

School of Mathematics and Statistics Newsletter

July 2018

Congratulations...

- to School staff who have recently been promoted:
Jonathan Fraser to Reader, Aidan Naughton to Senior Lecturer, Jean Reinaud to Senior Lecturer, Colva Roney-Dougal to Professor and Antonia Wilmot-Smith to Senior Lecturer.
- to Richard Glennie for successfully defending his PhD thesis ‘Incorporating animal movement with distance sampling and spatial capture-recapture’.
- to Rachel Phillip, who graduated with a BSc in June, who was awarded one of five ‘Statisticians in the Pharmaceutical Industry’ (PSI) prizes. Departments are assessed on a variety of criteria concerning the promotion of medical/pharmaceutical statistics as a destination for maths undergraduates and get to nominate a final year undergraduate. We were delighted to nominate Rachel due to her performance in relevant modules; she receives a certificate and cash prize.
- to Ruth Bowness on the birth of a son Thomas William Bowness on 14th June, weighing 8lb 5oz.



Young Tom Bowness

Welcome ...

- to Giorgos Minas, who joined our School from the University of Warwick as a new Lecturer in Statistics at the beginning of July. Giorgos’ research interests include developing stochastic models for molecular biology networks.

Farewell ...

- to Fiona Wilson who has decided to pursue a career outside academia. Fiona joined the School as a PhD student in October 2008 and, after successfully defending her thesis in 2012, remained in St Andrews as a PostDoc in the Solar Group. We wish her all the best for the future.

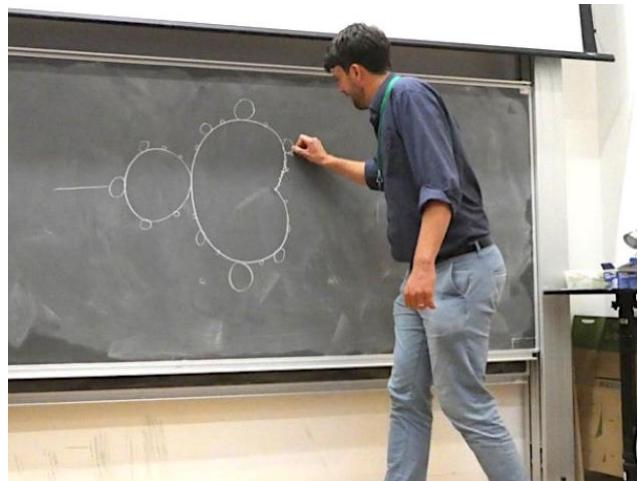
Visits and Conferences

- In the first week of July, Rosemary Bailey and Peter Cameron were at a meeting in Pilsen, Czech Republic, a town famous for its excellent beer. The meeting *Symmetry vs Regularity* celebrated the 50th anniversary of a groundbreaking paper by Weisfeiler and Leman in the former Soviet Union, introducing concepts which had been discovered independently by group theorists and statisticians. The meeting was held in the council chamber of the old Town Hall. Peter gave a plenary talk entitled ‘Association schemes, graph homomorphisms, and synchronization’, while Rosemary spoke on ‘How group theory and statistics met in association schemes’ at an all-day session devoted to the history of the subject.
The previous week, Peter visited Lisbon to work on several projects, including one on varieties of groups and semigroups, while Rosemary was at a workshop on testing varieties of wheat and barley in Słupia Wielka near Poznan, Poland, where she spoke on ‘Substitutes for the non-existent square lattice designs for 36 varieties’.

