

# MATHEMATICS AND STATISTICS

# NEWSLETTER

September - October 2007

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## WELCOME

- Welcome to Janine Illian, who started her RCUK Fellowship in Statistics on 1st Sept. Janine joins us from Aberdeen, where she held a research and consultancy post in the biology department. Her research interests are in spatial point processes and in biodiversity monitoring.
- Welcome to Dibyendu Nandi from Montana State University who visited the Solar Group from 17th September to the 13th October. Dibyendu is an expert in the area of Dynamo theory and has more recently worked on solar observations measuring the twist in active regions.
- Welcome to Anna Lisa Restante, David MacTaggart, Ruth Carr, Cicely Macnamara, Keith Grady and Alexander Russell, the Solar Group's new PhD students. Anna Lisa is funded by the SOLAIRE Network and will spend her first year in St. Andrews, will move to Paris for her second year and then return to St. Andrews for her third year. Ruth graduated in 2005 and did Postgrad courses in Manchester and Cambridge before coming back here. Cicely, Keith and Alex all graduated this summer. Keith and Cicely will be sharing an office with Nick and Nasser (room 222) and Ruth and Alex will be sharing with Dee and Lynsey (Room 225). Anna Lisa is sharing an office with Anthony and Graeme (room 224).
- Welcome to Guillaume Aulanier (Paris), who visited the Solar Group from 29th October till 2nd November and gave a seminar on "Slip-running reconnection in quasi-separatrix layers".

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## CONGRATULATIONS

- Many congratulations to Ruth and Stuart on the arrival of Alexander King, born 8.06pm on Thurs 20th September weighing 7lbs 7oz and 53 cm long.

- Also many congratulations to Chris and Ailsa Lynam whose daughter Harriet was born at home on 6th October before the midwives could arrive. Rauno appears to enjoy being a big brother.
- Congratulations to Clare Parnell for having been awarded a Philip Leverhulme Prize for 2007! Not only is this a very prestigious prize ("awarded to outstanding scholars (normally under the age of 36)", to quote the Leverhulme Prize website), it also comes with the welcome side effect of a £70,000 prize money which the prize holder can use for any purpose which can advance the prize holder's research.
- Congratulations to Antonia Wilmot-Smith on the successful defence of her PhD thesis. Antonia has an STFC Postdoctoral Fellowship which she started in Dundee at the beginning of October. We wish her all the best for her Fellowship and are hopeful that she will continue to collaborate with us.

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## MISCELLANEOUS

- Colin Campbell, as President of the Edinburgh Mathematical Society, gave his presidential address 'Presentations galore' at the AGM of the EMS in October. He is now vice-president of the EMS and has also become convener of the Education Committee of the EMS.
- To celebrate 125 years of the Edinburgh Mathematical Society a special meeting EMS@125 is being planned for February 2008. At that meeting there will be two special lectures, a reception and a dinner. Professor John Ball and Professor James Murray, having been elected honorary members of the Society, will sign the Record Book of the Society on that occasion. Additionally John O'Connor, Edmund Robertson and their research student Marit Hartweit, who have been researching the archives of the Society, will give members of the Society an opportunity to learn more about the history of the EMS. As well as a poster display, they hope to produce a booklet which, among many other items, will describe how the archives of the Society can be accessed.
- Many of our new research students attended the Induction Symposium of SMSTC "Scottish Mathematical Sciences Training Centre" on 9-10 October in Perth. This symposium was a precursor to the video linked courses for first year research students which are now taking place across Scottish

Universities and for which a number of our staff are giving lectures. We are particularly grateful to Pete Lindsay and our other computer officers for setting up the video equipment for this within our School.

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## **SEMINARS, LECTURES, RESEARCH VISITS**

