



## Department of Space and Climate Physics Newsletter

### Volume 1, Issue I

*13th June 2003*

#### **Promotions**

The following senior staff promotions have been approved from 1st October, 2003:

Mark Cropper - Reader to Professor

Louise Harra - PPARC Advanced Fellow/Lecturer to Reader

Ian Hepburn - Lecturer to Reader

Chris Owen - PPARC Advanced Fellow/Lecturer to Reader.

Congratulations to all on what represents an excellent outcome for the Department in the current promotions round (Len Culhane).

#### **New Staff Members**

We welcome the following new staff:

Kevin Benson - senior java developer working on the AstroGrid project in the Solar Group.

Maria Madjarska - new postdoctoral research fellow in the Solar Group.

#### **Appointments**

Keith Mason - PPARC Council appointment extended to 2005.

Chris Owen - PPARC STP National Facilities Committee (first meeting March 2003).

Andrew Coates - Invited topic team member/reviewer for Mars Express/ Beagle 2 displays, National Space Centre, March-April 2003.

#### **Grants and Contracts Awarded**

Space Plasma Group - £55k Venus Express grant to cover ASPERA sensor calibration at MSSL (from 1 April 2003 to 31 March 2005). Andrew Coates PI.

Space Plasma Group - £421k Cassini operations grant renewed (from 1 March 03 to 30 April 05). Andrew Coates PI.

Space Plasma Group - £730k Cluster operations grant renewed (from 1 April 03 to 31 December 05). Andrew Fazakerley PI.

Climate Physics - £100k to continue and further develop the Tropical Storm Risk venture for the year from 1st July 2003. (Sponsored by Benfield, Royal&SunAlliance and Crawford & Company). Mark Saunders PI.

### **Publications**

Conway, A.J. and **S.A. Matthews**, The apparent longitude distribution of solar flares, *Astronomy and Astrophysics*, 401, 1151, 2003.

**Harra, L.K.** and Sterling, A.C., Imaging and Spectroscopic Investigations of a Solar Coronal Wave: Properties of the Wave Front and Associated Erupting Material, *Astrophys. J.*, 587, 429, 2003.

**Saunders, M.A., B. Qian** and **B. Lloyd-Hughes**, Summer Snow Extent Heralding of the Winter North Atlantic Oscillation, *Geophys. Res. Lett.*, 30(7), 1378, doi:10.1029/2002GL016832, 2003. (Highlighted by GRL).

**Saunders, M.A.**, D. Simmons and N. Hilti, Hurricane Forecasting: The Move Towards Business Relevance, *B*, Issue 4, Benfield Industry Analysis and Research Team, Spring 2003.

**Saunders, M.A., F. Roberts, A. Lea** and **B. Lloyd-Hughes**, Tropical Storm Risk - Forecasts of Tropical Cyclone Activity to Benefit Business, Industry and Society, Briefing Document to Lloyd's of London, 4pp, May 2003. (available from <http://www.tropicalstormrisk.com>).

Slavin J.A., Lepping R.P., Gjerloev J., Goldstein M.L., Fairfield D.H., Acuna M.H., Balogh A., Dunlop M., Kivelson M.G., Khurana K., **Fazakerley A., Owen C.J.**, Reme H., Bosqued J.M., Cluster electric current density measurements within a magnetic flux rope in the plasma sheet, *Geophys. Res. Lett.*, 30(7), 1362, doi:10.1029/2002GL016411, 2003.

### **Teaching Developments**

*New Certificate in Natural Hazards for Insurers*. During the Spring 2003 term our Department contributed 40 lectures on "Meteorological Hazards and Space Weather" to a new teaching programme run by the Earth Sciences Department at UCL. The programme is directed at mature students in the insurance industry who wish to know more about the hazards they are insuring. The programme is a 'first' in the UK. Our teaching was carried out by Ian Mason, Mark Saunders, Andrew Coates and Louise Harra.

### **PhD Awarded**

Nikita Salvi, The central engine of active galactic nuclei, May 2003.

### **Invited Presentations (National and International)**

Hunt, J.C.R., Shear sheltering mechanisms and implications for turbulence and geophysical flows, Royal Society Discussion Meeting on New Themes in Plasma and Fluid Turbulence, Royal Society, London, 13-14 May 2003.

Lloyd-Hughes, B., Meteorological aspects of the 2002 European summer floods, European Flood Risk Workshop, Industrial Society, London, 7th March 2003.

Owen, C.J., Fazakerley, A.N., Dewhurst, J.P., Bogdanova, J., Dunlop, M.W., Slavin, J.A., Bosqued, J.M., Balogh, A. and Reme, H., Cluster observations of electron populations during magnetotail reconnection: 3-d structure and dynamics, EGS-AGU-EUG Joint Assembly Meeting, Nice, France, 6-11 April 2003.

Saunders, M.A., Predicting Tropical Cyclone Activity, EGS-AGU-EUG Joint Assembly Meeting, Nice, France, 6-11 April 2003.

