

School of Mathematics and Statistics Newsletter

January 2017

Congratulations to ...

- Colin Millar, who successfully defended his PhD on “Gaussian Markov Random Fields and Structural Additive Regression”. Colin has been doing his PhD part-time, while holding down full-time jobs in Scotland, Italy and Copenhagen (in series, not parallel). Congratulations for persevering Colin!

Farewell to ...

- Ben Stevenson and Charlotte Jones-Todd at the end of 2016. Ben leaves to take up a lectureship at the University of Auckland in his home town, and Charlotte submitted her PhD just before leaving. We wish them the very best in Auckland and hope to maintain collaborative links. This ambition is helped by a Marsden Grant that Rachel Fewster (ex-St Andrews PhD student now at Auckland) holds, with David Borchers and Ben Stevenson as Co-Investigators.

Public Engagement

- Ineke De Moortel gave an outreach talk at the *Fifth Florence Nightingale Day* in Lancaster on 12th January on ‘Our dynamic Sun: Creating mathematical models to understand our local star’.
- Colva Roney-Dougal will be on *In Our Time* on Thursday 16th February at 9am and 9.30pm on BBC Radio 4. The topic will be Mathematics in the Golden Age of Islam, and the other guests will be Jim Al-Khalili and Peter Pormann.

Conferences and Visits

- Twenty PhD students from across the School attended the *Postgraduate Intra-disciplinary Mathematics Symposium (PIMS)* at The Burn, Edzell, on 20th-22nd January. Everyone gave a presentation on their research; special congratulations go to Han Yu and Michael Torpey who shared the prize for Best Talk. Thanks also to guest speakers Cicely Macnamara and former PhD student Nina Menezes, who spoke about life inside and outside academia.



Participants at the PIMS visit to The Burn

- The *School Research Day* took place on 16th January when staff and postgraduates from across the School presented talks on their research. Thanks are due to Ineke and Mark for organizing this very successful day.
- Magda Carr and David Dritschel attended the *5th Norway-Scotland Waves Symposium* in Oslo at the Norwegian Academy for Science and Letters from 9-10th January. Magda gave an invited plenary talk on the collision of mode-1 and mode-2 internal solitary waves and she also chaired a session. The meeting included a special session (and delicious banquet) in honour of John Grue's 60th birthday.
- David Dritschel visited the UK Meteorological Office on the 29th November and presented work on a potentially revolutionary approach to modelling clouds and moisture processes in the atmosphere. This approach stemmed from a small EPSRC supported grant in collaboration with colleagues in Leeds. We visited the Edinburgh Parallel Computer Centre on 19th January to discuss integration of our approach into a NERC-MetOffice community model called 'MONC'. This will enable researchers throughout the UK to explore the advantages of our new approach.
- Jean Reinaud gave a talk at the *Rotating Fluids* meeting at University College London on 6th January on the interaction between a surface jet and an internal dipole, the topic he illustrated during the School Research day.
- Colva Roney-Dougal and Markus Pfeiffer went to Bielefeld for a *Workshop on Permutation Groups: Methods and Applications* which also celebrated the 80th birthday of Bernd Fischer, who discovered many of the sporadic simple groups. Colva gave an invited talk 'Generating sets of finite groups' and Markus promoted his work with Chris Jefferson and Rebecca Waldecker. Former St Andrews students Alejandra Garrido (now a postdoc in Dusseldorf) and Scott Harper (now a PhD student in Bristol) were also there.
- Many CIRCA members took part in the workshop on Computational Mathematics with Jupyter (ICMS, Edinburgh, January 10-16th) <http://opendreamkit.org/meetings/2017-01-16-ICMS/> organised jointly by the OpenDreamKit and CoDiMa projects. Markus and Alexander gave talks, and everyone, including Steve, James, Chris, Michael and Wilf, participated in coding sprints.
- On 10th January Rosemary Bailey was one of several contributors to the session 'A Statistician's Delight' at the Royal Society of Edinburgh meeting celebrating the 100th birthday of David Finney. David, who attended the meeting, is Professor Emeritus of Statistics at the University of Edinburgh and formerly Director of the Agricultural Research Council's Unit of Statistics and a Past President of the Royal Statistical Society. His achievements in statistics include pioneering the development of systems monitoring drug safety and his influence on the monitoring system now in place has been enormous.



Here is the birthday cake at the David Finney meeting. Readers are invited to explain the properties of the array on the cake!

- David Borchers gave a plenary talk at the *South African Statistical Association Conference* in Cape Town in November, and a one day workshop on *Spatial Modelling Methods in Ecology* before the conference. He visited Cape Town again in January, to present a three day workshop on the same topic, with Janine Illian and Fabian Bachl (postdoctoral researcher on a joint EPSRC grant with the University of Edinburgh). The workshop was funded by an LMS grant for 'Mentoring African Research in Mathematics' and an EPSRC grant for developing Spatial Modelling Methods. David stayed on after the workshop to participate in a two-day workshop on acoustic survey methods in which new Statistics PhD student Stuart Burrell also participated.
- Janine was the Opponent at the PhD defence of Behnaz Pirzamanbein's thesis entitled 'Reconstruction of Past European Land Cover Based on Fossil Pollen Data, Gaussian Markov Random Field Models for Compositional Data' in Lund, Sweden, on 19th December. In Sweden the PhD defence is public and quite a big event. In addition to doing great work on spatio-temporal modelling, Behnaz became the first Iranian badminton player to qualify for both the Asian Games and the 2006 World Championship after the Iranian government agreed in 2005 to send women badminton players abroad for some limited tournaments. She currently plays badminton for Sweden.
- Ineke De Moortel and Paolo Pagano attended the *Solarnet-4* meeting in Lanzarote, 16-20th January. Ineke gave a talk on 'IRIS and SDO observations of coronal heating associated with spicules' and Paolo talk was entitled 'Contribution of coupling of Alfvén and kin modes to coronal heating'. Ineke also presented a poster on 'Coronal density structure and its role in wave damping in coronal loops' and chaired one of the conference sessions.
- Duncan Mackay attended an international workshop on *Global Magnetic Field Modelling* at the International Space Science Institute in Bern, Switzerland, on 9-13th January.
- Mike Todd visited the United States for 10 days in January: first to Fairfield, Connecticut, to work with Mark Demers on open systems, and then to Boston University where he gave a seminar on 'The stability of measures in interval dynamics' (a project he started while a postdoc in Boston, and which has taken 7 years to complete!).

Visitors

- Pierre-Philippe Dechant (York) visited Alexander Konovalov on January 12-13th. He gave a talk 'Root systems and Clifford algebras: from symmetries of viruses to E_8 and an ADE correspondence' and also took part in the first half of the Jupyter workshop at ICMS the following week.

Caption Competition

- No suggestions were received for captions for the photograph in the December Newsletter taken at the School Christmas lunch. Does this reflect the esteem in which the two staff members pictured are held?

Next Issue

- The next edition of the School Newsletter will be circulated in mid-February. 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.