

# School of Mathematics and Statistics Newsletter

September 2019

## *Welcome ...*

- to Steve Drasco, who has joined us as an Associate Lecturer (Teaching Focused) in statistics. His research interests include the statistical analysis of gravitational waves, and we look forward to his forming links with colleagues in astrophysics.
- to postdoc Phil Bouchet, who will be joining CREEM initially for 18 months to work with Catriona Harris and Len Thomas and on modelling the acoustic dose at which whales respond to Navy sonar.
- to István Kolossváry who has come from Budapest to join the Analysis Group as Jon Fraser's postdoc for work on dimension spectra.
- to our new research students: Amlan Banaji, Liam Stuart in Analysis; Bill De Witt, Liam Stott, Maria Tsalakou in Algebra and Combinatorics; William Bate, Sophie Boswell in Solar Theory; Alexander Chaudhri in Vortex Dynamics; Anas Lasri Doukkali in Mathematical Biology; Naici Guo, Manny Medrano, Xiaoyue Yang in Medical Statistics; Felix Petersma, Tamsin Rigold in Statistical Ecology.
- to Haipeng Chen, aka Clarence, and Junda Zhang who are visiting the Analysis Group for a year funded by the China Scholarship Council.

## *Visitors*

- Hanwen Zhang, an undergraduate student from Peking University, visited David Rees Jones to work on a project 'Reactive flow instabilities in a sheared porous medium'.
- Masayuki Henmi from the Institute of Statistical Mathematics, Tokyo, and Hiroshi Matsuzoe from Nagoya Institute of Technology visited Peter Jupp to continue work on information geometry.

## *Visits and Conferences*

- Several members of the School attended the annual *International Conference of the Royal Statistical Society*, held in Belfast from 2nd-5th September. During the conference, Steve Buckland was presented with the Society's Guy Medal in Gold, awarded to an RSS Fellow who is 'judged to have merited a signal mark of distinction by reason of innovative contributions to the theory or application of statistics'. Steve was commended for his wide-ranging work in statistical ecology, including distance-sampling methods.

Also at the meeting Richard Glennie gave a talk on 'Modelling latent animal movement and behaviour in population abundance surveys using hidden Markov models'; Valentin Popov gave one on 'Modelling road accidents in Edinburgh using hidden Markov models', and Rosemary Bailey spoke on 'Design and analysis of experiments testing for biodiversity'. Lindsay



*Steve getting his medal from Deborah Ashby, President of the RSS*

Scott-Hayward presented a poster about ‘Introducing an adaptation to the MRSea package to allow for non-overlapping spatial ranges in a spatial interaction term; the case of African Vultures’. The conference dinner was inside Titanic Belfast, with a replica of the ship’s famous staircase. Also, our Pub Quiz team ‘Smooth Creeminals’ came a respectable sixth out of fifteen.



Richard, Lindsay and Valentin at the Titanic

- Jean Reinaud attended an international mini-symposium as part of the *24ième Congrès Français de Mécanique*, Brest, on 28th August, where he gave a talk on vortex alignment. He also chaired a session on ‘Turbulence, cyclones, anti-cyclones’.
- Andy Wright and Tom Elsdén spent a week at the *International Space Science Institute* in Bern, Switzerland. They attended the first in a series of three workshops that Andy is leading related to 3D Alfvén Resonances. There is a hand-picked team of nine researchers from around the world with complementary expertise from theory and simulations to satellite and ground-based observations. The programme runs over two years.
- Isobel Falconer was an invited speaker at the *5th International Conference on the History of Modern Mathematics* in Xi’an, China, 18-24th August where she gave a talk on ‘The Development of Curve Plotting - the Case of J.D. Forbes’ to an audience of about 80 historians and mathematicians from many nations. To make the trip more interesting she travelled back by train (apart from Amsterdam – Newcastle by boat) passing through nine countries.
- Rosemary Bailey, Collin Bleak and Peter Cameron attended the *G2D2 (Groups and Graphs, Designs and Dynamics)* conference and summer school at the *Three Gorges Mathematical Research Center* in Yichang, China, from 12-25th August. Collin gave an invited lecture on ‘The beautiful simplicity of flawless vigorous groups’, while Rosemary and Peter presented a minicourse to PhD and Masters students on ‘Laplacian Eigenvalues and Optimality’. Before and after the conference, Rosemary and Peter visited Zhejiang University in Hangzhou, where Peter gave a short course on ‘Four precious jewels’, and Rosemary a short course on ‘Relations among partitions’. Collin attended a minisymposium on *Discrete Dynamical Systems* at Shanghai Jiao Tong University, where he spoke ‘On the interplay between the ‘chameleon’ groups  $G_{n,r}$  and the automorphism groups of bi-infinite full shift spaces’. The trip had eventful moments. Rosemary and Peter were confined to

their hotel in Hangzhou for two days by Typhoon Lekina, and after a visit to the famous Three Gorges Dam they found themselves sprinting through the car park of a fire station and climbing through a hole in the back fence in order to catch taxis to the boarding stage for a river cruise. Collin’s luggage was inadvertently sent on a round trip via the USA.



Conference participants on a river cruise in Xiling Gorge

- Isobel Falconer visited colleagues at the Cavendish Laboratory in Cambridge on 9-10th September, advising on next steps for their digital photo archive, and future development of the Cavendish museum.

### ***Public Engagement***

- On 11th September, Ineke de Moortel and Isobel Falconer addressed Bristol University's *Women in Maths Research* day, to around 30 sixth-formers (mainly female) and their teachers. Ineke spoke on 'My journey to professorship' and Isobel on 'Female mathematicians through history - known and unknown'.

### ***Next Issue***

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