# School of Mathematics and Statistics Newsletter

August 2021

## *Congratulations …*

• to Richard Glennie on being awarded the *Young Biometrician Award for 2021* co-sponsored by the British and Irish Region of the *International Biometric Society* and the *Fisher Memorial Trust*, see https://bir.biometricsociety.org/resources/honors-awards. Richard received the award for his paper 'Open population maximum likelihood spatial capture-recapture' published in Biometrics. The judges felt that Richard's paper represented a considerable step forward for capture-recapture models in both theory and implementation, with the modelling and inference explained exceptionally clearly and demonstrating the power of their approach in a fascinating and challenging analysis of jaguar abundance in Belize. Also, Theo Michelot received honourable mention for his paper 'Inference in MCMC step selection models', published in Biometrics.

• to Daniel Chambers on successfully defending his thesis 'Numerical experiments on reconnection in magnetic field configurations containing null points and separators'.

## *Welcome …*

• to Nicolò Margaritella, our new Lecturer in Statistics who started on 2nd August. Nicolò works in Baysian statistics, in particular on models for neuroscientific data. He took his PhD at Edinburgh University in 2020 where he has since taught statistics.

• to Finn Smith, who joined us as an Associate Lecturer (Education Focussed) on 9th August. Finn was a St Andrews undergraduate who continued as a PhD student working on computational semigroup theory.

• to Mahamadou Niakate, who started as Computing Officer on 9th August, having been a computing officer at Dundee Universtiy for the past 20 years.

## *Farewell …*

• to Anastasia Frantsuzova, who joined us as a temporary Associate Lecturer in January and is moving on to a research position with *Biomathematics and Statistics Scotland*, based in Edinburgh. Anastasia did a wonderful job covering MT5764 'Advanced Data Analysis' last semester and supervising MSc students over the summer; a particular mark of pride must have come from being part of the Stats team in the charity quiz! We wish her all the best in her new job and hope that she will be able to come up for a visit and some cake when conditions allow.

## *Virtual Activities*

• At the business meeting at the *British Combinatorial Conference* (*BCC*) in Durham on 5-9th July Peter Cameron was re-elected Chair of the *British Combinatorial Committee*.

- Peter Cameron attended the 80th anniversary *Encontro National of the Portuguese Mathematical Society* (*ENSPM80*), held online from 12-16th July. He gave a plenary talk 'Conversations between graphs and groups', and chaired a plenary by St Andrews honorary graduate Persi Diaconis, on 'Gambler's Ruin and the ICM'. Then on 11th August he gave the closing talk in a discussion on graphs and groups run from CUSAT, Kochi, India. This resulted from a paper 'Graphs defined on groups' that Peter put on the arXiv in February, and he opened the discussion with two talks in March. The closing talk described five topics on which progress has been made as a result of the discussion group leading to a number of papers.

- Rosemary Bailey and Peter Cameron attended the international conference and PhD summer school *G2S2* (*Groups and Graphs, Semigroups and Synchronization*) in Sochi, Russia, from 9-13th August. Peter gave the opening plenary lecture, on 'Synchronization and semigroups, graphs and groups', and Rosemary gave the closing plenary, on 'Diagonal structures and beyond'.

- On 16-17th July, Rosemary Bailey attended (virtually) the *Workshop on Quality Improvement Methods* in Dortmund. She gave a short talk on 'Working and walking with Joachim Kunert' in the final session, which was dedicated to Joachim's retirement.

- Colva Roney-Dougal and Saul Freedman are virtually attending a workshop from 15-20th August at the Banff International Research Station, on *Totally Disconnected Locally Compact Groups via Group Actions*, including an invited lecture by Saul on 'Non-commuting, non-generating graphs of groups'. Simultaneously, Colva, Mun See Chang and Chris Jefferson are virtually attending an Oberwolfach workshop on *Computational Group Theory*, where Mun See and Colva are giving invited talks.

- Yoav Len participated in an online summer school *Hyperkähler and Prym Varieties: Classical and New Results* at the International Centre for Theoretical Physics (ICTP) in virtual Trieste from 19th-23rd July, and he spoke on 'Tropical Prym varieties'.

- Andy Wright continued his series of (virtual) workshops on magnetohydrodynamic wave coupling in nonuniform media, sponsored and hosted by the *International Space Science Institute* in Bern, Switzerland. Rachel Davies and Tom Elsden also attended and everyone presented updates on their progress. Andy and Tom also attended the *US Geophysical Environment Modeling* meeting (virtually) and Tom presented their recent research on the Earth's magnetosphere as well as some work Tom has completed on modelling waves in Saturn's magnetosphere.

- On 28th July Rick Camp with co-authors Dave Miller, Len Thomas, Steve Buckland and Steve Kendall gave a presentation titled 'Changes in Hawaii akepa densities at Hakalau Forest National Wildlife Refuge: Application of density surface models' at the virtual 2021 *Hawaii Conservation Conference*.

- Isobel Falconer organised an ICHM (International Commission on the History of Mathematics)-sponsored symposium on 30th July on 'Constructing interfaces between mathematical and physical conceptions and methods, c.1850–1930'. The three speakers were Jesper Lützen (Copenhagen), Martina Schneider (Johannes Gutenberg, Mainz) and Isobel; her title was 'Repeating the words of power: Hamiltonian dynamics and physical speculation in late nineteenth century Britain'. This was part of the 4-yearly *International Commission on the History of Science and Technology* (ICHST) meeting 'in' Prague.

- The 2021 Summer Teams Enterprise Programme concluded in July. Thirteen undergraduate students around the world participated in *The Mathematically Curious St Andrews* project, sponsored by Deborah Kent and coached by Gerry O'Reilly. The team digitised a walking tour of St Andrews, including sites of particular interest to the history of mathematics. You are invited to check it out at: https://maths.curious-sta.org/  The team developing the tour welcomes feedback via this form https://forms.gle/gdcmxQcKvGqwpLmE6

## *Next Issue*

- The next edition of the School Newsletter will be circulated in September. Items for inclusion 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.

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