

School of Mathematics and Statistics Newsletter

April 2020

Welcome ...

- to Natalia Jurga who joined the School as an EPSRC funded Research Fellow in the Analysis Group on 1st April. Natalia, who works on the interplay between dynamical systems, ergodic theory and fractal geometry, did her PhD at the University of Warwick and more recently was a postdoc at the University of Surrey. Natalia managed to reach St Andrews for the start of her post although we can only welcome her virtually at the moment.

Grants

- David Dritschel has been awarded a Leverhulme Trust Research Fellowship for one year from August 2021 to undertake a project ‘A fundamental re-assessment of shallow-water fluid dynamics’. As reported in the previous Newsletter this is alongside his 4-year £581k EPSRC standard grant on ‘A Lagrangian, vorticity-dynamics approach to understanding diabatic cloud turbulence’, with colleagues in Leeds and Edinburgh.

Non-events!

- The joint *British Mathematical Colloquium and British Applied Mathematical Colloquium*, which should have taken place at the University of Glasgow from 6-9th April, has been postponed until next year. For this Jean Reinaud and David Dritschel had organised a mini-symposium on ‘Eddies in Geophysical Flows’ and Cicely Macnamara and Nikos Sfakianakis one on ‘Tracking cellular processes through the scales’. These mini-symposia will hopefully be rescheduled for the postponed meeting.
- Kenneth Falconer, Pablo Shmerkin and Alexia Yavicoli were due to speak at the conference *Analytic and Discrete Aspects of Finite Point Configurations* at the Centre International de Rencontres Mathématiques (CIRM) at Luminy near Marseille from 16-20th March. The meeting has been postponed until January 2021.
- Jon Fraser is stranded in New York, staying with his parents in law rather than collaborating with Tamara Kucharenko and Sergiy Merenkov at City University New York and Felipe Ramirez at the Wesleyan University. He was also unable to undertake his planned lecture tour to give talks at the University of Toronto, City University New York and the Wesleyan University.
- Mike Todd was supposed to have visited Dalia Terhesiu at the University of Leiden for 10 days over the Spring Break. Instead they have been working by Skype on non-standard limit laws in dynamical systems.



The Analysis Group continues to meet at a virtual Whey Pat on Tuesdays

- Nik Ruskuc was visiting Peter Mayr at the Colorado University at Boulder when the epidemic escalated. Nik managed to do one week from 7-15th March out of the planned two when they worked on infinite subdirect powers of simple groups, a project that also includes Martyn Quick. Nik cancelled his seminars at Boulder, but upon his return he examined a Colorado University PhD thesis via Zoom.
- Peter Cameron and Colva Roney-Dougal were long-term participants in the *Groups, Representations and Applications* programme at the Isaac Newton Institute in Cambridge which was running from January to June but was suspended on 18th March. Peter was also an invited speaker at *Algebraic Combinatorics and Applications* ALCOMA20 at Kloster Banz in Germany from 30th March-3rd April.
- Colin Campbell and Edmund Robertson were invited to speak at the conference on the *History of Mathematics and Teaching of Mathematics* which was to have been held in Miskolc, Hungary from 21st-24th May. They have submitted several papers to the conference proceedings which it is hoped will still be published. Edmund is Chair of this biennial conference.
- On 8th April, Andy Lynch was prevented from helping to organize the British and Irish Region of the International Biometric Society meeting on *Advances in Statistical Genomics* in London. Andy Lynch is on the committee of the British and Irish Region of the IBS which is currently chaired by former St Andrews staff member Ruth King.
- Isobel Falconer and Meredith Houlton attended the two-day *Science in the City 1500-1800* conference on 6-7th April. The conference took place online, using a combination of YouTube and Zoom. This enabled far greater international participation than had it been held in London as originally planned
- Louise Berger (from ENSTA Bretagne) should have visited St Andrews for the 5 months from April to August to work with Jean Reinaud on vortex arrays in geophysical flows. Also Thibault Leduque (Université Paris-Orsay) should have visited for 3 months from May to July to work with Jean on strong interaction between three vortices in the oceans.

Public Engagement

- Charles Paxton curated an exhibition on the *Scientific History of Mermaids* being shown at the Fisheries Museum in Anstruther. The exhibition will be moving to HMS Unicorn in Dundee at some point though it is not clear when.

Co-authors

- Sadly, Richard Guy, a former co-author of Kenneth Falconer, died on 9th March, aged 103. Although he ‘retired’ in 1982, he was at his desk in the University of Calgary Maths Department almost daily until shortly before his death. His latest book *The Unity of Combinatorics*, with Ezra Brown, will be published this coming May. An example to us all!
- Peter Cameron celebrated his 200th co-author with the acceptance of his paper ‘On the connectivity and independence number of power graphs of groups’ joint with Sayyed Heidar Jafari, from Shahrood in Iran, by the journal *Graphs and Combinatorics*.

Peter Cameron social distancing on the West Sands



Caption Competition

- Captions are invited for this picture provided by Mike Todd of the last seminar held in the Mathematical Institute before shut down. If you have any ideas for captions, send them to the Newsletter editor at schoolnews@mcs.st-andrews.ac.uk – a selection may be published in the next Newsletter.



Next Issue

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