

January/February 2015 Newsletter Mathematics and Statistics

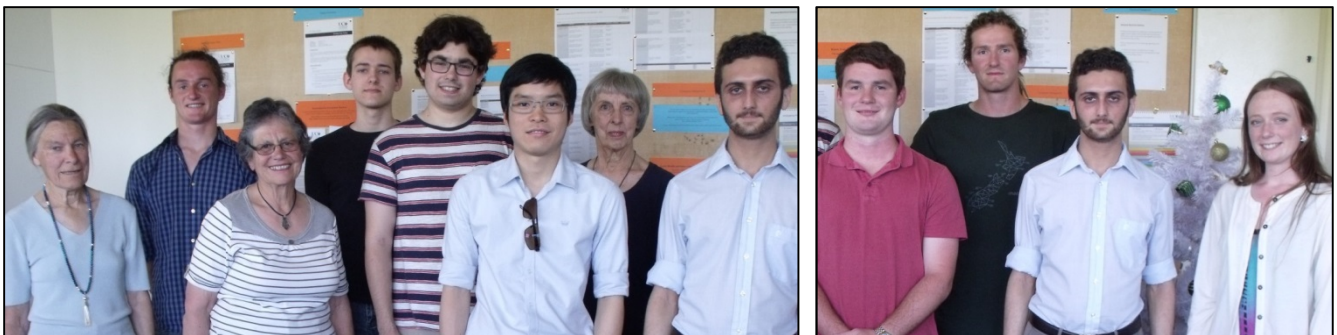
Welcome back to the New Year - 2015

I hope you all had a wonderful Summer and had time to enjoy this long spell of hot, sunny days. It has reminded me of what our great kiwi summers used to be like, with sun, hot sand and ice creams. I think that may be more about me looking back with fond memories than what really happened.

2015 is shaping up to be a great year. We have new staff - Daniel Gerhard arrived at the end of last year and Blair Robertson will be with us in May. We also have two current vacancies in Mathematics. The new Financial Engineering programme is up and running and students are already showing interest. Plans are also underway to tidy up some of the other programmes in the School. Student numbers are up from previous years with the large classes we teach moving into the super-large category. This year, we look to have a record number of Marsden applications being submitted. Overall, things are looking pretty good for the School in 2015, and I hope your year goes well.

- Jennifer Brown

2014 School Prizewinners



Congratulations to our 2014 School prizewinners and graduates seen here at our prizegiving/graduation function in December with prize donors Dr Sally Page, Mrs Gill Bryant and Mrs Anna Wilson. **Above left:** Dr Sally Page, William Jelley (joint 200-level Bryant Prize), Mrs Gill Bryant, Leon Friedrich (Page Prize), Matt Gordon (joint 100-level Bryant Prize), Kevin Chew (joint 100-level Bryant Prize), Mrs Anna Wilson, and Louis Warren (Wilson Prize). Prizewinners unable to attend were Carolyn Irons (Cook Prize), Yun-Hee Choi (Wily Prize), Clare Ford (Petersen Prize), and Ben Bolton (joint 200-level Bryant Prize.) **Above right:** Joining Louis Warren are graduands Robert Culling, Hayden Rabel, and Stephanie McGimpsey.

Erskine Fellow: Dr Magnus Bordewich

Welcome to Dr Magnus Bordewich from the School of Engineering and Computing Sciences, Durham University. Magnus was a Postdoctoral Fellow here in 2004 and returned for a 3-month stay in 2009. He is teaching in MATH103 and working with Summer students on projects related to combinatorial and algorithmic phylogenetics. He is hosted by Charles Semple and based in Erskine 607.



Professor David Wall to Retire This Year

David Wall will be retiring this year, after 34 years at UC. His last day will be 26 June 2015. David has been a valuable member of the School and, unless I have miscalculated, has been here longer than any of the current staff. He has an excellent research career and many students have benefited from his teaching. He has also been instrumental in shaping the School, especially during his time as Head. More personally, David is a good friend. There have been many times I have sought his advice about UC matters, raising children, and what tramping trips to go on. He is always very positive and I really enjoy spending time with him. None of us can keep up with his enthusiasm for the NZ outdoors and he is an inspiration to us all.

