

School of Mathematics and Statistics

Newsletter

September 2018

Welcome ...

- to Jim Belk who has joined us as a postdoc to work with Collin Bleak and Peter Cameron. James did his PhD at Cornell University and after a postdoc at Texas A&M University was an Associate Professor at Bard College in Annandale-on-Hudson in New York State.
- to our new research students: Luke Elliott, Simon Jurina and Veronica Kelsey in the Algebra Group, Callum Fairbairn in Solar Theory, Chiara Villa and Yun Xiao in Mathematical Biology, and Paul van Dam-Bates in Statistics.

Congratulations...

- to Patrick Antolin and his wife, Siew Fong, on the birth of their son, Samuel on 16th August in Dundee. Samuel is getting stronger every day and, alas, rapidly figuring out this crawling business. The cats still don't know what's going on and how such a little thing can be so loud.

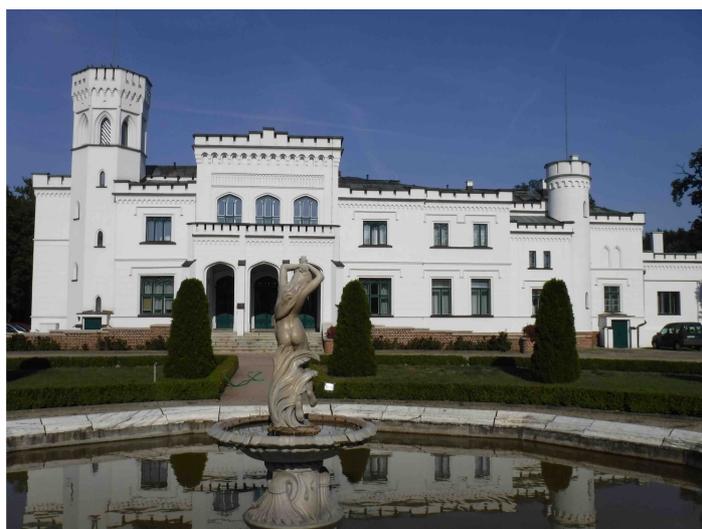
Visitors

- Masayuki Henmi from the Institute of Statistical Mathematics, Tokyo, visited Peter Jupp for 10-14th September for discussions on information geometry.

Visits and Conferences

- Peter Cameron, Adan Mordcovich, Martyn Quick and Colva Roney-Dougal attended the conference *Groups, Geometry and Representations* held in Oxford, 3rd-7th September, to celebrate the birthdays of Dan Segal and Aner Shalev. Colva and Peter were invited speakers at the conference.
- Peter Cameron attended the *8th Cracow Graph Theory Conference* in Rytro, Poland where he spoke on 'Graphs, groups and semigroups'; the conference excursion was a hike to the top of Przehyba at 1175 metres. He also attended a conference *From Permutation Groups to Model Theory*, for the 60th birthday of Dugald Macpherson, at the ICMS in Edinburgh where he spoke on 'Oligomorphic groups and their orbit algebras'.
- Jonathan Fraser and Stuart Burrell attended *Dynamics Days Europe* in Loughborough from 3rd-7th September. Jonathan gave a talk entitled 'Dimensions of limit sets of Kleinian groups' and Stuart one entitled 'A brief note on the dimension of inhomogeneous attractors'.
- Mike Todd visited Chile for two weeks in August. He spent most of the time at the Universidad Católica in Santiago, working with Godofredo Iommi and Aníbal Velozo, and he gave a talk in a *Dynamical Day*. He also gave a talk at the Pontificia Universidad Católica de Valparaíso.
- Mike Todd attended a meeting of the British Mathematical Colloquium (BMC) Scientific Committee on 10th September. This was his last meeting in a three year stint on the committee, on which he represented the St Andrews BMC 2018.
- Andy Lynch attended *Androgens 2018* in Edinburgh from 3rd-5th September. The conference dinner took place in the museum of pathology, with an array of skulls being some of the less off-putting items that were in line-of-sight during the dinner.

