

Newsletter

Mathematics & Statistics

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THIS ISSUE

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5. Obituary – W W Sawyer

HoD NEWS

I have decided it might be a good idea to run an HoD column in the newsletter. I am really copying an idea from the HoDs in Chemistry and Physics, who have been doing this for some considerable time. As our newsletter appears only monthly it will be a bit long between items but it is worth trying, so here goes!

Academic Board this month had a number of items of interest, but the one involving the longest debate was the restructuring of the College of Arts – both its Departments and its Faculties. It will be of interest to see what changes actually take place. Talk to Ben or me if you wish to know more!

In the VC's report, he spoke of the new primary data centre on the Dovedale campus that will house all the significant University servers. This may mean that in future our local storage is taken out of our building and hands.

We had an excellent general audience seminar from Peter Smith last Thursday. I urge you all to give your support and attend the remaining seminars in this series.

The College of Science organised a student advice day on 21 May. Since enrolment has become such an automated process, there is some concern that we have lost the personal touch when it comes to giving advice to students. Thanks to Gunter Steinke, Phil Wilson, Mike Plank, John Hannah and Rua Murray for staffing a Maths/Stats desk all that day. Thanks also to Ben Martin, Clemency Montelle, John Hannah and Mike Plank for helping the College of Science by staffing a desk at the Careers Expo at Westpac Trust Stadium from 11-13 May.

David Wall

While we shiver in a Christchurch Winter ...



... Bob Broughton has a well-deserved holiday with family on the Caribbean island of Dominica. By the time this "goes to press", he'll be in Hong Kong, Heathrow's notorious Terminal 5 permitting, after visiting Barbadoes, England and the South of France, where by all accounts much goats' cheese and wine were consumed!

WELCOME TO OUR DEPARTMENTAL VISITORS (E = Erskine Fellow)

<u>Visitor</u>	<u>Organization</u>	<u>Host</u>	<u>From</u>	<u>To</u>	<u>Room</u>	<u>Extn</u>
Dr Tim Robinson	University of Wyoming, USA	J Brown	13/12/07	11/7/08	605	8028
Dr Robin Havea	University of the Sth Pacific, Fiji	D Bridges	1/2/08	11/7/08	605	8028
David Sutton	University of York	A James	1/5/08	15/9/08	616	8876
Prof Ron Christensen (E)	University of New Mexico, USA	C Scarrott	5/5/08	31/7/08	607	8875
Prof Christopher Bose	University of Victoria, Canada	R Murray	1/7/08	31/12/08	605	8028
Prof Horst Malchow (E)	University of Osnabrück, Germany	A James	1/9/08	2/11/08	607	8875
Prof Brian Sleeman (E)	University of Leeds, UK	M Plank	6/9/08	19/10/08	607	8875



ERSKINE FELLOW

Statistician **Ronald Christensen** is currently visiting from the University of New Mexico where he is a Professor in the Department of Mathematics & Statistics. His special fields of interest are Linear Models, Bayesian Inference, Log-linear and Logistic Regression Models and Statistical Methods. Ron is a Fellow of the ASM and IMS and an Associate Editor of *The American Statistician*. He is based in Room 607 and will be teaching in STAT391 and Stat446 during his time at UC. His host is Carl Scarrott.

CONGRATULATIONS to **Andrew Richens**, who has been awarded a Masters degree with Distinction.

CONFERENCES & VISITS

Jennifer Brown: to attend the International Statistical Ecology Conference at St Andrews, 9-11 July 2008 and the International Biometric Conference in Dublin, 13-18 July 2008. Talks entitled *Searching for an Environmental Weed* and *Estimating Uncertainty in Wildlife Population Estimates*.

Scott Graybill: to attend the European Conference on Mathematical & Theoretical Biology in Edinburgh, 29 June – 4 July 2008. Talk entitled *A Renal Feedback Mechanism*.

Michael Hayward: to attend the Celebrating Diversity Conference in Melbourne, 30 June – 3 July 2008

Mark Hickman: to attend the Foundation of Computational Mathematics Conference at City University of Hong Kong, 16-26 June 2008. Talk entitled *Maple 10/11 library exterior*.

Anna MacDonald: to attend the Australian Statistics Conference in Melbourne, 30 June – 3 July 2008. Talk entitled *Quantile estimation using extreme value mixture model with application to neonatal physiological measurements*.

Ben Martin: gave a talk at a meeting on Groups and Geometries at Oberwolfach in April. He also visited some collaborators in Bochum, Germany.

Marco Reale: to attend the 2nd International Workshop on Computational & Financial Econometrics (CFE '08) in Switzerland, 10-21 June 2008.