- Clare Parnell attended the third Magnetic Tracking Workshop which was held in Boulder (USA) this year at the end of July. Also she gave a talk at the Hinode First Results meeting in Dublin in August entitled “Quiet-Sun Magnetic Field Distributions observed by Hinode”.
- Magda Carr gave an invited seminar at the University of Bergen, Norway (4th-7th Sept) entitled “Experimental Investigation of Internal Solitary Waves”. Magda also had several meetings in the University with a view to start new collaboration with Prof Jarle Berntsen and Dr Oyvind Thiem on the 3D interaction of internal solitary waves with the shelf edge.
- The Solar and Magnetospheric Theory Group hosted the STFC Advanced Summer School in Solar Physics from the 2nd-7th September 2007 organised mainly by Clare Parnell and James MacLaughlin, . A total of 23 students attended from all over the UK with 15 different lecturers from 11 different organisations contributing to the programme. Despite the rather heavy bias of the lectures towards theory the students all said they had had an excellent, although tiring, time and were really impressed at the high standard of lecturing. From St Andrews, Thomas Neukirch, Duncan Mackay and Ineke De Moortel all gave lectures.
- In September, Richard Scott gave an invited talk in Santorini, Greece at an American Geophysical Union Chapman conference on The Role of the Stratosphere in Climate. The climate there was very agreeable!
- Stephane Regnier visited the Institut d’Astrophysique Spatiale (8-10 Oct.) for collaboration in the frame of anational Solar-Terrestrial program and gave a group seminar entitled “Alfven speeds in an isothermal atmosphere”.
- Len Thomas, with PDRAs Tiago Marques and Catriona Stephenson, visited the Naval Undersea Warfare Centre in Newport, Rhode Island. The purpose of the visit was to work with colleagues there on estimating the density of whales using an array of hydrophones at a navy testing range

in the Bahamas. The three CREEMinals caused a minor security scare by walking unaccompanied onto the base: walking is not de rigeur in many parts of the USA, but swanning around navy bases without a chaperone is definitely considered poor form. Tiago later compounded the problem by bringing out his camera to snap some pictures. Base staff were no doubt relieved to see the back of their crazy European colleagues.

- Len Thomas gave a research seminar the Canadian Stock Assessment Secretariat, the body charged with setting hunting regulations for marine organisms in Canadian waters, on “Preliminary estimates of the size of the Northwest Atlantic grey seal population 1977-2007”. Len now has the global grey seal population estimation market pretty-much cornered, having given a talk a month earlier to the UK Special Committee on Seals (the equivalent management body in the UK) on “Estimating the size of the UK grey seal population between 1984 and 2006”.
- Len Thomas co-wrote a talk about estimating levels of fisheries bycatch, presented by Simon Northridge of the Sea Mammal Research Unit at the annual science conference of the International Council for the Exploration of the Sea in Helsinki. The title was “A rationale for matching monitoring requirements with obligations to assess ecosystem effects”.
- Bernard Roberts and Dee McDougall recently attended an International Astronomy Union Symposium on “Waves and oscillations in the solar atmosphere: heating and magneto-seismology”, held in Isla de Margarita, a beautiful island just off the coast of Venezuela. The organisers were Profs R Von Fay-Siebenburgen and C Mendoza, both of whom spent parts of their careers in St Andrews. Bernard gave the opening key-note address, “Progress in coronal seismology”, and used Power-point for the first time in his career! Dee gave a contributed paper, “MHD mode conversion in a stratified atmosphere”. Bernard also chaired a session and helped lead the debate in a special discussion session. The proceedings are to be published by Cambridge University Press.
- Kenneth Falconer gave a Department Colloquium at the University of Glasgow and was particularly impressed by the quality of the chocolate biscuits beforehand and the wine and nibbles afterwards!
- Sara Munday visited the University of Maynooth in Ireland at which she gave a talk on Minkowski’s question mark function.

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Dr Patricia Edwin:

Patricia Edwin was a research student in the Solar Theory Group (as it then was) from 1979 to 1984, gaining her PhD under my direction on the topic "Magnetohydrodynamic waves in structured atmospheres". Sadly, Pat died on 11 October 2007; she had battled against cancer for many years. After the tragic death of her husband Roger, a lecturer in Physics and Astronomy, Pat retired to the Lake District, a place she and Roger had felt best suited their love of the outdoors and walking. Back in 1979, Pat Edwin was my boss at the Open University in Scotland, where she was in charge of OU maths for the whole of Scotland; I was then a part-time tutor in foundation mathematics. Pat wanted to do a PhD and, since she lived in St Andrews, she started working with me on a project on MHD waves. Given that the research was to be part-time, I thought I would choose a topic that no-one else was desperate to hear results about and so set Pat working on waves in the solar corona. Although this was a natural extension of some work I had recently published, I completely miss-judged the potential importance of the new topic. Fortunately, Pat proved to be an outstanding research student and produced one of the longest and most important theses in the department. Indeed, some of her work has gone on to form the foundation of a new field, coronal seismology, which has had to await recent developments in space observations before the theory could be confirmed. Many research students in solar physics are now very familiar with the so-called Edwin and Roberts diagram that arose in a 1983 paper from her thesis. Pat was a very energetic individual, absolutely honest scientifically, and determined to do the best work she possibly could. Her early death deprives us all of a much respected friend and colleague.

Bernard Roberts

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## **NEXT ISSUE**

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