The Newsletter - Volume 12, Issue 3
28 October 2015

Covers events between 1 May and 31 July 2015

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New staff

- The Plasma Group welcomed Dr Licia Ray who joins us from the UCL main campus to work on auroral science topics;
- Mateo Inchaurrandieta joined the Solar Group for a summer project, working on EIS software development using Python.

Promotions

- Congratulations to Dr Jonathan Rae, who has been promoted to Reader of Space Plasma Physics, from 1 October;
- Congratulations to Lucie Green who has been promoted to Professor of Physics.
Visitors

- The Astrophysics Group hosted (and is hosting):
  - Samantha Oates (IAA-CSIC, Granada, Spain);
  - Denija Cronjevic (Texas Tech University, USA);
  - Lorena Nieves (IFCA Santander and Valencia Observatory, Spain);
  - Emille Ishida (Max Planck for Astrophysics, Germany);
  - Rafael de Souza (MTA-ELTE, Hungary);
  - Rod Kennedy (Australian National University).

- Visitors to the Solar Group included:
  - Kathryn McWilliams, University of Saskatchewan gave a seminar entitled ‘The Influence of the Solar Sector Angle on the Ionosphere’;
  - Gaelene Lerat, University of Saskatchewan joined the plasma group as a summer student, working with Jonathan Rae and Colin Forsyth. Gaelene used AMPERE field aligned current data centred by substorm onset times and locations to examine the average structure of the substorm current wedge;
  - Ken McCracken, IPST, University of Maryland gave a seminar entitled The Temporal Variability of the Cosmic Radiation, Solar Activity, and the Heliospheric Magnetic Field over the past 11,000 years;
  - Colm Murphy, UCL is a summer student currently working with Jonathan Rae and Colin Forsyth. Colm is using data from the Cluster spacecraft to examine the possible connection between dipolarization events and substorms;
  - Rosemary Young from the UKSA visited on May 21 to discuss issues surrounding our Solar Orbiter programs;
  - Chris Owen hosted Prof. Thomas Zurbuchen of the University of Michigan at UCL on May 28. A program of joint future scientific activity was agreed which will hopefully lead to exchange visits between our institutions;
  - Vishal Ray, a Dean’s Prize summer student from IIT Bombay, India, visited MSSL twice in June and July. Vishal’s summer project, supervised by Anasuya Aruliah from Physics and Astronomy, focused on a study of the drag force on satellites in low Earth orbit. Vishal used technical details of the UCLSat CubeSat design for the QB50 mission to calculate different drag forces for different satellite attitude, altitude and solar and atmospheric conditions. We hope that Vishal’s work will form the basis of a joint research funding proposal between MSSL and P and A;
  - Jason Byrne from Rutherford Appleton Laboratory visited the Lab from 12/14 May and gave a seminar;
  - Eoin Carley from Paris Observatory, Meudon visited the Lab from 11/14 May;
  - Alphonse Sterling from NASA Marshall Space Flight Centre visited the Lab 18/20 May and gave a seminar;
  - Marchos Trichas from Airbus visited the lab and gave a seminar on the Carrington Mission;
  - Andrew Hillier from the University of Cambridge visited the lab from 13/14 July and gave a seminar.

- Visit from Sue Horne and Charlotte Blake-Kerry on 28 July for discussions related to PanCam (ExoMars).

Prizes and Awards

- The RAS group achievement award was presented at NAM in July to Louise Harra on behalf of the Hinode EIS team; this followed with an MSSL celebration.

The Hinode EIS team

- The RAS Service Award was presented to Lidia van Driel-Gesztelyi at NAM.
Appointments

- Tom Kitching has been appointed to STFC PPRP, and will serve for 2 years;
- Andrew Coates and Geraint Jones served on a NASA panel, April-July;
- Lucie Green was appointed to the Royal Society's Diversity Committee;
- Louise Harra was on the Max Planck appointments committee in June;
- Sarah Matthews was appointed to STFC's Solar System Advisory Panel (SSAP).

Grants and Contracts Awarded

- JUICE PEP grant awarded.

Proposals Submitted

- A proposal covering the extended build phase and early operations costs for Solar Orbiter was submitted to UKSA on May 8.

Mission Status and Developments

Beagle 2 – Andrew Coates attended a meeting at the OU on 2 June where findings about Beagle 2 deployment on Mars were discussed.

Cassini – Scientific presentations, publications and theses continuing (see publications).

Euclid – The EUCLID Consortium Meeting 2015 was at the SwissTech Convention Center, Switzerland, 8/12 June.

