

MATHEMATICS AND STATISTICS

NEWSLETTER

May-June 2007

WELCOME

- Welcome to Professor A Sri Ranga from the Universidade Estadual Paulista in Brasil who is here for three weeks to work with John McCabe. As many already know, Ranga was a postgraduate student here from 1980 to 1983 and in 1993 he returned for one year on research leave from his university. Ranga's colleagues in Brasil include Cleonice, who studied for her Ph.D here in the late nineties, and Eliana, who spent a research leave year here just a few years ago. Ranga's visit is supported by a grant from the Edinburgh Mathematical Society.
- Welcome to Madhuchhanda Bhattacharjee, who joined the School as a Lecturer in Statistics on 1st July. Madhu previously held a lectureship at Lancaster. Her research interests include Bayesian integrated modelling of genetics data, modelling heterogeneous data and statistical inference for stochastic processes.
- On 1st September, we welcome Janine Illian to an RCUK Fellowship in Statistics. Janine joins us from Aberdeen, where she currently has a research and consultancy post in the biology department. Her research interests are in spatial point processes and in biodiversity monitoring.

CONGRATULATIONS

- Congratulations to Sophie and Tom on the birth of their son, Magnus, who was born on 25 June weighing 7 pounds, 7 ounces.
- Congratulations to our recent graduate, Andrew Stewart, for winning the Institute of Mathematics and its Applications (IMA) Prize for the best applied mathematics undergraduate project of the year in a Scottish university. His MMath Senior Honours project "Euler vs Lagrange" compared

the two different numerical approaches to studying fluid flow. As well as receiving a prize of 100 and an inscribed quaich, Andrew will get a year's free membership of the IMA and the possibility of publishing a summary of the project in their journal 'Mathematics Today'.

- Carl Donovan started his Lectureship in Statistics on 1st June, following completion(?) of the large BAe contract that has kept him occupied in recent years.
 - David Borchers starts his Readership in Statistics on 1st August, with a remit to establish a research group to develop fisheries assessment methodologies.
 - Congratulations to Tiago Marques who successfully defended his PhD "Incorporating Measurement Error and Density Gradients in Distance Sampling Surveys". The work was jointly supervised by Steve Buckland in St Andrews and Dinis Pestana in Lisbon; David Borchers was the internal examiner and Hans Skaug from Bergen was the external. Luckily for us, Tiago has agreed to stay on as a postdoc, extending his PhD work into the field of passive acoustics in collaboration with Len Thomas (see below).
 - Congratulations to Len Thomas on being awarded a US\$1.5million grant by the US National Oceanographic Partnership Program (NOPP) to lead a team studying the estimation of whale density from fixed undersea hydrophones. NOPP grants are fiercely competitive, so we were particularly pleased to be chosen for funding. The project will run for 3 years and is joint with researchers at several US governmental and academic institutions. David Borchers and Steve Buckland will be collaborating on the work, Catriona Stephenson will be the project manager, and Tiago Marques will be a full-time postdoc. Anyone who wants a taster of the sounds whales make can browse to <http://www.voicesinthesea.org>
 - On Cup Final weekend (of the English variety) twenty six and a bit (appropriately) years ago a current member of the Applied Mathematics Division ran a marathon in well under four hours, an event that has just been repeated. This year though the runner had to contend with the distraction of beautiful scenery on a course that encircled Lake Windermere, rather than the immediate surroundings of a then unopened motorway in Solihull! Congratulations to our stand-in Newsletter Editor, Ineke.
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MISCELLANEOUS

- Colva Roney-Dougal gave a talk '81 Squares, 36 Officers and 1 Dead Language' and presented the prizes (of certificates and mugs) at the award ceremony for Scottish Mathematical Challenge in Dundee. For anyone unfamiliar with it, Scottish Mathematical Challenge is an annual competition for pupils in Scottish secondary (and final year primary) schools, requiring the solution of more challenging problems than encountered in normal class work. Our School has always played a significant part in helping run this competition and Kenneth Falconer will be taking over as Eastern Region organiser next year. Kenneth will be glad to hear from any member of the School who might be willing to help out with the marking for next year's Challenge - this is a good way to do something to support mathematics in the local community. (Typically marking involves about two or three batches in the year which take at most two hours per batch.)
- Kenneth Falconer was a member of the jury for a PhD defence at Universite Paris XII, where he just about coped with asking a few questions in broken french at the public defence.
- Alex Craik and his wife Elizabeth were back in Japan during 4th May to 5th June. Alex was a member of a five-person panel to assess the Research Institute for Mathematical Sciences at Kyoto (where he previously spent a considerable time as a visiting researcher). He also gave a mathematical-historical lecture and Elizabeth gave a lecture to the Classics students. There was time to meet many former Kyoto colleagues and associates and to visit old haunts. The second half of the trip was spent in Nara and Tokyo. In the latter, Elizabeth lectured and attended the annual meeting of the Classical Society of Japan, and Alex was given a guided historical tour of the Hongo campus of Tokyo University by Professor Kambe, recently retired professor of physics.

