

SAMBa Newsletter

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Mongolian collaboration builds capacity in data science and policy development

In May, staff and students from Mathematical Sciences and SAMBa, along with representatives from Psychology and Economics, and the Institute for Policy Research travelled to Ulaanbaatar in Mongolia to deliver a workshop for 40 academics, government scientists, and industrialists. The workshop explored using data science to help inform and analyse the way in which air pollution relates to key sustainable development goals. SAMBa has been developing collaborations in Mongolia since 2015, and this was a fantastic culmination of much of that activity,



as well as a chance to enjoy some Mongolian culture.

Elizabeth Gray, from cohort 3 of SAMBa, said: "It was exciting to see how statistics plays a vital role in informing policy for 'real life' issues – in this case air pollution – and how important statistics are in making the case for real, positive change. It was also really cool to use the skills we've learned as part of SAMBa to help teach."

Excitingly, we have been awarded another £50K from the University of Bath's Research England GCRF grant to deliver a workshop in Bath with Mongolian collaborators, and EPSRC have awarded us £160K to return to Ulaanbaatar to build capacity in tackling more global development challenges.

Watch a film recorded during the workshop by our student Kevin Olding:

www.youtube.com/watch?v=T--OUHBgZKE

And read the full report of the workshop:

www.maths.bath.ac.uk/~ak257/FINAL.pdf

Unlocking efficiency in engineering processes at ITT10

Our 10th Integrative Think Tank took place in June with partners PepsiCo, who brought challenges around crisp design and manufacture, and AVL, who presented challenges on automotive propulsion and traffic management. Teams of students, academics and partner representatives worked on the reformulating these challenges mathematically and delivered a number of potential PhD projects. One will be picked up by cohort 5



student, Laura Oporto, who will explore the complex question of predicting when and where air pollution occurs from a statistical applied mathematics perspective.



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Engineering and Physical Sciences
Research Council

EPSRC Centre for Doctoral Training in Statistical Applied Mathematics at Bath

Our associated EPSRC Inclusion Matters project, Reimagining Recruitment, has begun. The project funds workshops (Collaborative Incubators) in STEM research around the UK. Collaborative Incubators are based on the

ITT model: participants are presented with a broad challenge and then work together in small groups of mixed expertise to develop the questions into research problems. The project is now accepting applications to run incubators.

If you would like to find out more, follow this link:

<https://www.bath.ac.uk/campaigns/get-involved-with-a-collaborative-incubator/>



We have recently re-shaped our Executive Team, making it smaller and more operational. Joining SAMBa-veterans Tim Rogers and Alex Cox are Matt Nunes and Silvia Gazzola. We are looking forward to working with them all!



The 3rd SAMBa conference took place in July, delivered by our student cohort. There were presentations from most SAMBa students and four invited speakers. Will Graham, one of the organisers said: "the conference was a fun and friendly way to get a taste of what SAMBa students are working on and engage with the partnerships the CDT has developed." The event was highly praised by those who attended, including many of our partner organisations.



This summer, we say goodbye to Melina Freitag, who is leaving Bath to take up a professorship at the University of Potsdam. Melina has been part of Mathematical Sciences since 2002 and has been at the forefront of shaping and delivering SAMBa since before we were even known as SAMBa. We will miss her and her passions for photography, football, and the EU, and cannot thank her enough for everything she has contributed to our success.

Congratulations to...

Dorka Fekete, who passed her PhD viva.

Malena Sabate Landman on securing a Santander Mobility Award to visit Georgia Tech in Atlanta.

Lizhi Zhang, awarded a Turing Enrichment Studentship.

Andreas Kyprianou and **Tim Rogers** on a successful EPSRC grant application with pathways to impact inspired by ITT6.

Silvia Gazzola, awarded a New Investigator grant by EPSRC.

Julian Faraway, **Andreas Kyprianou**, **Theresa Smith**, **Otgonbayar Uuye**, and **Susie Douglas** on two grants to continue Bath-Ulaanbaatar collaboration.

Matthias Ehrhardt on the award of a Leverhulme Early Career Fellowship.

Matt Griffith for winning best poster, and **Cameron Smith** for best talk at the SAMBa conference.

Anna Senkevich and **Lizzi Pitt** for securing internships at HSBC and Mango Solutions, respectively.

We are looking forward to welcoming our 6th cohort of students in September. They join us from Italy, Poland, China, Singapore, Germany, Spain and the UK and bring experience in aerial circus skills, triathlon, flute playing, food bank management, and taekwondo. In their first year they will explore the breadth and depth of statistical applied mathematics before moving on to individual research projects.



Coming up ...

5th - 9th Aug ITT de Mexico

9th - 20th Sep Health statistics training and research scoping workshop, Paraguay

23rd Sep Cohort 6 arrive

2nd & 9th Oct Cohort 5 MRes Transfer days

27th - 31st Jan ITT11 (with BT and CPPM)

We've been visiting: Beijing Institute of Technology · Beijing Normal University · Brunel University · Campus des Cordeliers · Centre International de Rencontres Mathématiques · Freie Universität Berlin · ICE Krakow Congress Centre · IFEMA (Madrid) · Imperial College London · National University of Mongolia · NEC Birmingham · Northwestern University · Novartis · PepsiCo · Phoenix Convention Centre · QEII Centre · Roche · Royal Society of Chemistry · Shanghai University · Sorbonne University · Université de Bordeaux · Université de Montréal · University of Cambridge · University of Exeter · University of Leeds · University of Nottingham · University of Warwick

For more details on these stories and to see how you can get involved, visit the SAMBa website: go.bath.ac.uk/samba



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