

School of Mathematics and Statistics Newsletter

December 2018

Congratulations...

- to Jon Fraser and Rayna on the birth of their son Dylan Elias Fraser, on St Andrews Day, 30th November.
- to Tom Howson on successfully defending his thesis ‘Three dimensional MHD simulations of the dynamics and energetics of coronal flux tubes’ on 20th November.
- to Thibault Jougla on successfully defending his thesis ‘On the emergence and evolution of jets and vortices in turbulent planetary atmospheres’ on 3rd December.



Conferences Organised

- On 23rd-24th November the School hosted a workshop on *Mathematical and Astronomical Practices in Pre-Enlightenment Scotland and her European Networks*. The twenty-five participants from across Europe thoroughly enjoyed themselves, even though, given the weather, they frequently questioned how James Gregory had ever thought he could observe anything from St Andrews.

Visits and Conferences

- Jonathan Hickman visited the Université de Nantes from 3rd-7th December and gave a talk entitled ‘High dimensional Kakeya maximal estimates via polynomial partitioning’ in the *Séminaire d’Analyse*.
- Nik Ruskuc visited Robert Gray at the University of East Anglia, Norwich from 10-14th December to continue their collaboration on one-relator inverse monoids.
- Peter Cameron visited Vancouver for the *Canadian Mathematical Society Winter Meeting*, from 7-10th December. He spoke in a session celebrating the 70th birthday of Robert Woodrow, giving a ‘Synchronization update’. En route, he gave two seminars at Queen Mary, University of London, on ‘Trees, cycles and chocolate bars’ and on ‘Permutation groups and regular semigroups’.
- Veronica Kelsey and Nayab Khalid attended the *Graphs and Groups* meeting of the *Functor Categories in Groups* LMS joint research group at the University of Lancaster on 7th December. Nayab gave an invited talk entitled ‘Conjugacy and dynamics in rearrangement groups’.
- At the end of November, Lindsay Scott-Hayward gave an invited talk at the *MAR CET Knowledge Transfer Conference* on ‘Modelling cetacean distribution using remote sensed data’. This was at the Oceanic Platform of the Canary Islands, Gran Canaria and the day included listening to talks in Spanish (not Lindsay’s forté!) and a tour of the underwater unmanned vehicles lab.



Irrawaddy Dolphins – Photo: Cornelia Oedekoven

- Cornelia Oedekoven went to Vietnam to give a two-day introductory workshop on distance sampling and passive acoustic monitoring at the University of Science in Ho Chi Minh City. She also joined her collaborator in Vietnam to design and conduct a survey with for cetaceans (including the endangered Irrawaddy dolphins) in the UNESCO designated Kien Giang Biosphere Reserve.
- On 7th December, Rosemary Bailey and Richard Cormack attended the funeral of David J. Finney at Christ Church, Morningside, Edinburgh. DJ, as his colleagues referred to him, founded the Departments of Statistics at the University of Aberdeen (1954), and then, as Professor, at the University of Edinburgh (1966). He died on 12th November, just two months short of his 102nd birthday. Richard was his colleague for 16 years; Rosemary for a mere 2½ years.
Richard gave one of the tributes during the service. He stressed how DJ had always given his junior colleagues continuing positive encouragement. After the service, Rosemary was able to tell DJ's children that a paper of hers published a few days earlier cites four of DJ's papers.
- Janine Illian was an invited speaker at a workshop *Theory and Practice of SPDE Models and INLA* at the Université d'Avignon from 7-9th November, where she spoke on 'Point processes – abstraction and practical relevance'. She was also an invited speaker at the Scottish Crucible Forum at Heriot Watt University.
- Janine Illian chaired the defence committee of the PhD thesis of Mehdi Moradi, with a thesis 'Spatial and spatio-temporal point patterns on linear networks', in Castellón, Spain.
- Jean Reinaud was invited to give a seminar at the University of Leeds on 'Thomson's vortices in a three-dimensional quasi-geostrophic flow: a step further to understand the formation of patterns over Jupiter's poles' on 29th November.
- Helen Burgess gave an invited talk entitled 'Long frontal waves and dynamic scaling in freely evolving equivalent barotropic flow' in the *Applied Mathematics Seminar Series* at the University of East Anglia on 12th November.
- Thomas Neukirch visited the Birkeland Centre for Space Science, University of Bergen, Norway from 12-16th November 2018 to continue his research collaboration with Michael Hesse and his group. Whilst there he gave a seminar talk entitled '“Fast and furious” - Aspects of solar flare particle acceleration'.
- Patrick Antolin was invited to give a seminar at the *Astrophysics Research Centre (ARC)* of Queen's University Belfast on 21st November. His talk was entitled: 'Transverse wave-induced Kelvin-Helmholtz rolls in spicules'.

Grants

- Michael Papatomas and collaborators in Vietnam were funded to the value of £5,495 after submitting an application to the November 2018 SFC ODA GCRF (Scottish Funding Council - Official Development Assistance - Global Challenges Research Fund) call.
- Janine Illian received a Grant of \$437,000 from the Australian Research Council as part of the ARC *Discovery Project Rejoinders 2019 Scheme*, for a project 'Integrating Niches, Interactions and Dispersal in Species Distribution Models', jointly with Peter Vesk, Nick Golding and Yan Wang.

Future Events

- The School's *Research Day* will be held on Thursday 24th January. It will be a whole-day meeting with refreshments, and wine at the end. Members of the School should, if they have not already done so, submit a proposed title for a talk/poster to maths-dor@st-andrews.ac.uk, then a selection will be made and a schedule produced.

Other News

- The end of semester saw the first (in recent memory) staff-student chess match. Staff were represented by Collin Bleak, Daniel Chambers, Ashley Clayton, Andy Lynch, and Richard Scott. In total, 8 match games were played, with the final result Staff 3.5 : Students 4.5 (with the idea of maintaining student morale in the run up to exams). Thanks to all who participated and to those who dropped by to watch.



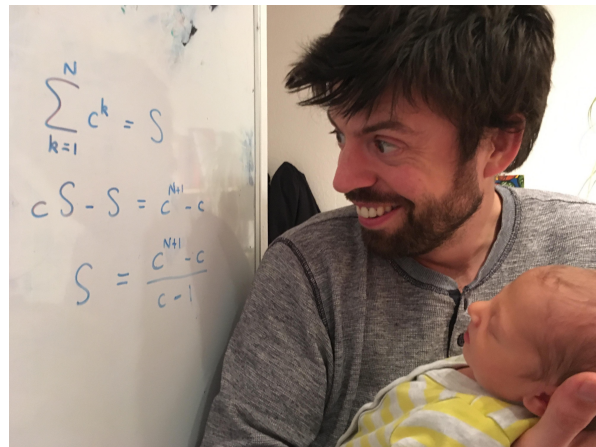
Collin Bleak playing Scottish Champion, Murad Abdulla

Caption Competition

- Captions are invited for this photograph. Send your ideas to schoolnews@mcs.st-andrews.ac.uk. The best suggestions may be included in the next Newsletter.

Next Issue

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



A Happy Christmas to all our readers (both of them)