School of Mathematics and Statistics Newsletter

April 2024

Congratulations to ...

• Jon Fraser on winning the Edinburgh Mathematical Society *Sir Edmund Whittaker Memorial Prize* for 2023, awarded to an outstanding early career mathematician with a Scottish connection. The prize was awarded 'in recognition of Jon's outstanding research achievements in the fields of dynamics and fractal geometry'.
Jon's work was further recognised by his election as a *Fellow of the Royal Society of Edinburgh*, announced in early April.

• Finn Smith on being awarded one of the University's five *Teaching Excellence Awards* for 2023-24. In making the award the Proctor commented 'The judging panel was impressed by the breadth of commitment in your teaching, your dedication to student development, and your collegiality, and recognised you as a pioneer in digital accessibility and innovative teaching'.

• Chris Sutherland on being awarded the *Student-Selected Teaching Award for Outstanding Innovation in Teaching*.
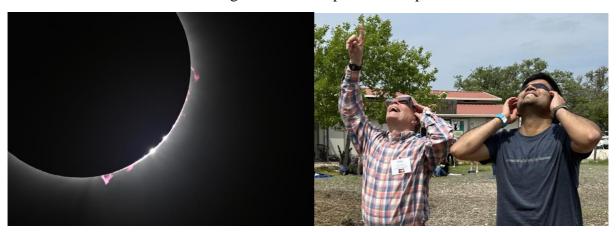

Chris and Finn with their awards

• Colva Roney-Dougal on being selected *Mathematician of the Month* by the *Piscopia Initiative*, see https://piscopia.co.uk/category/mathematician-of-the-month/

Visitors

• Paul Kirk from the *MRC Biostatistics Unit* of the University of Cambridge visited Michael Papathomas and Nicolo Margaritella on 26th March to discuss current research and a grant proposal. He also gave a seminar to the School on 27th March.

• Brigitte Stenhouse from the *Open University* visited the History of Maths group from 2nd-5th April and gave a talk on Mary Somerville and Chandrakala and Tikaram Dhananjaya. She took the opportunity whilst in the area to visit Somerville's former home in Burntisland.

• Welcome to Jaume Navarro from the *University of the Basque Country* who is visiting the History of Maths Group for six weeks from mid-April. Jaume is an expert in the history of electromagnetic ether and whilst in St Andrews is hoping to work on Edmund Whittaker and Finlay Freundlick.

Conferences, Talks and Visits

- Rosemary Bailey and Peter Cameron spent the week 8-13th April at the *Ischia Group Theory Conference*. Peter gave an invited talk on 'Inverse group theory', and Rosemary chaired a session dedicated to Nikolai Vavilov.

- On 6th April Kenneth Falconer gave a (virtual) lecture to the *Kerala Mathematical Association*, India on 'Fractals: Size, shape and form'. Then on 9th April he gave a public lecture 'Fractals: A short introduction' at the *Edinburgh Science Festival*, followed by a signing session of his book with the same title.

- Mike Todd gave the opening talk on 'Extremes and self-recurrence' at the week-long workshop *Rare Events in Dynamical Systems* at the Erwin Schrödinger Institute (ESI) in Vienna from 18th-22nd March. He also spent 8-12th April in Porto working on projects associated to the grant *Dynamical Multivariate Extremes* and gave a talk on 'Cover times in dynamical systems'

- Jon Fraser gave an online talk entitled 'Assouad dimension of limit sets of Kleinian groups' on 10th April at the *University of New Mexico Algebra and Geometry Seminar*.

- Members of the Math Biology group attended the *British Applied Mathematics Colloquium* (*BAMC*) at Newcastle University from 9-11th April. Dimitrios Katsaounis and Carey Li both contributed talks on their work and Fiona Macfarlane gave a mini-symposium talk. Fiona and Dimitrios also co-organised a mini-symposium session on modelling directed cell motion, inviting six speakers from across the UK to present their work.

- From 25-28th March, Daphné Lemasquerier attended a workshop at the Isaac Newton Institute, Cambridge, on *Mathematical and Computational Modelling of Anti-Diffusive Phenomena*, as part of the INI programme *Anti-Diffusive Dynamics: From Sub-cellular to Astrophysical Scales*. She presented a poster on 'Wave-mean flow interactions and zonal jets dynamics: a WKB approach'.

- Ursula Martin spoke at the anniversary celebrations of *women@CL*, a women in computing initiative that she founded in Cambridge 20 years ago. It was great to meet early participants in the programme who have become successful academics and entrepreneurs.

- Eric Priest attended a conference 8-13th April in San Antonio, Texas, about two new space satellites, Solar Orbiter (ESA) and Solar Probe (NASA), which are 7 times closer to the Sun than before and are sending back spectacular observations that are revolutionising several aspects of our basic understanding. They needed seven flybys of Venus in order partially to cancel out the orbital speed 67,000 mph of Earth around the Sun. The idea for Solar Orbiter was born at a conference that Eric organised 26 years ago. Solar Probe is so close to the Sun that its shield is heated to 2,700 F. A fringe benefit of attending the conference was that they were fortunate to watch an amazing total solar eclipse on 8th April.

Other News

- Colva Roney-Dougal was interviewed by the Voice of Islam radio station on April 9th about Mathematics in the Islamic golden age, at the horrendous hour of 7.20am

- The February issue of *Chance* magazine contains an interview with Rosemary Bailey (also available as a podcast) in which she is described as a 'giant in the applied statistics field and design of experiments'. Unfortunately, you need to be a member of the American Statistical Association to be able to read more than the first paragraph. But it includes quotes such as:

  'And then in my first or second year at primary school, the other pupils mocked me for being good at arithmetic.'

  'The first thing was factorial designs. When I looked at what they were doing, I noticed it was essentially applications of finite abelian groups, but not using that terminology. David Finney was absolutely furious with me because I was claiming some stuff he had invented (fractional factorial designs) used group theory and, of course, he didn't know anything about that at the time. He went on to say he hated mathematicians and statisticians are not mathematicians, so we don't want to use that approach.'

Future Events

- Johan Martens and Thibault Poiret are organizing a workshop at St Andrews on Tropical Geometry with GLEN on 18-19th April. (GLEN is a joint seminar in algebraic geometry between the Universities of Glasgow, Liverpool, Manchester, Sheffield and Edinburgh, aka the 'Highland Cow' seminar') See https://www.maths.ed.ac.uk/~jmartens/GLEN.html

- Advanced notice that the *Scottish Combinatorics Meeting* 2024 will be held on 27-28th May at St Andrews. This is the latest in a series of 2-day combinatorics meetings which has been running for several years. See https://sites.cs.st-andrews.ac.uk/scm2024/ for more details.

Next Issue

- The next edition of the School Newsletter will be circulated in May. Items may be sent to maths-news@st-andrews.ac.uk at any time but a reminder will be sent out a week before the deadline.