

MATHEMATICS-PHILOSOPHY RETREAT 14-16 MAY



Another joint Mathematics-Philosophy retreat was held at the university's field station in Westport over the weekend of 14 -16 May. These retreats are held a couple of times a year and organized by Philip Catton (from Philosophy) and Clemency Montelle as a forum where students in Mathematics and Philosophy can exchange ideas. This time about 35 staff, students, visitors and assorted family members gathered for walks and talks.

Not being a night owl, I went to bed at 11pm on Friday night before the talks by Nick Duncan and Phil Catton had even started! On Saturday, we spent the daylight hours walking at Cape Foulwind (losing only one student to the stunning environment) and then at Charming Creek (where even the littlest tramper made it to the swing bridge and waterfall). As usual, the West Coast weather was perfect! Talks on Saturday evening were given between courses of our own-cooked feast, and more talks were squeezed into Sunday morning between lunch preparation and cleaning duties. Among the speakers were John Hannah (language and learning linear algebra), Raaz Sainudiin (incorporating non-traditional experimental theories into statistical models), Clemency Montelle (a Sanskrit table about eclipses), Glen van Brummelen from Canada (astronomy and the beginnings of trigonometry), Ed Mares from Wellington (relevance logic), Clare O'Connell (calculus using infinitesimals), and Joshua Black (Lakatos and whether formal logic reflects the way mathematics is really done). Seven year old Pierre Montelle also gave a 3-minute talk on robots! The weather held up for a visit to Punakaiki on the way home but was quite wet by the time one van ran out of petrol in Springfield!

- John Hannah

(More photos inside)

CORRECTION

We apologise for an error in the April newsletter regarding a grant from the Oticon Foundation (NZ website address www.oticon.org.nz). The funding should have read \$380,000, not \$30,000. The item should therefore have read as follows:

Jennifer Brown is an associate investigator on a grant from the Oticon Foundation in New Zealand, to investigate the prevention of hearing loss during ear surgery. Dr Greg O'Beirne from Communication Disorders is the principal investigator. The \$380,000 grant was announced in November 2009 so congratulations are rather belated. Jennifer is working with Tim Robinson, University of Wyoming, on new statistical techniques for the analysis of audiometric data. Tim will be visiting the Department in May.

CONGRATULATIONS!

Raazesh Sainudiin has accepted an invitation to present a 45-minute talk on his recent computational statistical research at the International Congress of Mathematicians' 2010 Satellite Meeting on Probability and Statistics. This research was supported by Departmental Research Grants from 2007, 2008 and 2009.

- Charles Semple

Congratulations to **Xin Zhao**, who successfully completed her PhD seminar and oral examination on Wednesday 12 May. Her thesis is entitled *Extreme Value Modelling with Application in Finance*.

Congratulations also to **Beata Fallner**, who successfully completed her PhD on Wednesday, 19 May. Titled *Combinatorial and Probabilistic Methods in Biodiversity Theory*, the examiners were most impressed with her thesis and the combinatorial proof she gave (with model) during the oral examination. Beata is currently finishing off some work before heading to Europe in June for a short-term position. Congratulations to Beata and all best!

- Charles Semple & Mike Steel



And congratulations to the following students who graduated in absentia last month:

FISCHER, Mareike	PhD	Mathematics
HARTMANN, Klaas	PhD	Mathematics
BENTLEY, Jason	MSc (Hons)	Statistics
CANDY, Timothy	MSc (Distinction)	Mathematics
HENDTLASS, Matthew	MSc (Distinction)	Mathematics
LIGHTFOOT, Ashley	MSc (Distinction)	Mathematics
CHEN, Xiangyin	MSc	Statistics
DAWBBER, James	BSc (Hons)	Statistics
NAZER, Mohammed	BSc (Hons)	Mathematical Physics
PAWSON, Jessica	BSc (Hons)	Statistics
SUWAN, Shakira	BSc (Hons)	Statistics & Mathematics

CONFERENCES & VISITS

Richard Brown: to give a talk entitled *Plant Population Spatial Spread and Persistence in the Presence of Random Habitat Fragmentation* at the Models in Population Dynamics and Ecology Conference (MPDE 2010) at the University of Leicester from 1-3 September, followed by a research visit to the University of York.

