

# School of Mathematics and Statistics

## Newsletter

August 2018

### *Change at the Top*

- Grateful thanks to Thomas Neukirch for everything he has done for the School over the past three years as Head of School - we wish him the very best for his 'retirement'. We wish the new Head, Mark Chaplain, every success as he takes the helm - he is already making his mark (!) with his annotated emails!

### *Welcome ...*

- to Dr Ian Durbach, who is joining CREEM for a two-year research post working on statistical methods for monitoring snow leopard populations using camera traps with David Borchers, and for tracking whales from undersea hydrophones with Len Thomas and Catriona Harris.
- to Daniel Chambers, a new PhD student in the Solar and Magnetospheric Theory Group, who will be enjoying his birthday meal at *Mozza*. Thanks to all members of the School who helped us decide on the restaurant by a somewhat idiosyncratic process!

### *Congratulations...*

- to Lawrence Lee on winning the School World Cup Sweepstake, having had the good fortune to draw France. As he has not yet received his payout he is starting to wonder whether the organiser has embezzled the funds ...

### *Visitors*

- Nik Ruskuc hosted Peter Mayr from the University of Colorado Boulder from 28th July- 3rd August. Together with Martyn Quick they worked on subdirect powers of finite simple groups.

### *Visits and Conferences*

- Janine Illian was a keynote speaker at the *British Ecological Society Quantitative Ecology SIG 2018* meeting in St Andrews on 10-11th July. She also gave an invited talk on 2nd August at *JSM2018* in Vancouver in a session on 'Spatial Statistics – When Sampling is Informative'. Then she gave two invited talks at the *Workshop on Probability and Statistical Modeling, and Applications* in Smögen, on the west coast of Sweden, 13-16th August.
- David Borchers was a keynote speaker at the *Conservation Asia Conference*, held from 6-10th August at the American University of Central Asia, in Bishkek, Kyrgyzstan. David also presented a one-day workshop after the conference, together with Koustubh Sharma of the Snow Leopard Trust, on Spatial Capture-Recapture and Occupancy methods.
- Isobel Falconer spent 10 days in Brazil, attending the *International Mathematical Union General Assembly* in São Paulo followed by the *International Congress of Mathematicians* in Rio de Janeiro. At the General Assembly she was elected as one of two IMU representatives on the International Commission on the History of Mathematics. At the ICM she attended a range of lectures, including talks by the new Fields Medalists. In other news from the IMU, the next ICM will be in St Petersburg in August 2022, and from 2020 *Pi Day*, 14th March, will be branded the 'International Day of Mathematics'.

- For the past 18 months, Isobel Falconer has been acting as advisor on a project to catalogue and make available online historic photographs from the Cavendish Laboratory, the Physics department in Cambridge founded in 1874 by James Clerk Maxwell. The first tranche has recently been made public at <https://cudl.lib.cam.ac.uk/collections/cavendish> Isobel recently spent three days in Cambridge, co-supervising a summer student who is working on the next phase of the project.
- Collin Bleak was in Campinas, Brazil from 18-31st July visiting Francesco Matucci of Universidade Estadual de Campinas to work on a joint project. After that Collin gave a plenary lecture at the Geometric Group Theory in Campinas 2018 ICM Satellite Conference which ran from 28th-31st July.
- Nik Ruskuc visited Victoria Gould at the University of York from 13-17th August to work on their second paper on coherent semigroups.

### ***Conferences Organised***

- Patrick Antolin and Wei Liu (Lockheed Martin Solar and Astrophysics Laboratory) organised a session ‘Cool Material in the Hot Solar Corona (Prominences and Coronal Rain) and Non-solar Analogs’ at the *42nd COSPAR Scientific Assembly* (Committee on Space Research) at Pasadena, California from 14th-22nd July. The session took place over two days, with 12 solicited speakers and 49 oral and poster contributions. Patrick also gave a talk titled ‘Reconnection Microjets in the Solar Corona’. The session was a big success, benefiting from being strongly cross-disciplinary, with talks from solar, astrophysical, space and laboratory plasma physics communities, all around the topic of thermal and dynamic instabilities in plasmas.
- David Borchers presented a 4-day invited workshop on *Spatial Capture-Recapture Methods* with former St Andrews PhD student Joanne Potts, to biologists, ecologists and conservationists at the Keiran McNamara Conservation Science Centre in Perth, Australia.

### ***Public Engagement***

- On 24th July, Gui Bortolotto, Catriona Harris, Dave Miller and Charles Paxton ran a two hour activity for 17 international high school students attending the University ELT summer school. This revolved around estimating abundance of wildlife populations and demonstrating distance sampling.

### ***Other News***

- David Borchers was awarded a grant of £28,000 by the Snow Leopard Trust, for work to support an initiative to do the first range-wide *Population Assessment of the World’s Snow leopards* (PAWS): <http://www.globalsnowleopard.org/blog/2018/03/22/population-assessment-of-worlds-snow-leopards-to-be-launched/> David is also co-Chair of the PAWS Technical Advisory Panel.
- The Royal Statistical Society (RSS) has now given accreditation to the MSc programmes in Statistics, in Applied Statistics and Datamining, and in Data-Intensive Analysis. Although many of our undergraduate degree programmes have been accredited since 2003, this is the first time that we have sought accreditation for our postgraduate programmes. Through its accreditation scheme, the RSS seeks to ‘recognise excellence: reflecting your institution’s commitment to providing high quality learning, teaching and assessment’. Other benefits include providing students with a pathway to professional qualifications, starting with Graduate Statistician (GradStat).
- A new Postgraduate and Staff Tennis club has been formed, playing Thursday evenings at 6pm (changing to Wednesday once the semester starts) and often at the weekend. Contact Stuart Burell at [sb235@st-andrews.ac.uk](mailto:sb235@st-andrews.ac.uk) for more information.

## ***Future Events***

- Explorathon is our Scotland-wide celebration of research held between Saturday 22nd and Saturday 29th September 2018. At Explorathon, Arts, Humanities and Sciences researchers are all invited to participate and engage with our communities and with each other, with research conducted at the University of St Andrews.

There are many ways you can be a part of this festival, from visiting participating schools, bringing a short performance to the Byre or Dundee Science Centre, to setting up an interactive table-top activity at the research fair or teaser event. You can also participate in established events or assist behind the scenes in running the festival; the perfect opportunity for you to take your first steps in public engagement.

To find out more about Explorathon, or to submit a proposal for an event check out our website <https://synergy.st-andrews.ac.uk/publicengagement/explorathon/>, or for informal enquiries please email <mailto:standengaged@st-andrews.ac.uk>

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

## ***Caption Competition***

- The picture of Ineke's lecture in the July Newsletter attracted several caption suggestions including the following:

'So, the graph on the left shows the real-time data for in-play bets for the first 25 minutes of the game. The spike at 23 minutes corresponds to the goal that was scored which you see on the right. Damn, there goes my World Cup Sweepy...' MAJC

'... and in the figures we can clearly see evidence of waves. On the left, you see MHD waves and on the right the Mexican wave.' AWH

Ineke's lecture to the Royal Astrological Society on using sunspot patterns to predict football results. KJF



## ***Next Issue***

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