

# School of Mathematics and Statistics Newsletter

June 2022

## *Congratulations ...*

- to Thomas Howson and Hope Thompson, a St Andrews Graduate in Psychology, on their wedding on 21st May on the West Sands. This was preceded by golf on the Himalayas and followed by an evening reception in Crail Community Hall. We wish them the very best for their future together
- to Mike Todd on being promoted to Professor, and Ian Durbach on promotion to Senior Research Fellow.



- to Callan Noble for successfully defending his PhD thesis entitled ‘Solar cycle variation of photospheric and chromospheric magnetic and ultraviolet emission features observed by the Solar Dynamics Observatory’ on 7 June 2022.
- to Isobel Falconer who was awarded an MBE in the Birthday Honours for services to the History of Mathematics and Science.

## *Farewell ...*

- to Shayo Olukoya who will be leaving us on 30th June to take up a permanent position as an Education Focused Lecturer at the University of Keele. Shayo came to St Andrews as an undergraduate in 2010, and continued to get his PhD in 2018. After a short time in Aberdeen he returned to St Andrews as an Associate Lecturer in October 2020. We wish Shayo the very best in his new position.
- to Helen Burgess, who has been in the School since 2015, who is leaving the School at the end of June to start a postdoc modelling jet stream turbulence at the University of Manchester.
- to ‘CJ’ Davies, a Technician in the School since July 2021, who is leaving us in early July to take up a position with a company down south.

## *Visitors*

- James East and Igor Dolinka made successful visits to Nik Ruskuc and gave talks at a special double-bill session of the Algebra and Combinatorics Seminar on 1st June
- Daniel Bernstein (Tulane) and Tony Nixon (Lancaster) visited Louis Theran from 13-17th June, supported by the Heilbronn Institute.

## *Talks and Visits*

- Kate Mowbray, Lilli Nadol, Jack Reid and Thomas Neukirch participated online in the *European Geophysical Union (EGU) General Assembly 2022*, held in a hybrid format from 23rd-27th May, with the in-person part taking place in Vienna. Due to the format, poster contributions and contributed talks had been converted into 6 minute presentations. Kate spoke on ‘Particle energisation in collapsing magnetic traps’, Lilli on ‘Coronal magnetic field extrapolation using a specific family of analytical 3D magnetohydrostatic equilibria - practical aspects’ and Jack talked about ‘MHD avalanches in truly curved coronal arcades: proliferation and heating’. The conference attracts around 16,000 delegates
- Elisabeth Enerhaug attended the *2022 UK-MHD* meeting in person on 9-10th June at the University of Sheffield.
- David Rees Jones attended the *35th Scottish Fluid Mechanics Meeting* on 26th May at the Scottish Association for Marine Science in Oban, and gave a poster entitled ‘Reaction and shear-driven instabilities in a porous medium’.
- David Dritschel attended the Isaac Newton Institute programme *Modelling of Turbulent Transport, Mixing and Scaling* from 31st May-11th June, and also presented an online talk ‘A new Lagrangian approach to modelling turbulent flows’ at the programme on 18th May.
- On 13th June, Mark Chaplain and Fiona Macfarlane gave a joint online talk on ‘Modelling rheumatoid arthritis’ (and the link to cancer modelling) at the *SWAMBA (South Wales Applied Mathematics for Biomedical Advances) Workshop on Mathematical Oncology*, hosted by Swansea University.
- Alan Logan was an invited speaker at the *15th Barcelona Weekend in Group Theory*, 3rd-4th June and spoke on ‘The conjugacy problem for ascending HNN-extensions of free groups’. This was Alan’s first in-person conference, and second in-person talk, for 2 years!
- Peter Cameron spoke online at two recent meetings: on ‘Graphs on groups and their relations’ at a hybrid *International Conference on Algebra and Discrete Mathematics (ICADM)* in Pune, India on 27th May, and on ‘Synchronization: from automata to weakly perfect graphs’ at the *Algebraic Combinatorics Virtual Exploration (AlCove)* on 6th June.
- Colin Campbell and Colva Roney-Dougal attended the conference *Groups in Galway 2022* which was held at the National University of Ireland, Galway from 18-20th May. The meeting was held in conjunction with the *Irish Geometry Conference 2022*.
- Sophie Huczynska is currently attending the conference *Stinson66 - New Advances in Designs, Codes and Cryptography* in honour of Doug Stinson (Waterloo) at the Fields Institute in Toronto, Canada, from 13-17th June. Sophie is giving a keynote talk ‘Introducing internal and external partial difference families’.
- Laura Johnson attended the *Combinatorics 2022* conference in Mantua, Italy from 30th May-3rd June, and gave a talk entitled ‘Internal and external partial difference families’
- The School *Combinatorics Day* took place on 24th June. There were eight talks, seven by the members of the Algebra and Combinatorics Group, and one by James East.
- Nik Ruskuc gave a lecture entitled ‘Subdirect products in combinatorial algebra’ at the *Mathematical Institute of the Serbian Academy of Arts and Sciences* on 10th June, and is visiting Igor Dolinka at the University of Novi Sad from 13-17th June to continue their joint work on congruences of variants of semigroups.
- Louis Theran gave a talk ‘Maximum likelihood thresholds via graph rigidity’ at the *CG (Computational geometry) Week Workshop on Geometry and Machine Learning* from 7-10th June in Berlin.