Alex James: to give a talk entitled *Optimal Foraging: Pattern vs Process* at the Models in Population Dynamics and Ecology (MPDE 2010) conference at the University of Leicester from 1-3 September, followed by a research visit to the University of York from 6-17 September.

Anna MacDonald & Carl Scarrott: to give a talk entitled *Semi-parametric Modelling for Extremes with Threshold Estimation* at the 25th International Workshop on Statistical Modelling (IWSM 2010), University of Glasgow, 5 – 9 July.

Miguel Moyers-Gonzalez: to give a talk entitled *Linear Stability Analysis of an Elastoviscoplastic Fluid with Internal Microstructure* at the 19th Canadian Symposium on Fluid Dynamics, University of Newfoundland, 17-20 July.

Gloria Teng: to present a poster entitled *Statistical Regular Sub-pavings for Multivariate Density Estimation* (Authors: Gloria Teng, Jennifer Harlow, Dominic Lee and Raazesh Sainudiin) at the 9th Valencia International Meeting on Bayesian Statistics and the 2010 World Meeting of the International Society for Bayesian Analysis (ISBA) in Benidorm, Spain from 3 – 8 June 2010.

NB: Gloria's extended abstract of this poster won the ISBA Travel Award of US\$1,000 for Junior Researchers. Congratulations, Gloria!

Phil Wilson: to attend a workshop on *Spreading Cortical Depression and Related Phenomena* at the Banff International Research Station in Canada from 1 – 8 August.

BOOK ACCEPTED

Bridges, D.S., & Vita, L.S.: *Apartness and Uniformity – A Constructive Development* (CiE series Theory and Applications of Computability, Springer Verlag, Heidelberg).

PAPER SUBMITTED

Brown, R.G. and Coope, I.D.: *A Fast Direct Method for Correcting Errors in Orthogonal Matrices using Generalized Cayley Transforms* (submitted to Linear Algebra and its Applications).

PAPERS ACCEPTED

Bridges, D.S. and Loeb, I.: *Glueing Continuous Functions Constructively* (with Iris Loeb), (Archive for Math. Logic)

Bridges, D.S. and Berger, J.: *A Constructive Study of Landau's Summability Theorem* (J. Univ. Comp. Sci., Proc. CCA 2009)

Harlow, J. & Sainudiin, R.: Accepted short communication on mathematical software entitled *A C++ Class Library for Statistical Set Processing* (International Congress of Mathematicians, Hyderabad, India, 19-27 August 2010).

Sainudiin, R. & Thatte, B.: Accepted contributed talk entitled *Exact Transition Probabilities of the Number of Ancestral Sample Lineages in the Discrete Ancestral Recombination Graph* (International Congress of Mathematicians' Satellite Conference on Probability and Stochastic Processes, Indian Statistical Institute, Bangalore, India 13-17 August 2010).

PAPERS PUBLISHED

Berger, J. and Bridges, D.S.: *Rearranging Series Constructively* (J. Univ. Comp. Sci. 15(17), 3160-3168, 2009).
(Did not appear until March 2010.)

Bridges, D.S. and Hendtlass, M.: *Continuous Homomorphisms from R onto a Compact Group* (Math. Logic Quarterly 56(2), 191-197, 2010).

Steinke, T. & Sainudiin, R.: *A Rigorous Extension of the Schönhage-Strassen Integer Multiplication Algorithm using Complex Interval Arithmetic* (Computability and Complexity in Analysis, CCA 2010, Electronic Proceedings in Theoretical Computer Science, EPTCS 2010, pp 149-157).

WELCOME TO OUR DEPARTMENT VISITORS

Visitor	Organization	Host	From	To	Room	Extn
Bruce Craig	Purdue University	R Sainudiin	11/1/10	11/7/10	607	8875
Harold Moyses (Research Student)	York University	A James	1/5/10	31/8/10	520	8916
Peter Olsson	Chalmers University	D Wall	26/3/10	30/6/10	607	8028
Glen van Brummelen (Erskine)	Quest University	C Montelle	26/4/10	29/5/10	605	8875
Celina Wong (Research Student)	York University	M Plank	10/5/10	27/8/10	514	8871
Tim Robinson	Wyoming University	J Brown	13/5/10	30/5/10	600	6686

MORE PHOTOS FROM THE MATHEMATICS-PHILOSOPHY RETREAT