Saunders, M.A., Global Warming and Extreme Weather Events, International Conference "Panic Attack: Interrogating our Obsession with Risk", The Royal Institution, London, 9th May 2003.

Saunders, M.A., Hurricane and Typhoon Forecasting: The Outlook for 2003, Excess and Surplus Lines Claims Association Conference, Lloyd's of London, 14th May 2003.

Saunders, M.A., F. Roberts, A. Lea and B. Lloyd-Hughes, TSR Tropical Storm Tracker Launch, The Old Library, Lloyd's of London, 30th May 2003.

### **Conference and Workshop Presentations (National and International)**

Constellation-X Spectroscopy Workshop, Columbia University, New York, USA, May 2003. Papers presented by Alex Blustin and Graziella Branduardi.

EGS-AGU-EUG Joint Assembly Conference, Nice, France, 6-11 April 2003. Papers presented by Yulia Bogdanova, Chris Fletcher, Adam Lea, Ben Lloyd-Hughes, Abi Rymer and Mark Saunders.

Royal Astronomical Society MIST meeting (Spring 2003). Papers presented by Yulia Bogdanova, Jason Dewhurst, Robert Fear and Nigel Meredith.

STAMMS (Spatio-Temporal Analysis and Multipoint Measurements in Space) Workshop, Orleans, France, 12-16 May 2003. Papers presented by Yulia Bogdanova, Andrew Fazakerley and Robert Fear.

## **Symposium/Workshop Convening (National and International)**

Mark Saunders convened Symposium CL 14 "Intraseasonal and Seasonal Climate Predictability" at the EGS-AGU-EUG Joint Assembly, Nice, France, 6-11 April, 2003. CL 14 was the largest of all the 36 Climate Science symposia at the conference.

## **New Products**

*Tropical Storm Tracker*. Launched at Lloyd's of London on 30th May 2003 and available through <http://www.tropicalstormrisk.com>, Tropical Storm Tracker is a free-to-use internet application which allows business, government and society to forecast better the risk and loss from active tropical storms worldwide. (Designed and built by Frank Roberts and Mark Saunders).

*TSR (TropicalStormRisk.com) new web site*. Launched at Lloyd's of London on the 30th May 2003, <http://www.tropicalstormrisk.com> is built to the latest web standards and is arguably the leading public site for forecasting the risk from tropical storms worldwide. (Designed and built by Frank Roberts and Mark Saunders).

## **Press Releases**

UCL scientists look for water on Mars with Mars Express and Beagle 2, 19th May 2003 (Andrew Coates).

TSR launches Tropical Storm Tracker, 30th May 2003 (Mark Saunders).

## **Media Broadcasts**

Andrew Coates:

BBC Southern Counties Radio, 18 March 2003, on SETI - the search for candidate signals narrows.

BBC News 24, 16 April 2003, on Mars Express and Beagle 2.

Sky News, 26 April 2003, on Soyuz launch to International Space Station.

Channel 4/WGBH Boston Documentary 'Magnetic Flip', 11 May 2003.

ITN News, 19 May 2003, on Mars Express and Beagle 2.

BBC News 24, 30 May 2003, on the annular eclipse.

## **Proposals Submitted**

*Starspot and Dynamics Explorer (SADE)* submitted in response to the NASA Small Explorer (SMEX) AO. Len Culhane and Louise Harra are scientific Co-Investigators. If selected, MSSL and E2V will be contracted by the US PI group to supply five flight CCD cameras. Selection announcement is expected in October 2003. The mission could be launched in August 2007.

*Astrophysical Plasmadynamic Explorer (APEX)* submitted in response to the NASA Small Explorer (SMEX) AO. Sarah Matthews is a Co-Investigator. Selection announcement is expected in October 2003. If selected the mission could be launched in August 2008.

*PPARC e-Science proposal* to make NASA Solar Dynamics Observatory data readily available to the UK Solar Terrestrial Community. Len Culhane is PI. If successful MSSL will lead a team of five software developers located at Birmingham, Imperial College, RAL and MSSL. The proposal outcome will be known in the autumn.

*Panoramic Imaging Camera System (PICS)* submitted in response to the ESA Exomars Pasteur payload call for a Mars surface rover. This is part of ESA's Aurora initiative. Andrew Coates is PI.

*Radiation Environment on the Martian Surface (REMS)* submitted in response to the ESA Exomars Pasteur payload call for a Mars surface rover. Andrew Coates is PI.

### **Acknowledgements**

Mars Express and Beagle 2 launched successfully on 2 June 2003. Thank you to everyone who has worked on both projects. (From the Space Plasma Group).

The ESA ADR project, which is to build to flight standard a 50 mK ADR plus focal plane for the XEUS mission, passed its CDR at ESTEC in May. Many thanks to all involved with this project for your hard work. (From the Cryogenics Group).

### **Next Issue**

The next issue of the Department of Space and Climate Physics Newsletter (Volume 1, Issue 2) will be in mid September 2003. This will cover activities from 1<sup>st</sup> June 2003 to 31<sup>st</sup> August 2003.