-Jennifer Brown

School Visitors

Visitor	University	Host	From	To	Room	Extn
Magnus Bordewich	Durham, UK	Semple	5/1/15	4/4/15	607	8875
Ina Deutschmann	Germany	Steel	25/1/15	29/4/15	616	8876
Elisa Kasbohm	Germany	Steel	25/1/15	29/4/15	616	8876
Simone Linz	Auckland	Semple	9/2/15	20/2/15	605	8028
Iosif Petrakis	Munich	M Mck-J	25/2/15	28/3/15	710	7694

Conferences and Visits

Successful Bid for BIRS Programme Workshop

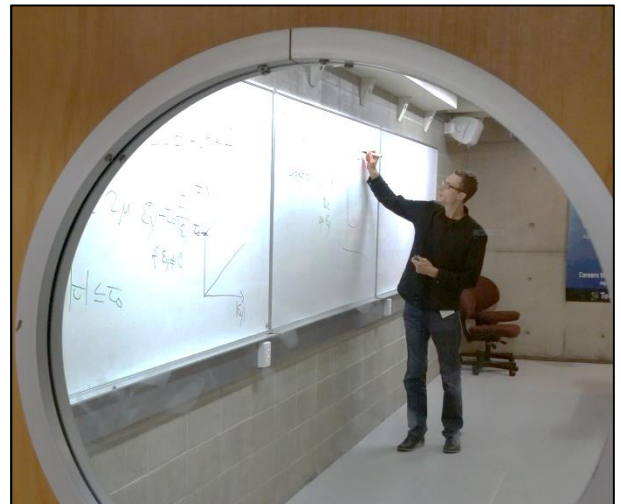
The Centre for Computable and Constructive Mathematics (CCCM) in the School of Mathematics and Statistics is part of a successful bid for a BIRS Programme Workshop in Oaxaca, Mexico. The conference is entitled *Interval Analysis and Constructive Mathematics*, and will be held from 13-18 November 2016. The official organizing committee comprises Douglas Bridges (UC), Vladik Kreinovich (UT El Paso), Baker Kearfott (Louisiana), Patricia Melin (Tijuana), and Helmut Schwichtenberg (Munich). Other participants from UC include Maarten McKubre-Jordens, Raaz Sainudiin, Hannes Diener, and Matt Hendtlass. The main work on the proposal was done here by Hannes, who did his usual fantastic job.

- Douglas Bridges

FiNZ 2015



Miguel Moyers-Gonzalez holding court!



PhD student Timm Treskatis presenting

Fluids in New Zealand (FiNZ) 2015 was held in the School from 28 to 30 January. FiNZ was created in our School, and this third edition was organised by Miguel Moyers Gonzalez (Chair), Mathieu Sellier, Jim Denier, and Phil Wilson. Over 40 attendees from universities, crown research institutes, and industry enjoyed three plenary lectures and 27 contributed talks, which revealed the diversity and importance of research in fluid mechanics. A non-comprehensive list of talk topics is forensics, aquaculture, boat design, medical therapy, food processing, agriculture, ecology, coating, wind turbine design, neonatal intensive care, nanotechnology, lab-on-a-chip, computer chip cooling, semiconductor manufacture, and fundamental science. FiNZ aims to encourage discussion of work in progress, and the mentoring and training of young scientists. The lively discussions and roughly 2:1 ratio of students to established researchers at FiNZ 2015 fulfilled these aims. The organising committee gratefully acknowledges the support of the Australasian Fluid Mechanics Society, the UC School of Mathematics & Statistics, and UC Mechanical Engineering.

- Phil Wilson

PhD Student Heading to SAS Global Forum Conference

Congratulations to Statistics PhD student Lisa Henley who has been selected to attend a prestigious international forum in Dallas, Texas, from 26 – 29 April. The forum is run by SAS, the world's largest statistical software company, which began at North Carolina State University as a project to analyse agricultural research. The demand for that software was such that SAS was founded in 1976 and now has clients in areas ranging from pharmaceuticals and finance to academia and government. The paper Lisa submitted for the forum discusses a genetic algorithm she wrote to reduce data prior to analysis, which was based on work she's done using SAS software. Her PhD research involves analysing New Zealand's position relative to the rest of the world in terms of human flourishing, or "national happiness." She says this is about sustainability and a "cultural shift in the way we measure progress and wellbeing in the long term." Lisa is supervised by Jennifer Brown, Marco Reale and David Conradson (UC Geography).



Courtesy of Tim David comes this shot of Mike Plank kayaking in Wanaka. Tim and Irene David came across him unexpectedly while they were biking along the river track with Jennifer Brown and her family.

