A Retreat Weekend at the Cass University field station

On March 12-14, members of the School and their families enjoyed a retreat weekend at the Cass University field station. All our Erskine visitors came along and we all enjoyed a range of scholarly fare as well as some fresh air and plenty of Indian curry! Young and old delighted in various card games, and techniques to construct magic squares that Prof Ram demonstrated particularly captured some of the younger participants! Some had never held a rugby ball before, others played a round of golf at the local world-famous-in-Cass golf course*.*

–Clemency Montelle

New Research Cloud Computing Infrastructure for School's Scalable Data Science Programme

The Scalable Data Science course (STAT478 S1 2016) has 71 enrolled and observing students (with about 20 committed students who are completing homework each week) from five countries, including several faculty members and post-graduate students across five Departments/Schools at UC (including ours). The School has been granted a research shard, a highly scalable cloud-computing resource, under the Databricks Academic Partners Program and Amazon Web Services Educate. The research cluster at http://www.math.canterbury.ac.nz/databricks-projects can have up to 1000 nodes with 30GB of RAM in each. This allows any UC student or faculty, for example, to do topic modelling of the entire English Wikipedia in several minutes or allow for interactive spatio-temporal exploratory data analysis and modelling of all recorded earth-quakes on earth in near-real-time, etc (cost-free). The source for the course is publicly fork-able at https://github.com/raazesh-sainudiin/scalable-data-science) and is being used to inform data science and machine learning courses across three Universities in NZ and one in the UK.

–Raazesh Sainudiin

New Staff on Board

The School welcomes new staff members, Rachael Tappenden, Felipe Voloch and Lucia Youn on board.

Conferences and Visits

Hannes Diener: Travels to Germany and Sweden for the Corcon Exchange Programme and conference on 7-28 May 2016

Michael Plank: Banff International Research Station research workshop on Ion Transport: Electrodiffusion, Electrohydrodynamics and Homogenization, in Banff, Canada on 28 May – 5 June 2016

Raazesh Sainudiin: Travels to Stockholm, Sweden for Computational Set-valued Maths research under Corcon grant, 2 July-28 August 2016

Rachael Tappenden: Travels to Tokyo, Japan on 5-13 August 2016 for Conference on Continuous Optimization

Mike Steel: Travels to Calgary/Banff, Canada on 21-31 August 2016 as a co-organiser of a focused research workshop at the Banff International Research Station Mathematical Institute

Brendan Creutz: Workshop at the University of Auckland on 21 August 2016

Raazesh Sainudiin: Travels to Mexico, France and Israel for the Internal Analysis and Constructional Maths Conference, 11 November – 24 December 2016

The Feedback That Makes it all Worthwhile

Math 101 team received the following feedback from a grateful student:

"The resources available for this course are excellent. Very few of the papers I've ever done have been this well put together. I find the homework problems with corresponding (worked!!) solutions an incredible resource as I am very strongly a kinesthetic learner and this enables me to whiz through content. Keep doing what you're doing, and do it on other subjects ☺ "

LaTex Tutorial by MathSoc

MathSoc held a LaTex tutorial on 10 March sponsored by the School of Mathematics and Statistics. The tutorial was very successful with lots of students showing up and the pizza supplied by the department, thanks to Penelope for organizing, added extra delightfulness to the night.

MATH 199 Code-Breaking Evening

On Thursday 30th March, Jeanette introduced the MATH199 students to discrete mathematics. A brief talk was followed by a code-breaking contest. There were three codes – one easy, one hard and one tough. The easy one was cracked by most students during the evening, and they were rewarded with an Easter egg.   Many students were still working on the hard Caesar cipher when Liz made them go home at 7pm, well after class finishing time. Ross Shepard from Burnside emailed Liz just after midnight with his solution to the tough one, and so earned Lindt chocolate and a book on codes, the latter donated by Jeanette.

Liz Ackerlev

Papers Submitted

Sainudiin, R., Moyers-Gonzalez, M., & Burghelea, T.: *A nonlinear dynamical system approach for the yielding behaviour of a viscoplastic fluid,* Journal of Non-Newtonian Fluid Mechanics, 22 pages, 2016.

Papers Accepted

Sainudiin, R., & Veber, A.: *A Beta-Splitting Model for Evolutionary Trees*, The Royal Society Open Science Journal 2016/4, 20 pages 2016.