- David Dritschel gave a talk on ‘The moist parcel-in-cell model of atmospheric convection’ at the *Workshop on Moving and Adaptive Meshes for Global Atmospheric Modelling*, held at the Department of Meteorology at the University of Reading from 3rd-5th September.
- Ineke De Moortel attended the *BUKS2018* (‘Belgium UK and Spain’) meeting in La Laguna, Tenerife from 4-7th September. She was part of the scientific organising committee and presented a poster on ‘Propagating Coronal Disturbances in Sunspot and Plage Loops’. Then from 10-13th September, she attended the *Hinode-12* meeting in Granada where she gave an invited review on ‘Waves in chromospheric and coronal structures’.
- Tom Elsden gave a talk on MHD waves at the *STFC Advanced Solar System Plasma Physics Summer School* in Southampton on 11th September.
- Alan Hood was a member of a NASA grant panel on the *Heliophysics Guest Investigators-Open 2018 Call for Proposals*. It was interesting to see how different the panel’s duties were to the usual UK research council panels. The panel met each day from 8.00am to 6.00pm. We then had the evening to write draft responses that were discussed and rewritten the next day. An amazing amount of care was put into the panel’s response to the applicants with detailed reasons for the scoring given. The rather grand hotel had three golf courses, swimming pool, fitness and spa centre. Maybe we should have future School Council meetings in a similar venue!
- David Borchers was an invited speaker at the *International Conference for Snow Leopard Conservation* in Shenzhen, China, 3rd-6th September, and co-chaired the first meeting of the Technical Advisory Panel for the Population Assessment of the World’s Snow Leopards (PAWS), also in Shenzhen, on 7th September.
- From 3rd-6th September, Rosemary Bailey, Valentin Popov and Lindesay Scott-Hayward attended the *Royal Statistical Society’s Annual International Conference*. This was held in Cardiff’s City Hall, where participants found themselves in the company of such figures as Henry Tudor and Queen Boudicca (well, statues at least). On Tuesday Rosemary gave an invited talk on ‘Blocking in multi-stage experiments’. On Wednesday Valentin had the much harder task of delivering a rapid-fire talk on ‘Modelling reassurances of clinicians using hidden Markov models’. On Thursday Lindesay presented her poster on ‘Analysis of elephant carcass locations in Etosha National Park using the new, and improved, CReSS with SALSA model selection’.
- Rosemary Bailey and Peter Cameron attended *LinStat 2018*, the International Conference on Trends and Perspectives in Linear Statistical Inference which was held at the Mathematical Research and Conference Centre of the Polish Academy of Sciences in Będlewo from 20-24th August. Rosemary opened the conference with her talk on ‘Hasse diagrams as a visual aid for linear models and analysis of variance’. Peter organized a session on ‘Combinatorics with applications to experimental design’, in which he spoke on ‘Jordan schemes: relaxing associativity, keeping symmetry’.



The Będlewo Research and Conference Centre

Rosemary spent the following week at the Poznan University of Life Sciences, where she continued her research with Agnieszka Łačka and gave a seminar on ‘Treasure hunt: mistakes and wrong turnings in the search for good designs’.

- Cornelia Oedekoven travelled to San Diego, California in August to present the ‘Design of an eastern tropical Pacific (ETP) dolphin survey’ at two meetings: the *37th Meeting of the Parties to the AIDCP* (The Agreement on the International Dolphin Conservation Program) and the *93rd Meeting of the IATTC* (Inter-American-Tropical-Tuna-Commission).
- Isobel Falconer and Charles Paxton attended the *European Society for the History of Science Biennial Conference* held at University College London and the Science Museum from 14-17th September. Charles gave a lecture on ‘Giant gooseberries, the silly season and Conan the Barbarian: statistical patterns in reports of sea serpents over the last two hundred years’ and Isobel chaired a session on ‘History and foundations of mathematics and the idea of unity’.

Conferences Organised

- The 20th Postgraduate Group Theory Conference was held in St Andrews from 17-19th July 2018, organised by our postgraduate students Fernando Flores Brito, Mun See Chang, Nayab Khalid, Matt McDevitt and Adán Mordcovich. Tim Bailey, Raad al Kohli and Gerry O’Reilly also attended. Raad gave a talk entitled ‘An Introduction to Thompson’s Group V and coCF Groups’. Alexander Konovalov and the CoDiMa project organised a satellite GAP workshop on 16th and 20th July for participants interested in computational algebra. The after dinner speaker was Colva Roney-Dougal, who had many words of advice for early career researchers. Former St Andrews students Scott Harper, Horacio Guerra and Luke Jeffreys also attended and gave talks. This is the second time PGTC has been held in St Andrews, the previous occasion was in 2010.

Public Engagement

- The week 10-14th September was *Maths Week Scotland* and members of the School organised some events to mark this. In the Mathematical Institute, there was a Special Collections display of old mathematical texts paired with a lecture by James Threlfall ‘The mathematics of our sun’; this was particularly well attended by pupils from St Leonards College. We also offered local schools the opportunity to be visited by a staff member: Tom Elsdon visited St Ninian’s High School in Glasgow, where he gave a talk on ‘Applied mathematics in space - what can you do with maths?’ to around 300 pupils. Louis Theran gave a talk at Inzievar Primary School in Dunfermline and Jonathan Fraser spoke at St Leonard’s College.

Other News

- Two visiting Research Fellows in the History of Mathematics have been appointed for this academic year. Professor Antoni Malet from Universitat Pompeu Fabra, Barcelona, will be visiting in October and November and using books in Special Collections to examine conceptual change in 16th and 17th century mathematics. Professor Daniel Otero will be visiting from February to April, working on a book on teaching calculus from a historical perspective.
- In his role as School bookmaker, Mark Chaplain presented Lawrence Lee with the jackpot for the World Cup sweepstake, Lawrence having drawn the winners, France. He also presented Lawrence with a replica World Cup – see photograph.



- Chrissy Fell is looking for help with her PhD on automated detection of animals in aerial photography. If you have a few minutes to spare please use this online app to look at images and draw boxes around any animals you spot. The locations of the animals you identify are then used to test accuracy of algorithms for automated detection. Please note the app does not work on phones or tablets. <https://moniquemackenzie.shinyapps.io/WildlifeSurvey/>

Future Events

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

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 at any time but a reminder will be sent out a week before the deadline.