Newsletter
Mathematics & Statistics

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

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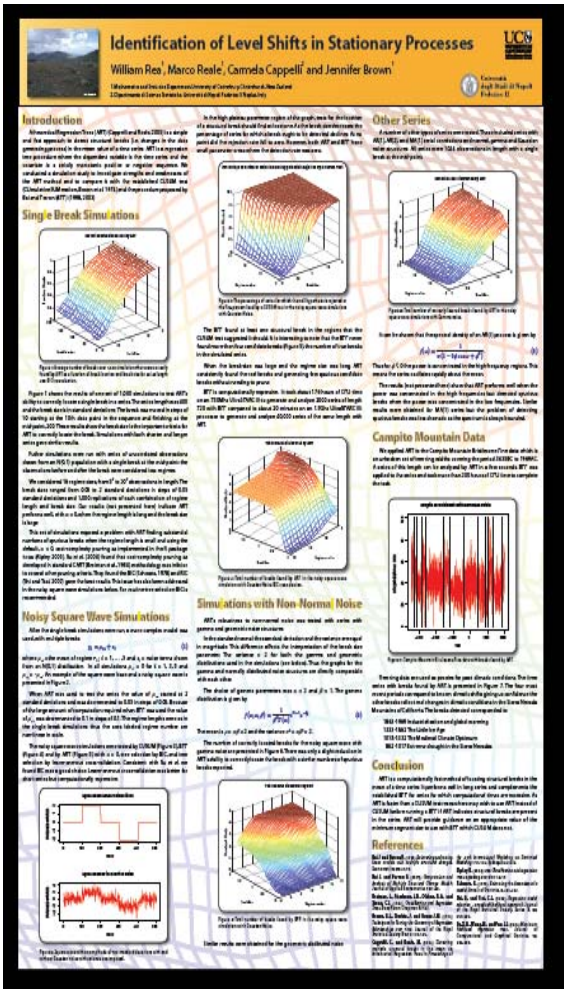
THIS ISSUE

David Wall

Welcome back to David Wall, who resumed his position as Head of Department at the beginning of August, following 6 months' sabbatical leave.

AN ADVENTUROUS POSTER (or The Adventures of Marco…..)





Bill Rea, Jennifer Brown and **Marco Reale** presented a poster wonderfully assembled by **Paul Brouwers** at the International Workshop on Statistical Modelling in Galway, at the beginning of July.

Marco volunteered for the taxing duty of flying to the other side of the world to give the presentation. However, on checking in at Christchurch International Airport he realized he'd left the poster in the carpark, so a friend was dispatched to find it. Then, at Changi Airport in Singapore, he lost the poster again…this time no luck…so he emailed Paul from the airport asking him to send the poster pdf file. The poster was then reprinted in Naples, courtesy of the University of Naples Federico II. Unfortunately, when Marco left Rome for Ireland, he lost the poster at Fiumicino Airport! The poster was finally reprinted in Galway, the day before the presentation.

The end of the story is that the Guinness was really excellent and Italy won the World Cup! Oh, and by the way, the poster won second prize at the conference poster competition! One of the three printed posters can be viewed in Marco's office.

(Marco Reale)

POST-DOCTORAL FELLOWS
Welcome to new arrivals **Charles Tadjeran, Britta Basse, and Erick Matsen,** who are joining our earlier 2006 arrivals, **Oliver Will** and **Josef Berger**.

PAPER ACCEPTED
Douglas Bridges & **Robin Havea**: *Powers of a Hermitian Element* (NZ J. Math)

PAPER PUBLISHED
Douglas Bridges, Robin Havea & Peter Schuster: *Constructive Banach Algebra Theory and the Nullstellensatz* (Math. Debrecen 69 (1-2), 171-184, 2006)

CONFERENCES & VISITS
Ben Martin reports that the Department recently hosted some visitors from the National Cryptography Institute in Indonesia for one afternoon. Their visit was sponsored by Christchurch company CES Communications, which makes cryptography devices. Lunch at the Staff Club was followed by tours of our computing labs, courtesy of **Steve Gourdie**, and the Derrick Breach Room.

William Rea will be presenting a paper on Long-time Memory Time Series at the NZ Econometric Study Group on 4-5 August 2006.

Arno Berger is due to participate in the workshop "Measurable Dynamics, Theory and Applications" in Canada fro 5-10 August 2006.

Jennifer Brown is visiting the University of Queensland at the end of August to present a seminar and to establish a joint research project with Cara Meurk and others in the School of Animal Studies at the Gatton Campus.

Qui Bui is going to the 50th Annual Meeting of the Australian Mathematical Society at Macquarie University from 25-29 September 2006.

Dominic Lee will be attending the International Conference of Biomedical Pharmaceutical Engineering in Singapore from 11-14 December 2006. His submitted paper is entitled *Developing hidden Markov models for aiding the assessment of preterm babies' health.*

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SOJOURN IN BRUNEI – by Prof. Graeme Wake

In the first week of June, Lil and I travelled to Brunei Darussalam, on the island of Borneo. We were guests at The Int'l Conference on Mathematical Modelling and Computation 06, one of a series of conferences being held to celebrate the 20th anniversary of the founding of their university.