- Istvan Kolossvary participated in the *7th Cornell Conference on Analysis, Probability, and Mathematical Physics on Fractals* at Cornell University in Ithaca, New York State, from June 4-8th, where he gave a talk entitled ‘On the convergence rate of the chaos game’.
- Mike Todd, along with Ian Melbourne (Warwick) and Françoise Pène (Brest), organised a week-long workshop *Limit Theorems for Slowly Mixing Systems* at ICMS in Edinburgh. For many this was their first in-person conference/workshop since the pandemic and there were a lot of positive comments about being able to have informal research chats at the blackboards. Natalia Jurga gave a well-received talk on ‘Cover times in dynamical systems’ and Raquel Couto also participated.
- Amlan Banaji gave an in-person talk entitled ‘Dimensions of infinitely generated self-conformal sets’ at the University of Warwick *Dynamics and Group Geometry Early Researchers* (DAGGER) seminar on 30th May.
- Peter Jupp attended (alas only virtually) the workshop *Multivariate Analysis of Complex Data* at the Université Libre de Bruxelles on 23rd-24th May. He spoke on ‘Ambiguous rotations, inner-product spaces and orientation relationships’.
- Rachel Sippy is attending the *Society for Epidemiologic Research Annual Meeting* from 14-17th June, where she will organize activities in her role as co-chair of the SER Communications Committee.
- Rachel Sippy presented at a seminar ‘Lessons Learned from the COVID-19 Pandemic: What to Improve in the Performance of the Ecuadorian Health System’, hosted by the Universidad Católica de Santiago de Guayaquil.
- Edmund Robertson was chairman of the *12th Conference on the History of Mathematics and Teaching of Mathematics* held online from 18th-21st May. This was the eighth conference in this series that Edmund has chaired. He gave two presentations: *HMTM 2000 - 2020. Conference on the History of Mathematics and Teaching of Mathematics* and *MacTutor – my personal journey*. John O’Connor was also an invited speaker at the conference and delivered the lecture *Cutting and Pasting Pythagoras*.
- On 6th June, Deborah Kent attended OU Professor June Barrow-Green’s 2021 [Wilkins-Bernal-Medawar Prize Lecture](#), “‘A sex so little made to brave the thorns of science’: The historical representation of women in mathematics’ with a reception hosted by the Royal Society. Her return travels included stops in Leeds and Liverpool for archive work related to ‘The Mathematician and the Malacologist: A collaboration between D’Arcy Wentworth Thompson and Ronald Winckworth’, a project funded by a grant from The Conchological Society. The Winckworth Collection at the World Museum of Liverpool and the West Yorkshire Archive Services were highlights among the seven repositories visited.
- Isobel Falconer attended the *4th International Conference on the History of Physics* at Trinity College Dublin on 7-10th June, where she made the closing remarks and led a final discussion.

### ***Other News***

- During the University graduation ceremonies, Professor Sir John Ball was presented for an Honorary Doctorate by Mark Chaplain. Professor Ball (Oxford and Heriot-Watt) has done ground-breaking research in applied analysis, in particular on partial differential equations and applications. Also, Professor Dame Frances Kirwan (Oxford) was presented for an Honorary Doctorate by Kenneth Falconer, celebrating her leading research in algebraic geometry, and her service to mathematics including her work for women in mathematics.
- Rachel Sippy completed her first half marathon as part of the Edinburgh Marathon Festival on 29 May. She is proud of the achievement but unlikely to repeat the endeavour.

### *Next Issue*

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