The address is Mathematical Institute, North Haugh, St Andrews KY16 9SS. All lunches and coffee breaks will be in rooms 1B and 1C. All talks will be in lecture theatre D.

Thursday 18 April

- **12:45 - 13:15 Arrivals and welcome**
- **13:15 - 14:00 Lunch**
- **14:00 - 15:00 Michel van Garrel**
  Title/abstract TBA, related to enumerative mirror symmetry
- **15:00 - 15:30 Coffee break**
- **15:30 - 16:30 Robert Crumplin**
  Title: Spaces of twisted maps to Artin fans
  Abstract: Given a smooth pair $(X|D)$ one can ask how many curves in X have prescribed tangencies with D. A well-studied approach to this problem is via orbifold Gromov—Witten theory. These enumerative invariants are controlled by the space of twisted maps to the "universal pair". I will explain the geometry of this space in terms of line bundle section pairs, in particular giving a classification and structure of irreducible components in terms of tropical/combinatorial information. This approach leads to geometric insight into the polynomial properties of orbifold invariants, in particular the different behaviours for genus $g = 0$ and $g > 0$.
- **16:45 - 17:45 Dmitry Zakharov**
  Title: Tropical moments, the trigonal construction, and extension of the Prym–Torelli map
  Abstract: A tropical abelian variety A determines a convex symmetric Voronoi polytope $Vor(A)$, and a natural question is to compute the moments of $Vor(A)$: the zeroth moment is the volume, while the second moment has number-theoretic significance. Given a metric graph G, the volume of the tropical Jacobian $Jac(G)$ was computed by An–Baker–Kuperberg–Shokrieh in terms of a canonical cellular decomposition of $Jac(G)$, which was then used by de Jong and Shokrieh to compute the second moment. Len and Zakharov found an analogous decomposition for the tropical Prym variety $Prym(G'/G)$ of a double cover $G' \to G$ and used it to compute the volume of $Prym(G'/G)$. In all cases, the moment is, up to a multiple, a polynomial in the edge lengths of G that is determined by the graphic matroid (for the Jacobian) or the signed graphic matroid (for the Prym).

  In my talk, I explain how to compute the second moment of $Prym(G'/G)$ when $g(G) \leq 4$, using the tropical trigonal construction. The result turns out to be a piecewise polynomial function in the edge lengths of G, determined by the signed

graphic matroid. I will explain how this behavior is related to the indeterminancy of the algebraic Prym–Torelli map, and how the latter may be partially extended by the trigonal construction.

- **18:30 Social dinner**
  At Jahangir Balti&Tandoori restaurant

Friday 19 April

- **08:30 - 09:30 Lucie Devey**
  Title: Stability of toric vector bundles
  Abstract: Given any toric vector bundle, we may construct its parliament of polytopes. This is a generalization of the Newton polytope (or moment polytope) of a toric line bundle. This object contains a huge amount of information about the original bundle: notably on its global sections and its positivity. We may also determine if it is (semi-)stable or not with respect to any polarisation. It is a first step in getting a classification of toric vector bundles.
- **09:30 - 10:00 Coffee break**
- **10:00 - 11:00 Louis Theran**
  Title: Linear symmetries of Cayley—Menger varieties
  Abstract: A configuration $\mathbf{p}$ of n points in a d-dimensional Euclidean space determines $\binom{n}{2}$ pairwise squared distances $m(\mathbf{p})$. The Zariski closure of the image of the measurement map m is known as a d-dimensional Cayley—Menger variety. I will discuss some results about the linear automorphisms of Cayley—Menger varieties and their "unsquared" variants, along with applications to rigidity theory.
- **11:15 - 12:15 Diane Maclagan**
  Title: Tropical vector bundles
  Abstract: In this talk I will describe a new definition, joint with Bivas Khan, for a tropical vector bundle on a subvariety of a tropical toric variety. This builds on the tropicalizations of toric vector bundles. I will discuss when these bundles do and do not behave as in the classical setting.
- **12:15 - ? Lunch and farewell**