

MATHEMATICS AND STATISTICS

NEWSLETTER

January 2004

CONGRATULATIONS

- Congratulations to Sharon and Tom Hedley on the arrival of their daughter Anna, on Friday, 16th January. Both mum and baby are doing well.
 - The Final Report on the recent Teaching Review of the School has now been received. The report is very positive about our teaching activities. Thanks to all members of the School who contributed to the Review.
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WELCOME

- We welcome Martyn Quick who joins us as a Pure Mathematics Lecturer in early February. Martyn, who will be part of the Algebra Group, was previously a research assistant and temporary lecturer at the University of Birmingham.
 - We welcome Lasha Ephremidza, from Tbilisi, Georgia, who will be visiting the Analysis Group from mid-February to mid-March supported by a Royal Society grant.
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SEMINARS, LECTURES, RESEARCH VISITS

- Alan Cairns took part in the annual High Power Lasers Users' Meeting organised by the Rutherford Appleton Laboratory on 15th-17th December. He gave a talk on "Energy transfer from a laser pulse to electrons"
- Jean Reinaud attended the annual Rotating Fluids Meeting organised by the Department of Mathematics of University College London on the 9 January. Jean gave a talk on vortex merger co-authored by David Dritschel.

- Bernard Roberts recently attended a three day meeting at the International Space Science Institute (ISSI) in Bern, Switzerland; he is a member of a small team working on “Turbulence in the solar atmosphere, inner heliosphere and solar wind”. The team consists of 9 members drawn from the USA and Europe; only two team members are based in the UK.
- Following his meeting at ISSI, Bernard Roberts attended a planning meeting in London, for the setting up of a new European research network devoted to magnetohydrodynamic waves in the solar atmosphere.
- A one day Royal Astronomical Specialist Discussion Meeting on “Waves in Solar and Magnetospheric Plasmas”, was held at the RAS, London, and organised by Dr V Nakariakov, Prof Bernard Roberts and Dr Andrew Wright. The meeting attracted a high attendance (about 100). Prof Roberts chaired the afternoon session. Speakers at the meeting included Dr Ineke De Moortel who discussed “Damping of longitudinal waves in coronal loops”, Dr Andrew Wright who set the scene for the discussion of magnetospheric phenomena, comparing solar and magnetospheric aspects in his talk “MHD wave processes in coronal and magnetospheric plasmas”, and Dr Peter Damiano who discussed “Alfvén wave dissipation via electron energization”. Alexandra Cran and Andrew Wright presented a poster on “Downward field-aligned currents carried by accelerated ionospheric electrons”. The RAS meeting was attended also by Prof Alan Hood, Dr Keith Bennett, Robert Kevis, Gavin Donnelly, James McLaughlin and Michael McEwan.
- George Phillips was one of six invited speakers at the Will Light Memorial Conference held at the University of Leicester, 18-19 December, 2003.
- Kenneth Falconer gave a lecture on ‘PDEs on Fractal Domains’ at the inaugural meeting of the ‘Scottish Network on Nonlinear Dynamics, Fractals and Applications’ in Stirling.
- The Vortex Dynamics Group enjoyed the visits of several colleagues during January.

Dr Gavin Esler from UCL came during the second week of January to work with Richard Scott and David Dritschel on the Stratospheric Polar Vortex (connected with the ozone depletion problem). He gave the first of four seminars this month on fundamental fluid dynamics. While Gavin was visiting St Andrews from UCL, Jean Reinaud was visiting UCL from St

Andrews! In London, he also presented recent work on geophysical vortices at the annual Rotating Fluids Meeting.

The week after, Dr Laurent Joly from the “Ecole Nationale Superieure de Constructions Aeronautiques” (ENSICA) in Toulouse visited the group to pursue a fruitful collaboration with Jean Reinaud on vortex merger in industrial/aeronautical contexts. This research makes a bridge between one of the main research activities of the Vortex Group (vortex interactions in the oceans and atmospheres) and mixing problems in industrial situations. Laurent very much enjoyed St Andrews (it was his first trip in Scotland) as well as his discussions with members of the group.

Next, Dr Eugene Benilov from the University of Limerick visited David Dritschel to pursue their collaboration on the effects of topography on oceanic flows. Eugene Benilov, who has collaborated with David Dritschel for many years, gave an impressive talk on “Explosive disturbances in a linear system with stable eigenmodes”, questioning long-held beliefs about linear stability when the eigenmodes form a complete basis.

Finally, Mr Julien Le Sommer is currently visiting from the “Ecole Normale Superieure” in Paris. Julien is currently finishing his PhD under the supervision of Prof. Vladimir Zeitlin in Paris and hopes to join our group under a Marie Curie fellowship. Julien is working on aspects of equatorial wave and vortex dynamics.

In other news, the group will miss Dr Richard Scott, who leaves at the end of January for a permanent post at Northwest Research Associates in Seattle. We hope he and his family settle well into their new environment and look forward to seeing him back here from time to time.

NEXT ISSUE

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