School of Mathematics and Statistics Newsletter

March 2021

Congratulations …

• to Paul Van Dam-Bates and Cheryl on the birth of their son Callum Charles on 11th February. Paul writes: 'He sleeps up to 3 hours at a time, which beforehand I would have thought would be way too little but given what we've heard from others this is actually very generous of a gift for us. Like most babies, he sleeps, eats, poos and cries and not too much else but it's been such an amazing first few weeks.'

• to Ineke De Moortel on her appointment as Assistant Vice-Principal Dean of Science from 1st March. Hopefully she will not completely abandon the sunny side of her activities!

• to Antonia Wilmot-Smith on becoming Deputy Head of School, whilst continuing in her role as Director of Teaching.

New arrival Callum

Farewell …

• to Rachel Cumberland who has been our School Manager since October 2019. Rachel is moving (presumably virtually to begin with) to the other end of town to become School Manager for the School of Philosophical, Anthropological and Film Studies and the School of Classics.

Welcome …

• rather belatedly to Katie O'Neill who is one of Andy Lynch's PhD students in Medicine. Katie started in the autumn and is looking at questions relating to the molecular biology of prostate cancer. Katie studied maths for her undergraduate degree, has family connections to the School of Maths here, and is doing some tutoring for us.

Virtual Activities

• David Borchers presented a seminar at the University of Cape Town entitled 'From earthquakes to tigers: Using a Hawkes Process to model "memory" in Spatial Capture-Recapture'.

• On 27th January, Steve Drasco gave a CREEM seminar on 'Sample Statistics of Gravitational Waves', describing gravitational waves in general as well as two example sources that he has worked on, focusing on the role of statistics. Anyone at St Andrews can see it at https://web.microsoftstream.com/video/0b729cc8-6e61-4861-a9cd-18fbe22229f1

• Rosemary Bailey and Peter Cameron attended the *4th Workshop on Algebraic Graph Theory and Applications* in Novosibirsk, Siberia, in the first week of March. Rosemary spoke on 'Substitutes for the non-existent square lattice designs on 36 treatments', and Peter on 'The Gruenberg-Kegel graph and graphs defined on groups'. Peter also contributed a problem to the Problem Session.

- Sophie Huczynska gave a talk entitled 'Algebraic manipulation detection and systems of sets in groups' to the *Joint Algebra/Semingroup Seminar* at the University of York on 10th March.

- Amlan Banaji gave an online talk entitled 'Intermediate dimensions and infinite conformal iterated function systems' on 1st March at the University of Warwick's *Dynamics and Group Geometry Early Researchers* (*DAGGER*) seminar.

- On 26th February, Kenneth Falconer gave the *Pure Mathematics Colloquium* at the University of Manchester with a talk entitled 'Intermediate dimensions'.

- Colva Roney-Dougal gave a talk at the *Africa Mathematics Seminar* on 10th February on 'Groups, diagrams and geometries'. She also gave a keynote talk at the IMA sponsored conference *Tomorrow's Mathematicians Today*, hosted by the University of Greenwich, on 'Random games with finite groups'. This conference was aimed at undergraduates considering a future research career in mathematics.

- Cornelia Oedekoven gave a Zoom talk at the *Rotary Club Westerwald, Germany* on what the work as a marine biologist/statistician is like nowadays. She also contributed a two minute video to the University *Science Discovery Day* on 6th March about the eastern tropical Pacific dolphin survey project - you can check it out on twitter: @CSOedekoven .

- Jon Fraser gave a talk entitled 'Fractals in nature and science' at the Scottish Mathematical Council (SMC) *One Day Conference for Mathematical Educators* on 6th March. Jon is a Council member of the SMC which aims to 'foster and improve mathematical education at all levels, and to encourage the advancement and application of mathematics throughout Scotland'.

- On 9th March, Fiona Macfarlane ran an outreach Teams event on 'Using maths to fight cancer' as part of the *First Chances Fife* programme for *British Science Week*. The session was attended by first year secondary school pupils and gave them an introduction to mathematical biology and its applications.

- Meredith Houlton participated in the online conference for postgraduates, *Research in Progress*, hosted by the British Society for the History of Mathematics on 27th February. She spoke about a table in a textbook *Elementa Geometriae* by William Sanders, our second Regius Professor of Mathematics, which was published in 1686 in Glasgow. The table shows where material from Euclid can be found in Sanders' textbook and provides the basis for a study of how Sanders navigated Euclid.

- On 22nd February, Isobel Falconer gave a talk at the *Oxford History of Mathematics Forum*, to an international online audience. Her title was 'Maths for Ladies at St Andrews around 1900'.

Other News

- David Borchers' grant from the Arcus Foundation www.arcusfoundation.org, to develop customised digital recorders and associated methods for acoustic surveys of gibbons, has had to be delayed by 6 months because 'chipageddon' http://www.forbes.com/sites/enriquedans/2021/02/25/how-we-got-to-chipageddon/?sh=49446d167f30 delayed recorder production and Covid-19 is preventing field testing.

- Andy Lynch has joined the programme committee for the *International Biometrics Conference* to be held in Riga, Latvia from 10-15th July, 2022. He should also be organizing an online meeting on *Inferring Causality from Time-course Gene Expression Data* later in the year.

Caption Competition

• No captions were received for the picture of a snowman in the February Newsletter. However, David Borchers contributed a picture of the snowman made by him and his wife which Niki Stalker has captioned 'If 2020 was a snowman …'.

Next Issue

• The next edition of the School Newsletter will be circulated in April. Items for inclusion may be sent to maths-news@st-andrews.ac.uk at any time but a reminder will be sent out a week before the deadline.