SEMINARS, LECTURES, RESEARCH VISITS

- Irena Vorgul and Alan Cairns attended the 34th European Physical Society Conference on Plasma Physics in Warsaw on 2nd-6th July and presented posters on their work.

- Alan Hood gave three lectures at the European summer school, “4th JET-SET Summer School, From models to observations” from 27 to 28 June on the island of San Miguel in the Azores. If that wasn’t enough, he then examined a PhD student in Porto on 29 June. Highlight of the trip has to be the airlines losing his luggage not once but twice in Lisbon airport.
- Ruth King recently visited the Central Science Laboratory in York, where Helen Owen, a past MSc student in Statistics from the University of St. Andrews is currently working. During the visit Ruth presented a talk on “A Bayesian Study of Ornithological Surveys”.
- From 24 - 29 June, Magda Carr worked at the University of Cambridge, Mathematics Dept as a lab demonstrator on their “Advanced computing and simulation: Rayleigh-Taylor and Richtmyer-Meshkov Instabilities”
- Michelle Murray gave contributed talks at UKMHD 2007 (Newcastle University, 7th/8th June) titled “Emerging complex subphotospheric fields” and FEW 2007 (St Andrews University, 12th-15th June) titled “Reconnection of flux tubes below the surface of the sun”. From 20th-29th June she was at the Instituto de Astrofísica de Canarias (Tenerife) collaborating with Prof. Fernando Moreno-Insertis. While there she was invited to give a seminar to the solar group titled “Modelling emerging flux”.
- Steve Buckland was an instructor on a workshop on biodiversity analysis at Belo Horizonte, Brazil, in June. This workshop was under the Tropical Ecology, Assessment and Monitoring programme of Conservation International, a half-billion dollar programme for monitoring biodiversity in rain forests around the world.
- Peter Jupp spent the last week of June in Estonia, attending the 8th Tartu Conference on Multivariate Statistics, at which he gave a talk on “Uniformity in directional statistics: data-driven tests and free-lunch learning”. After a brief stop in St Andrews, he spent the first week of July in Aarhus, discussing quantum statistical inference.
- Thomas Neukirch visited the Max-Planck-Institute for Solar System Research in Katlenburg-Lindau, Germany, from 18 June 2007 to 23 June 2007 to continue his ongoing collaboration on magnetic field extrapolation with Thomas Wiegmann, Bernd Inhester and Peng Ruan.
- Len Thomas attended the 2nd Intergovernmental Conference on The Effect of Sound in the Ocean on Marine Mammals in Lerici, Italy, where he

gave an invited talk on "New methods for estimating marine mammal distribution, density and abundance." Lerici is a lovely seaside resort on the Italian Riviera and the conference was held in a beautiful mansion house set among olive and lemon groves. Unfortunately, it was only 5 days long, but there was an opportunity to explore the adjacent Cinque Terre national park on the last afternoon, before departing for cold, fog-bound Fife.

- Stephane Regnier visited the Institut d'Astrophysique Spatiale (Orsay, France) from May 16 to June 1 to work on a project supported by the national Sun-Earth Connection Program. Stephane gave an invited seminar at the University of Glasgow on May 18th entitled "Halloween events 2003: what a party!" He also attended the 4th NLFFF workshop held at the Meudon Observatory (France) from 12-14 June.
- Kenneth Falconer made a flying visit to St Petersburg to coincide with the end of the Euler 300th anniversary celebrations. The main purpose of his visit was a management meeting relating to the three major Russian journals which are published in translation by the London Mathematical Society. The meeting was held at the recently refurbished Euler Institute, where a newly unveiled bust of Euler is surrounded by $V-E+F=2$ spelt out in flowers. Kenneth found himself negotiating with a Russian delegation consisting of four Members of the Russian Academy of Sciences (including a Vice President and a Fields Medalist).
- Ineke De Moortel gave an invited talk, entitled "Coronal Loop Seismology: a brief overview", at the 24th NSO workshop at Sac Peak, New Mexico (17 - 20 April). She also attend the annual UKMHD meeting in Newcastle (7-8 June) and the first Heliophysics Knowledge Database workshop in Brussels (20-22 June), where she have an invited review on "Longitudinal Loop Oscillations".

NEXT ISSUE

Please send material for the next Newsletter to: mcsupdate@mcs.st-and.ac.uk