ExoMars – Regular team telecons continue. Andrew Coates, Tom Hunt, Craig Theobald, Barry Hancock (and Craig Leff remotely) attended a meeting at RUAG, Zurich, 5 May, to address the Swiss provision of Wide Angle Camera modules. Telecon follow-up on 22 May. Andrew Ball (ESA) and representatives from TAS-I visited MSSL 12/13 May to discuss PanCam. PanCam was presented at RAS Aurora meeting, 15 May. Many MSSL personnel (including Coates, Leff, Griffiths, Hancock, Hunt, Theobald and many others) attended an ESA-run planetary protection course at the Gatton Manor, 15 July.

Gaia – MSSL’s Gaia team successfully tested its new version of the on-ground daily data processing pipeline with the new data format coming from Gaia’s new onboard software. The calibration residuals were larger than the straylight mitigation for single transits but simulations predict the mitigation should improve the end-of-mission S/N. The team presented their findings at the Gaia Data Processing and Analysis Consortium (DPAC) Co-ordination Unit 6 (CU6) Spectroscopic Processing Plenary Meeting in Leiden, 3/5 June. Future data releases will be based on the Global pipeline. Preparation of the first run of the Global pipeline continues.

JUICE – Andrew Coates attended a PPEP team meeting in Budapest, 16/17 June. Geraint Jones, Andrew Coates, Dave Linder and Laura Mullin attended a meeting on MSSL JUICE/PEP participation in Swindon on 8 July.

Mars Express – Mission continuing.

Rosetta – Mission continuing; publication accepted (see publications).

SMILE – SMILE (Solar Wind Magnetosphere Ionosphere Link Explorer) has been selected for, and is undergoing, an initial study phase for the ESACAS joint space mission (the first joint mission between ESA and China from the design stage through to implementation, operations and scientific exploitation). Once approved, SMILE will be launched in 2021. SMILE will detect the soft X-ray (and UV auroral) emissions from the continuous interaction between the solar wind and the Earth’s magnetosphere. The measurements and images that SMILE will take can tell us not only about the exact locations of magnetopause, bow shock, and the polar cusps, but also about the processes that link the solar wind with the Charge Exchange soft X-ray emission from the dayside magnetosheath and the auroral UV emission. SMILE will also measure the properties of the solar wind with an ion analyser and a magnetometer. Graziella Branduardi-Raymont is a co-lead of the project.

Solar Orbiter – It has again been a busy quarter for the Solar Orbiter SWA team. In addition to progress on the EM and FM models, including testing of the former at MSSL, there have been many external meetings. The Solar Orbiter SWA team attended the quarterly UKSA Management Board meeting in London on June 15. The additional costs of our program related to the recently announced launch delay were discussed and agreed in principle. On June 17 Chris Owen represented SWA at the spacecraft CDR board meeting at ESTEC. Many issues were raised as cause for concern and the ESA project team and prime contractor (AIRBUS, Stevenage) will need to complete some activities for a delta CDR at the end of the year. The following day, Chris Owen chaired a meeting of the Solar Orbiter PI group at ESTEC in order to discuss the issues surrounding the CDR and agree a way forward at instrument team level. SWA team members (Chris Owen,
Chris Brockley Blatt, Khalid AlJanabi, Barry Hancock, Gethyn Lewis) went to TSD in Naples to participate in an SWA DPU software review, 29 June/1 July. The following week Chris Owen represented SWA at the 7th Science Operations Working Group for Solar Orbiter at ESOC, Madrid, 6/9 July. Finally, Chris Owen and Barry Hancock represented SWA at the 12th EMC Working Group meeting at Imperial College, 15/16 July.

**THOR** — ESA announced the selection of the THOR mission for assessment study on June 4. Chris Owen and Dhiren Kataria had acted as contact persons for the MSSL contributions. Chris Owen is coordinator for the UK THOR community, and oversaw the collation and submission of a protoproposal to the UKSA to cover near-term funding of THOR related activities in the UK.

**Publications – Refereed**

**Published**

Arav, N., ..., Mehdiporn, M., ..., Branduardi-Raymont, G., ..., Whewell, M., Anatomy of the AGN in NGC 5548. II. The spatial, temporal, and physical nature of the outflow from HST/COS Observations, 2015, Astron. and Astrophys., 577, 37


Coates, A.J., Fly-by missions: what is the point when we have the technology to go into orbit? (included New Horizons, ExoMars, Giotto, Cassini), The Conversation, 14 July 2015.

Coti Zelati, F., ..., Turolla, R., ..., Zane, S. et al., The X-ray outburst of the Galactic Centre magnetar SGR J1745-2900 during the first 1.5 year, 2015, Mon. Not. R., Astron. Soc., 449, 2685


Delvecchio, I., ..., Symeonidis, M., Mapping the average AGN accretion rate in the SFR-M* plane for Herschel-selected galaxies at 0<z<2.5, 2015, Mon. Not R. Astron. Soc., 449, 373


Frahm, J.D. Winningham, S. Barabash, R. Lundin, A. Fedorov, Ionospheric Photoelectrons at Venus: Case Studies and First Observation in
the Tail, Planet. Space Sci., http://dx.doi.org/10.1016/j.pss.2015.01.019, 113-114, 385-394, August 2015.
Rae, I. J., and C. E. J. Watt, ULF waves above the auroral zone during substorm onset, AGU Monograph on ‘Lowfrequency Waves in Space Plasmas’, accepted June 2015.