Research Tip of the Month

Instead of going to a conference, why not spend some of your travel money visiting a colleague and working on some sums for a week or two? Personally, my own research has benefitted much more by visiting and working with colleagues rather than spending time listening to talks and socialising at a conference.

- Charles Semple

Papers Published

Farkas, K., Plutzer, K., Moltchanova, E., Torok, A., Varro, M.J., Domokos, K., Frost, F. and Hunter, P. R. (2015): *Serological responses to Cryptosporidium antigens in inhabitants of Hungary using conventionally filtered surface water and riverbank filtered drinking water*. *Epidemiology and Infection*. <http://dx.doi.org/10.1017/S0950268814003859>.

Fritz, S., See, L., McCallum, I., You, L., Bun, A., Moltchanova, E. et al (2015): *Mapping global cropland and field size*. *Global Change Biology* <http://dx.doi.org/10.1111/gcb.12838>.

Haq, A., Brown, J. and Moltchanova, E. (2015): *Hybrid Ranked Set Sampling Scheme*. *Journal of Statistical Computation and Simulation* <http://dx.doi.org/10.1080/00949655.2014.991930>.

Congratulations - Two Weddings and a Baby!



Congratulations to Steve and Phillipa Gourdie (formerly Williams) who were married on 30 January – a celebration the happy couple generously shared with the School staff.



Allen Witt turned heads at the Gourdie-Williams wedding when he dispensed with his usual shorts and sandals!



PhD students Naeimeh Abi (Statistics) and Amir Malek (Civil Eng.) planned to skype their home wedding for the benefit of their families in Iran. However, when the day arrived their internet connection failed, so they rushed into “Abi’s” office and married there – the Erskine Building’s first wedding!



Congratulations to PhD student Purvi Pancholy and her husband Paritosh Pancholy on the birth of their daughter Hilya, on 11 December 2014.

News from the Library

- **Library Liaison Officer for Mathematics and Statistics, Assoc. Prof. Marco Reale**
<http://bit.ly/1zwYHKa>
- New books: Librarians' Picks of the Month <http://canterbury.libguides.com/newbooks>
- New titles for Mathematics and Statistics <http://bit.ly/NVj1hV>; for Mathematical Statistics <http://bit.ly/MIS2WA>; new-titles-list generator <http://bit.ly/1brTI3E>

From the Web

1. There's More Than One Way to Be Good at Math (Pacific Standard) <http://bit.ly/1uPUMCX>
2. How to Wrap a Present with Mathematical Precision (and Waste Less Paper) (Mental Floss) <http://bit.ly/1G5GF2A>
3. Breakthrough Maths Live! (plus maths) <http://bit.ly/1wTUaD2>
4. Finding the Simple Patterns in a Complex World [fractal Fourier analysis] (ANU) <http://bit.ly/1ubQKFC>
5. Dürer's Polyhedron: 5 Theories That Explain Melencolia's Crazy Cube (The Guardian) <http://bit.ly/1sa3Q5u>
6. Fermi Problem Friday: Quantifying Miracles (Physics Buzz) <http://bit.ly/1s2PjOs>
7. On the Trail of an Ancient Mystery: Solving the Riddles of an Early Astronomical Calculator (NY Times) <http://nyti.ms/1y5g0T7>
8. Publishing: The Peer-Review Scam (Nature News & Comment) <http://bit.ly/1FlqKsO>
9. Breakthrough Prize Ceremony: Oscars of Science Honor Mathematicians, Life Scientists, Physicists (Slade) <http://slate.me/1vygFeK>
10. The Innovation Agenda [education reform and role of academics] (Inside Higher Ed) <http://bit.ly/1s518nj>
11. Creating the Future of Ebooks (Peer to Peer Review) <http://bit.ly/1uVZJv1>
12. Altmetric's Top 100: What Does It All Mean? (Scholarly Kitchen) <http://bit.ly/1J41y2q>
13. Time to Confront the Tyranny of Surveys (TEU) <http://bit.ly/1AloVsu>

And on the lighter side...

- Professor Bender's Kissing Goodbye Algorithm (Improbable Research) <http://bit.ly/1sajHRq>
- The Equation That Can Help Predict Zombie Migration Patterns (io9) <http://bit.ly/1uQ0zZ3>
- Saturday Morning Breakfast Cereal, 6 December 2014 <http://bit.ly/1xrzUJc>

John Arnold | Mathematics/Statistics Liaison Librarian
<http://canterbury.libguides.com/profile/JohnArnold>