

Newsletter

Mathematics & Statistics

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CONGRATULATIONS!



Professor Douglas Bridges, a world authority on Constructive Mathematics, being presented with the 2011 University of Canterbury Research Medal, the University's premier research award, last December.



Dr Rachael Tappenden with PhD supervisors (from left) Bob Broughton, Peter Renaud and Ian Coope, on the occasion of her December graduation.

We wish Rachael well as she departs to take up a Research Assistant position at Edinburgh University.

Congratulations to Sanaa Bajri, who has been chosen as one of the Best Saudi Arabian scholars by the Ministry of Higher Education in Saudi Arabia. Sanaa completed her Masters last year and hopes to commence her PhD studies this year under the supervision of Clemency Montelle.

- Clemency Montelle

WELCOME TO OUR DEPARTMENT VISITORS

Visitor	University/Organization	Host	From	To	Room
Paul Wright	Austin Community College	C Montelle	04.01.12	17.05.12	tba
Ana-Maria Magdalena	NCRE Visitor	NCRE	09.01.12	30.09.12	tba
Iain Martyn	Simon Fraser Univ., Canada	M Steel	13.01.12	31.03.12	tba
Richard Law (Erskine)	York University	M Plank	15.01.12	24.04.12	tba
David Liberles	Wyoming University	M Steel	01.02.12	16.06.12	tba
Frank D'Amico (Erskine)	Univ. de Pau & Pays de l'Adour	J Brown	20.02.12	30.03.12	tba
Martina Gallenberger	Inst. Biomathematik & Biometrie	D Wall	25.02.12	25.03.12	tba
David Aldous	UC Berkeley	M Steel	27.02.12	02.03.12	tba

Welcome to Iain Martyn who is visiting Mike Steel until the end of March from the University of Vancouver, and to Associate Professor David Liberles from the University of Wyoming who is visiting both the School of Biology (under the Erskine scheme) and the Biomathematics Research Centre for four months.

- Mike Steel

Distinguished Visitor – Professor David Aldous

Towards the end of February, Probability Theorist Professor David Aldous FRS, from UC Berkeley (Statistics), will visit us. This will be the first time he has visited NZ and we will host him for the first week of his visit (27 February – 2 March). He plans to spend the second week hiking in the South Island.

Aldous's work ranges from Mathematical Probability to applications of Statistics in Biology, Finance, Physics and other areas. He has been awarded the Loeve Prize and the Rollo Davidson Prize and in 1994 was elected a Fellow of the Royal Society of London. A conference in his honour was held last year at the University of Provence.



I have asked him to present a talk during his visit entitled *The Top Ten Things that Mathematical Probability says about the Real World*, which should have wide appeal, including to first-year undergraduates. For further information on Aldous's visit, please contact Mike Steel.

- Mike Steel

PAPERS SUBMITTED

Bridges, D.S. and McKubre-Jordens, M.: *Solving the Dirichlet Problem Constructively* (submitted to the Journal of Logic and Analysis)

PAPERS ACCEPTED

Bui, H-Q., Duong, X.T. and Yan, L.X.: *Calderon reproducing formulas and new Besov spaces associated with operators* (Advances in Mathematics, 52 pages, in press, doi: 10.1016/j.aim.2012.01.005)

Faller, B. and Steel, M. (2012): *Trait-dependent extinction leads to greater expected biodiversity loss* (SIAM Journal on Discrete Mathematics)

Martin, B., Schillewaert, J., Steinke, G.F., Struyve, K.: *On metrically complete Bruhat-Tits buildings*. (Advances in Geometry)

Sober, E. and Steel, M.: *Screening-off and causal incompleteness – a no-go theorem* (British Journal for the Philosophy of Science)

Steinke, G.F.: *A family of flat Laguerre planes of Kleinwillinghöfer type IV.A* (Aequationes Mathematicae)

PAPERS PUBLISHED

Dress, A.W.M., Huber, K.T. and Steel, M. (2012): *'Lassoing' a phylogenetic tree I: basic properties, shellings and covers* (Journal of Mathematical Biology, in press)

Hordijk, W. and Steel, M. (2012): *Predicting template-based catalysis rates in a simple catalytic reaction model*. (Journal of Theoretical Biology 295: 132-138)

Martin, G.J. and McKubre-Jordens, M.: *Deformations with smallest weighted L_p average distortion and Nitsche-type phenomena* (Journal of the London Mathematical Society 2012; doi: 10.1112/jlms/jdr042)

Moulton, V. and Steel, M. (2012): *The 'Butterfly Effect' in Cayley graphs and its relevance to evolutionary genomics* (Journal of Mathematical Biology, in press)

Sanderson, M.J., McMahon, M.M. and Steel, M. (2011): *Terraces in phylogenetic tree space* (Science 333: 448-450)

CONFERENCES AND VISITS

Qui Bui has been invited to be a plenary speaker at the 23rd International Workshop on Operator Theory and its Applications. He has also been invited to join the Editorial Board of the *Journal of Function Spaces and Applications*.

During the week of 28 January- 3 February, the annual NZ Phylogenetics meeting will be held at the Marine Lab in Kaikoura. The conference, organised by Mike Steel and Charles Semple with assistance from Dietrich Radel, will bring together 50 participants selected from those who applied, with about half from overseas and half from New Zealand. This will be the 16th such meeting in the series, which rotates between different locations within New Zealand. For further details, see www.math.canterbury.ac.nz/bio/events/south2012/.

The following week, Raaz Sainudiin has organised a week-long workshop at the Cass field station entitled ABaCASS (Algebraic Biology at Cass). That week there will also be a four-day teaching workshop on phylogenetics at Otago University aimed at graduate students and organised by David Bryant.

DEPARTMENT CHRISTMAS PARTY

Thanks to Mike Steel and his team for organising a very enjoyable department Christmas party.

