

School of Mathematics and Statistics Newsletter

November 2022

Congratulations to ...

- Liam Stuart, who successfully defended his PhD thesis, entitled: ‘Limit sets, Julia sets and Sullivan’s dictionary: a dimension theoretic analysis’.
- Simon Jurina, who had a successful PhD viva with his thesis ‘Solving decision problems in finitely presented groups via generalized small cancellation theory’,

Welcome to ...

- Zhongyi (Pierre) Zhou who has joined the Algebra and Combinatorics Group as a PhD student supervised by Nik Ruskuc.

Conferences, Talks and Visits

- David Borchers was an invited speaker at the *Global Snow Leopard and Ecosystem Protection Programme’s Steering Committee Meeting* in Bishkek, Kyrgyzstan, which took place over Independent Learning Week. While in Kyrgyzstan, he visited a field site in the Ala-Too mountains to assess its potential for hosting field visits by St Andrews Statistical Ecology MSc students. A snowstorm hindered his assessment but provided an opportunity to make a snowman!



- Rosemary Bailey and Peter Cameron made a research visit to Portugal from 16-29th October. For the first week, they visited Universidade da Beira Interior in Covilhã, the ‘Manchester of Portugal’, where old woollen mills have been converted into university buildings. The purpose was to complete a paper with the local statisticians Dário and Sandra Ferreira and Célia Nunes, but it was discovered that the situation is more complicated than first thought, and work is not finished yet. In the second week they visited Persi Diaconis and Susan Holmes (from Stanford University) in Troviscais, a village in the Alentejo about 110 miles south of Lisbon, where they discussed various topics including random walks on the Rado graph.
- Nik Ruskuc is visiting James East at the Western Sydney University to continue their work on congruences of partition monoids, supported by an EPSRC overseas collaboration grant.

- Saul Freedman spoke at the *Junior London Algebra Colloquium* on 13th October (online), and at the University of Bristol's *Algebra Seminar* on 26th October (in person), in each case on 'Non-commuting, non-generating graphs and intersection graphs of groups'.
- A new online seminar series at the Shenzhen Technology University, China is being organized by Haipeng Chen, who was a visiting PhD student at St Andrews in 2019-20 just before covid struck. On 21st October Amlan Banaji gave the first talk in the series entitled 'Intermediate dimensions', and the seminar on 10th November was given by Jon Fraser who spoke on 'Sullivan's dictionary, conformal dynamics, and Assouad type'.
- Mike Todd visited Leiden for a week to collaborate on properties of perturbations of dynamical systems with Dalia Terhesiu and to give a talk on 'Cover times in dynamical systems' in the *Probability, Operations and Dynamics Seminar*.
- Alex Rutar visited the University of Manchester from 31st October-2nd November where he gave a talk at the *Dynamics Seminar* entitled 'Assouad dimension and slices of self-affine sets'.
- Aleksi Pyörälä who is visiting the Analysis group for this semester gave an online talk 'On local structure of self-conformal measures' at the *One-World-Fractals* event on 2nd November, and the following day gave a live seminar at the University of Exeter on 'Equidistribution from self-conformal measures'.
- In October Andy Lynch attended the first face-to-face meeting for some years of the *Pan-Prostate Cancer Group* in Camogli (Italy). Unfortunately he was attending virtually, so didn't see the sights, but on the positive side he avoided the protest at Genoa airport in which his colleagues found themselves caught leading to rather unpleasant conditions.
- On 3rd November, Ben Swallow gave a virtual seminar to the *JUNIPER (Joint UNiversities Pandemic and Epidemiological Research) Consortium* on 'Data-driven approaches to surveillance of Covid-19 in the UK'. He also gave a *SUMS Lunchtime Lecture* on 'Modelling approaches to understanding the dynamics of Covid-19 spread' on 15th November.
- Kate Hindle gave an invited talk to the *West Midlands Branch of the IMA* on 8th November entitled 'Is it a bird? Is it a plane? D'Arcy Thompson on Flight'.
- On 28th October, Isobel Falconer was the *Physics Colloquium* speaker here in St Andrews. She attracted a good audience ranging from undergraduates to senior staff. Her talk was entitled 'Marrying an Astronomer - a Career for Mathematical Women in the 1600s and 1700s?'
- On 19th October, Deborah Kent gave an online colloquium for the *Northern Environmental History Network* titled '"A rational exploitation of the sea": D'Arcy Wentworth Thompson and investigations of the North Sea, 1895-1903'. During Independent Learning Week she also made a research visit to the University of Lancaster and the Brantwood estate on the shores of Coniston Water, with its historic house now a museum dedicated to John Ruskin, a former resident.
- Edmund Robertson gave a talk 'MacTutor - a collection of great mathematicians?' via Teams to the *University of Warwick Mathematics Teaching and Learning Seminar* on 10th November. He looked at the questions: Is MacTutor a collection of great mathematicians? What is a 'great mathematician?' How did we choose who to write about? Edmund commented: 'I have never been asked a question before giving a seminar but this time I got a question a couple of days before I gave my talk'.

Outreach

- From 7-13th November, Daphné Lemasquerier was in Réunion Island where she grew up – Réunion is an overseas department of France 600 miles east of Madagascar. She was invited by the association [Physique-Outremer](#) and [Les Amis de l'Université](#) to participate in an ambitious outreach program of promoting sciences among the general public and school children. She visited three secondary schools, two high schools, performed some rotating fluid mechanics demonstrations, participated in a round-table discussion about women in science, and gave a talk at the [EDSU \(Exploring the Dark Side of the Universe\) 2022](#) conference, which was taking place simultaneously.
- On 22nd October CREEM and SMRU staff (Catriona Harris and Hannah Worthington) and students (Karthik Ashok, Mia Goldman, Tristan Kleyn, Maria Zacarias) ran a joint stand at the *Marine Showcase* event at Dynamic Earth, Edinburgh. They had a range of activities relevant to both research groups – marine mammal photo-ID, estimating abundance using mark-recapture, marine mammal acoustics, and counting whale calls for estimating abundance. It was a great to be back doing an in-person public engagement event!



Next Issue

- The next edition of the School Newsletter will be circulated in December. 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.