Papers Published

Popova, E., Moltchanova, E., Han, S.H., Saxena, P.K., Kim, & D.H.: *Cryopreservation of Prunus padus L.seeds: emphasising the significance of Bayesian methods for data analysis*, Canadina Journal of Forest Research, 2016.

Lesvi, M., Moltchanova, E., Schepaschenko, D. et al: *Comparison of data fusion methods using crowdsourced data in creating a hybrid forest cover map*, Remote Sending 2016, 8(3), 261.

Haq,A., Brown, J., & Moltchanova, E.: *Hybrid ranked set sampling scheme*, Journal of Statistical Computation and Simulation, 2016, 86 (1), 1-28

School Visitors

Visitor	University	Host	From	To	Room	Extn
John Hinde	NUI Galway	C Scarrott	19/02/16	10/04/16		
Wolfgang zu Castell	Helmholtz Zentrum Munich	R Beatson	19.02/16	21.05/16		
Krishna Ramasubramanian	Mumbai	C Montelle	27/02/16	28/03/16		
Tim Robinson	Wyoming	J Brown	08/07/16	26/08/16		
Huaxiong Huang	York, Toronto	P Wilson	10/07/16	10/08/16		
Thomas Forster	Cambridge Fellow	M Mck-Jordens	15/07/16	01/10/16		
Andrew Francis	West Sydney	M Steel	01/09/16	21/10/16		

News from the Library

- Library Liaison Officer for Mathematics and Statistics, Assoc. Prof. Marco Reale http://bit.ly/1zwYHKa
- 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. Andrew Wiles Wins Abel Prize! (plus.maths.org) http://bit.ly/21Eoiwv
2. Why Math? JHU Mathematician on Teaching, Theory, and the Value of Math in a Modern World (Johns Hopkins U) http://bit.ly/1R73ITC
3. The Importance of Advanced Physical, Mathematical and Biological Sciences to the Australian Economy [report] (Australian Academy of Science) http://bit.ly/1nNNiF5
4. On Teaching and Learning Mathematics [sub-blog on learning and teaching] (AMS) http://bit.ly/1T0Tkxw
5. Uni Maths Bar Set Too Low: Mathematicians (Scimex/Australian Academy of Science) http://bit.ly/1prtdEQ
6. A Conversation with the Accidental Mathematician (Blog on Math Blogs) http://bit.ly/1pZN2nx
7. There's a New Prime! And It Looks Like…Wait…What? (Blog on Math Blogs) http://bit.ly/20H8yKC
8. Contrasts in Number Theory (Scientific American Blog) http://bit.ly/1NOBdHL
9. The Unreasonable Usefulness of Imagining You Live in a Rubbery World (3quarksdaily) http://bit.ly/1WLc2xa
10. Blinded by Love [Edward Frenkel] (Inference: International Review of Science) http://bit.ly/1Lb4Pu0
11. Newtonianism for Ladies (3quarksdaily) http://bit.ly/1HREuXy
12. Mathematics: Logic and Lewis Carroll (Nature Books and Arts) http://bit.ly/213iiju
13. The Man Who Knew Infinity: A Mathematician's Life Comes to the Movies [Ramanujan] (IFLScience) http://bit.ly/1PUj9xy
14. Plato, Graphs, Vision and Another Anchor (Mathematics Rising) http://bit.ly/1N02GDL
15. Babylonians Tracked Jupiter with Sophisticated Geometrical Math (Ars Technica) http://bit.ly/1PQLwsD
16. Mathematics in Science Fiction (Cosmic Yarns) http://bit.ly/1LTHeSE
17. Probability and Statistics in Science Fiction (Cosmic Yarns) http://bit.ly/1YfLXDK
18. Solution: 'Creating Art With Mathematics' (Quanta Magazine) http://bit.ly/1NDmuAY
19. Why is the Universe Mathematical? (Cosmic Yarns) http://bit.ly/1XQPX0w

And on the lighter side...

- Math Professor Quotes http://bit.ly/1QrbRTI
- Good Mathematician vs. Great Mathematician (Math with Bad Drawings) http://bit.ly/1TQwJSk
- How Funny Is This Word? The 'Snunkoople' Effect (U Alberta) http://bit.ly/1Tp3Qxb
- How to Win at Mornington Crescent (plus.maths.org) http://bit.ly/1WLavHo
- Report Cards for Famous Mathematicians (Math with Bad Drawings) http://bit.ly/1m7Jr4w
- Math Used in Real Life (Reality Check) http://bit.ly/24Kibel

John Arnold | Mathematics/Statistics Liaison Librarian