Brunei Darussalam

This was my 4th visit to this tiny but oil-rich country of just 300,000 people. It was a small, friendly conference of 50 attendees aimed mostly at faculty and post-graduate students around SE Asia. Accordingly, in addition to the usual conference presentations, we were encouraged to present half- or whole-day workshops. Mine was in the area of "Mathematics in the Environment", some of which can be found on the web at:

www.stat.auckland.ac.nz/~ama/files/mathematics-in-the-environment.ppt

Plenary speakers included well-known applied mathematicians like Gil Strang (MIT), Andreas Dress (MPI, Germany - now Shanghai-based), and Bob Anderson (CSIRO, Canberra), as well as myself.

My first contact with Brunei was as Mathematics Advisor and External Examiner to the then new Department of Mathematics in 1991-93. Those three early visits led to two Brunei students coming to Massey, Palmerston North, in the mid-nineties to do Masterates in Applied Mathematics. Both these students subsequently obtained good PhDs. One, Norhayati Hamzah, finished her PhD with me in 2004 at the University of Canterbury. Both she and Sannay Mohammed, my other Masterate student, are now on the staff of the university in Brunei.

My main role this time was to elaborate on modes of possible development in Industrial (interpreted widely) Mathematics in the region. I had a subsequent meeting with the Minister of Development to discuss this in a smaller group. I was also fortunate to complete the writing of a joint paper with Norhayati.

The main conference excursion was a trip up the massive Brunei river through mangrove swamps and past some fascinating monkey colonies in the Borneo jungle, just over the watery border with Sarawak. What a difficult border to maintain with much travel between the two countries, due partly to the "liquor is forbidden" status of Brunei. We were not stopped from sailing because we were clearly non-Moslem visitors who were not going to land outside Brunei. On the way back we were treated to tea in the intriguing water villages, where many locals live. There is much more I could say about this beautiful country and its problems, one of the most notable being the indifference to rubbish and pollution. (The river was *****!!) By way of contrast, the conference dinner hosted by the Vice Chancellor was a posh affair with delicacies of local origin.

It was a great week that for both of us went all too quickly and we had a rude shock on returning at 4.00am to a 30-degree drop in air temperature. I recommend Brunei as a good stopover en route to destinations further afield. Brunei Air travels almost daily from Auckland, with one stopover in Eastern Australia. New Zealand is well regarded there and my poster information on New Zealand and Massey was uplifted very quickly.

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DEPARTMENTAL VISITORS

Welcome to the following Erskine Fellows:

Professor Stephen Gardiner, who hails from University College Dublin, will be with us for two months. He is lecturing part of MATH371 and giving a seminar on "Potential Theory of the Farthest Point Distance Function". Stephen is a Member of the Royal Irish Academy and serves on the editorial boards of the London Mathematical Society and "Potential Analysis". Until recently, he was also Irish co-ordinator of an EU research network on Analysis and Operators. His research interests are reflected in his monographs on Classical Potential Theory (Springer, co-author: David Armitage) and Harmonic Approximation (CUP) and he is beginning to explore connections between potential theory and quadrature domains. He is hosted by Qui Bui, on behalf of Neil Watson, and is based in Room 605.

Professor Jeremy Levesley is visiting for two months from the University of Leicester, where he is Professor of Applied Mathematics. Jeremy works in approximation theory and is visiting Rick Beatson to work primarily on preconditioning methods for radial basis function approximation. He will also be teaching first year students here and working, with the help of Qui Bui, on developing a self-learning course in wavelets and signal processing. Jeremy is in Room 724.

Professor Christian Robert is Professor of Statistics in the Applied Mathematics Department of Université Paris Dauphine and Head of the Statistics Laboratory of CREST-INSEE. He is also currently Joint Editor of the Journal of the Royal Statistical Society, Series B. He has written over 100 papers on Bayesian Statistics and computational methods and is the author or co-author of seven books on those topics. Professor Robert's reasons for visiting us are threefold: to collaborate with Dominic Lee**;** to teach applied Bayesian Statistics to an English-speaking audience prior to a related book project going to print; and to discover for himself the beauty of New Zealand. He tells us that so far everything has lived up to his expectations. Christian is based in Room 607.

Visitors	Name of Organization	From	To	Room	Extn
Dr John Holt	Massey University, Albany	15 Mar 2005	10 Apr 2007	502	7663
Dr Bhalchandra Thatte	Massey University	1 Apr 2006	1 Oct 2006	616	8876
Tobias Thierer	Auckland University	24 Apr 2006	10 Dec 2006	620	7431
Prof. Stephen Gardiner (E)	University College Dublin, Ireland	01 Jul 2006	31 Aug 2006	605	8028
Dr Inna Korchagina	Birmingham University	5 Jul 2006	11 Jul 2006	710	7694
Prof Christian Robert (E)	Université Paris Dauphine, France	8 Jul 2006	20 Aug 2006	607	8875
Prof. Jeremy Levesley (E)	University of Leicester, England	9 Jul 2006	14 Sep 2006	724	7691
Kate Lee	Q.U.T., Brisbane, Australia	31 Jul 2006	Mid-Aug 2006	607	8875
Prof. James Oxley	Louisiana State University, USA	7 Aug 2006	11 Aug 2006	724	7691
Prof. Geoff Whittle	Victoria University	7 Aug 2006	11 Aug 2006	724	7691