Carl Scarrott: to attend the 2nd International Workshop on Computational & Financial Econometrics (CFE '08) in Switzerland, 10-21 June 2008. Talk entitled *Quantile estimation using extreme value mixture models*. Also, the RSS Workshop of the Environmental Statistics Study Group in the UK, 24 June. Talk entitled *How should we quantify uncertainty in climate predictions?*

Phil Wilson: invited by the RIKEN Institute in Japan for 3 months to work on their Research Program for Computational Science in the Integrated Living Matter Simulation Group, Organ/Whole Body-scale Research and Development Team, October 2008-January 2009.

PAPERS SUBMITTED

P L Wilson & J Meyer: *A spring-dashpot system for modelling lung tumour motion in radiotherapy* (Computational and Mathematical Methods in Medicine)

PAPERS ACCEPTED

Bradley B A, Lee D S, Broughton R & Price C: *Efficient evaluation of performance-based earthquake engineering equations* (Structural Safety, 2008)

PAPERS PUBLISHED

R Loewen, E Soyuturk & G F Steinke: *Blowing up points and embedding flat stable planes in the non-orientable compact surface of genus one* (Topology and its Applications 155, 1041-1055, 2008).

Matsen F A, Mossel E & Steel M: *Mixed-up trees: the structure of phylogenetic mixtures* (Bulletin of Mathematical Biology 70 (4), 1115-1139, 2008).

Steel M & Rodrigo A: *Maximum likelihood supertrees* (Systematic Biology 57 (2), 243-250, 2008).

Thatte B & Steel M: *Reconstructing pedigrees: a stochastic perspective* (Journal of Theoretical Biology, 251 (3), 440-449, 2008).

Fischer M & Steel M: *Expected anomalies in the fossil record* (Evolutionary Bioinformatics Online 4, 61-67, 2008.)

Thierer T, Bryan D & Steel M: *Counting ancestral reconstructions in a fixed phylogeny* (Annals of Combinatorics 12, 123-132, 2008)

Faller B, Pardi F & Steel M: *Distribution of phylogenetic diversity under random extinction* (Journal of Theoretical Biology 251, 286-296, 2008).

Gill J, Linusson S, Moulton V & Steel M: *A regular decomposition of the edge-product space of phylogenetic trees* (Advances in Applied Mathematics, 41, 158-176m 2008).



Organ Mountains over cotton fields, New Mexico, courtesy of Douglas Bridges, who is currently on a research and conference trip to the USA.

OBITUARY – W W SAWYER

Walter Warwick Sawyer, who lectured at Canterbury College from 1951-1956, died recently in Canada at the age of 97. His death follows that of Professor Derek Lawden, who was head of this department from 1957-1967. Sawyer went on to become Professor to both the Departments of Mathematics and Education at the University of Toronto from 1965 until his retirement in 1976.

Sawyer, who made a major contribution to mathematical education, published his first and most successful book *Mathematician's Delight* in 1943, with the intention of dispelling the fear of mathematics.

"Many people regard mathematicians as a race apart, possessed of almost supernatural powers. While this is very flattering for successful mathematicians, it is very bad for those who, for one reason or another, are attempting to learn the subject."

Thanks to Sawyer's practical approach to the subject, this book has been one of the most successful introductions to mathematics ever written and has been in continuous print since its publication. It tackles algebra, graphs, logarithms, trigonometry, calculus and imaginary numbers, all with real-life examples.

Sawyer's philosophy was that the theory of mathematics is not as important as its real-life application. In a subsequent book, *A Concrete Approach to Abstract Algebra*, he explains how practical examples are the key to setting up a mathematics course:

"In planning such a course, a professor must make a choice. His aim may be to produce a perfect mathematical work of art, having every axiom stated, every conclusion drawn with flawless logic, the whole syllabus covered. This sounds excellent, but in practice the result is often that the class does not have the faintest idea of what is going on." ... "Even though they follow every individual deduction, they cannot think effectively about the subject. The framework is lacking; students do not know where the subject fits in, and this has a paralyzing effect on the mind."

Other books by Sawyer:

- *Prelude to Mathematics* (1955)
- *What is Calculus About?* (1961)
- *Introducing Mathematics* (1964)
- *Vision in Elementary Mathematics* (1964)
- *A Path to Modern Mathematics* (1966)
- *The Search for Pattern* (1970)
- *An Engineering Approach to Linear Algebra* (1972)
- *A First Look at Numerical Functional Analysis* (1978)

(Source: Plus Magazine)



More dramatic scenes from Las Cruces, New Mexico – Douglas Bridges