- Ineke De Moortel attended the *IRIS-9* meeting in Goettingen, Germany from 25-29th June where she chaired a session and gave a talk entitled ‘A comparison of propagating coronal disturbances (PCDs) in sunspot and plage loops’ – see the picture below!
- Jean Reinaud participated in a mini-symposium of vortex dynamics at the biennial meeting of the *Italian Society of Applied and Industrial Mathematics* at La Sapienza in Rome on 6th July where he gave an invited talk on vortex equilibria and their stability properties. The meeting was also a great occasion for Jean to meet co-authors from France, Moscow and Vladivostok.
- Tom Elsden attended the *Geospace Environment Modeling* (GEM) conference in Santa Fe, New Mexico, from 17th-23rd June, where he gave a talk on the broadband excitation of field line resonances in 3D.
- Lianne Fyfe, Thomas Howson, Craig Johnston, Teri Love and Alexander Prokopszyn attended a summer school from 11-15th June on *Advanced Topics in MHD* in Udine, Italy. Lectures were held in the International Centre for Mechanical Sciences (CISM) and covered instabilities, waves in partially ionised plasmas and turbulence.
- Collin Bleak attended the Oberwolfach Workshop: *Cohomological and Metric Properties of Groups of Homeomorphisms of R* from 3rd-9th June, where he gave a talk ‘Groups of fast homeomorphisms of the interval and the ping-pong argument’. He also gave a talk ‘On finite generation for groups of homeomorphisms of the Cantor space’ on 20th June at Heriot-Watt University for their *MAXIMALS* seminar.
- Nayab Khalid attended the conference *Trees, Dynamics and Locally Compact Groups* from 25-29th June in Düsseldorf.
- Michael Papathomas and Wei Jing attended the *International Society for Bayesian Analysis 2018 World Meeting* in Edinburgh, 24-29th June, and presented work entitled ‘On the correspondence from log-linear to logistic regression modelling with g-priors’.
- Giorgos Minas attended the *International Biometrics Conference* in Barcelona from 8-13th of July which attracted about 900 participants from all continents (except Antarctica!). There was a good opportunity for socializing, meetings and discussions with colleagues and getting a general idea of current trends. The presentations covered most areas of medical and biostatistics, including computational biology and genetics, clinical trials, epidemiology, ecology and agriculture. Many related to ‘omics’ data, machine learning and big data. Giorgos contributed a talk on ‘Inferring transcription regulation logic from multiple dynamic experiments’.
- Fiona Macfarlane attended the 2018 *Annual Meeting of the Society for Mathematical Biology* from 8-12th July at the University of Sydney. Fiona contributed a talk ‘Mathematical modelling of the immune response to cancer: an individual based approach’.
- Isobel Falconer attended the UK *Integrated History and Philosophy of Science Workshop* at University College London from 20th-21st June where she gave a well-received talk on ‘Maxwell, Kelvin, the inverse square law, and epistemic injustice’.
- Stuart Burrell, Fiona Macfarlane, Douglas Howroyd, Nayab Khalid, Lawrence Lee, Michael Torpey and Wilf Wilson attended the *Edinburgh Mathematical Society Postgraduate Students Meeting* from 21st-23rd May. Everyone except Michael and Wilf gave a talk and Lawrence and Nayab jointly won the Best Student Presentation Award.
- Several staff have recently travelled to serve as external examiners for other institutions. These include Martyn Quick in Oxford on 5-6th July as their external for second year Pure Mathematics and Kenneth Falconer in Milton Keynes on 10th July for the Open University MSc. Andy Wright went to the University of Dundee on 30th May. Dundee don’t apply moderation to module grades, but the board does have discretion over borderlines, which can lead to extended discussions. Longer-established colleagues may remember such discussions taking place at our own classification board before discretion was removed from our degree classification.

Conferences Organised

- A week-long workshop *Thermodynamic formalism in dynamical systems* took place from 18th-22nd June at the ICMS in Edinburgh, organised by Mike Todd in collaboration with Thomas Jordan (Bristol), Dan Thompson (Ohio State) and Omri Sarig (Weizmann). The meeting was attended by Kenneth Falconer, Doug Howroyd, Lawrence Lee and Han Yu, as well as by Jon Fraser who gave a very well-received public talk, to a full house, entitled ‘Dynamics on fractals’.



Jon Fraser demonstrates how to draw a freehand Mandelbrot set in his public lecture

- Michael Papathomas organised the Maths edition of the *Interdisciplinary Digital Health* seminar series in the Mathematical Institute on 13th June. The focus was on cancer, and there were talks by Tommaso Lorenzi, Michael Papathomas, and Professor Frank Sullivan from the School of Medicine.
- The 4½ day *International Statistical Ecology Conference (ISEC)* returned to St Andrews ten years after its inception in 2008. Over that period, the conference attendance has increased from approximately 190 delegates to 360 delegates from 33 countries. There were also six pre-conference workshops including one presented by David Borchers and Janine Illian. There was a total of 243 talks, along with an evening public lecture given by Ali Johnston of Cornell and Cambridge, an undergraduate in the School 15 years ago, and Stacy De Ruiter, a recent CREEM postdoc. There was also an invited session on distance sampling, honouring Steve Buckland’s contributions in that field. A poster noting some of these contributions was presented to Steve, and can be viewed at <https://bit.ly/2L18IW1>. One of the winners in the student competition was St Andrews PhD student Rick Camp. The success of the conference was possible through the efforts of more than a dozen members of the local organising committee, along with many projectionists and helpers. The next ISEC conference will be held in June 2020 in Sydney.

Public Engagement

- Isobel Falconer spoke at Manchester University’s first *Women in Mathematics Research* event on 29th June. The meeting, which was organized by Demi Allen, a former St Andrews undergraduate who is now a postdoc in Manchester, was attended by about 60 year 12 girls from schools in the Manchester area. Isobel talked about ‘Female mathematicians throughout history: known and unknown’, and ran two interactive workshops on ‘Mathematics from the Ladies’ Diary’. One pupil commented ‘hearing about women who have achieved something in worse conditions than we have nowadays has inspired me to handle being in a male dominated job’.

Future Events

- Advanced notice that Andy Lynch will give his Inaugural Lecture on Wednesday 21st November in School III in St Salvator’s Quad.

Other News

- *How famous is your supervisor?* Emeritus Professor Tom Blyth, for many years Professor of Pure Mathematics in the School, recently celebrated his 80th birthday in Paris. Before enjoying a superb champagne dinner at the Ciel de Paris restaurant on the 54th floor of the Montparnasse Tower, he made a special visit to a small street in the 13th arrondissement. This street is named after Madame le Professeur Marie-Louise Dubreil-Jacotin who was his supervisor when he was a NATO Research Scholar at the Institut Henri Poincaré in the Sorbonne. She was the first female to be admitted to the École Normale Supérieure, and the first female mathematician in France to be promoted to Professor. Vive la révolution!



Caption Competition

- Suggestions are invited for captions for this picture of Ineke's lecture on coronal disturbances at the *IRIS-9* meeting. 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 August. 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.