prof. Holger Dullin: From Chaos to Integrable Systems and Back

One of the many things we learned from Poincare is that simple dynamical systems can exhibit complicated behaviour. I will illustrate this observation in two examples, the double pendulum and the 3-body problem.
In my PhD thesis I studied the Kovalevskaya top, a famous integrable system, and I will explain how the dichotomy between integrability and chaos shapes our understanding of dynamical systems.