PhDs/MPhil Awarded

Congratulations on successfully passing their PhD viva to:
• Jason Hunt;
• Idunn Jacobsen;
• Jamie Jasinski;
• Tom Nordheim;
• Ailsa Prise;
• Yudish Ramanjooloo.

Teaching Developments

New lectures have been added into the MSc course on space instrumentation, to include solar remote sensing instruments (Louise Harra).

Invited Talks and Conferences

National Astronomical Meeting (NAM), Venue Cymru Llandudno, 5-9 July;
• Graziella Branduardi-Raymont:
  o Talk on ‘SMILE: Solar wind Magnetosphere Ionosphere Link Explorer’
• Andrew Coates, Anne Wellbrock and Kim Birkett gave the following talks:

Louise Harra:
- Talk on solar wind formation;
- Talk on Solar Orbiter;
- Talk on large flare eruptive.

David Long:
- Contributed talk.

Sarah Matthews:
- Talk on solar energetic particles;
- Contributed talk on lower atmospheric signatures of solar flares.

David PerezSuarez:
- Contributed talk.

Dimitry Pokhotelov:
- Presented a poster entitled ‘The role of solar wind dynamics in the control of magnetospheric ULF wave power’.

George Seabroke:

Myrto Symeonidis:
- Talks on ‘AGN are cooler than you think; the intrinsic far-IR emission of QSOs’ and ‘The Herschel census of infrared SEDs through cosmic time’.

Simon Thomas:
- Presented a poster on behalf of Chris Owen entitled ‘Solar Orbiter: Updates on the progress of the Solar Wind Analyser Investigation’;
- Presented a poster entitled ‘Galactic cosmic ray modulation near the heliospheric current sheet’;
- Talk on ‘Near earth cosmic ray decreases associated with remote coronal mass ejections’.

Dave Williams:
- Invited review on ‘Waves in the Solar Atmosphere: reviewing the last few years’ discoveries’.

Zhonghua Yao:
- Presented a poster entitled ‘A common effect ahead of dipolarization fronts: crosstail current redistribution’.

Graziella Branduardi-Raymont:
- Talk on ‘SMILE: Solar wind Magnetosphere Ionosphere Link Explorer’ at the UCL Centre for Planetary Sciences 5th Summer Meeting on 25 June

Jack Carlyle:
- Invited seminar at the University of Cambridge.

Andrew Coates:
- Gave an invited colloquium at Exeter University, May 18 entitled ‘Negative ions and photoelectrons: results from Cassini and Venus Express’.

Andrew Coates, Geraint Jones, Anne Wellbrock, Kim Birkett, Sam Taylor attended the Centre for Planetary Sciences (CPS) 5th Summer Meeting, UCL/Birkbeck, 25 June:
- Coates, A.J., Keynote: Updates from MSSL Planetary Science: PanCam for ExoMars2018; The field-aligned potential near Titan; and Ion pickup observed at comet 67P with the Rosetta Plasma Consortium;
- Wellbrock, A., A.J. Coates, G.H. Jones, J.H. Waite, Heavy negative ions observed during Cassini’s Titan T16 flyby using the CAPS Electron Spectrometer (ELS);
- Taylor, S.A., A.J. Coates, G.H. Jones, A. Wellbrock, Photoelectrons at Enceladus;
- Wellbrock, A., A.J. Coates, G.H. Jones, J.H. Waite, Photoelectrons at Titan near the terminator;
- Wellbrock, A., A.J. Coates, G.H. Jones, J.H.
Waite, Negative ion observations at Titan: Mass spectra evolution and density profiles from T39-T43.

Mark Cropper:
- Talks on ‘VIS Progress Report’ and ‘Gaia Synergy’ at EUCLID Consortium Meeting 2015, SwissTech Convention Center, Switzerland, 8-12 June.

Massimiliano De Pasquale:
- Talk at the 14th Marcel Grossmann Meeting, University of Rome, Sapienza, 12-18 July.

Ignacio Ferreras:
- Organized as a co-chair a symposium ‘Deconstructing Massive Galaxy Formation’ at European Week of Astronomy and Space Science (EWASS) 2015, La Laguna, Tenerife, Spain, 22-26 June;
- Gave an invited talk on ‘Outlook of early-type galaxy evolution’ at the RAVET network meeting, La Laguna, Tenerife, 27 June.

Lucie Green:
- Invited seminar at Imperial College;
- Invited talk at joint Royal Society / British Council meeting on science education.

Louise Harra:
- Organized the ISSI solar/stellar meeting in May;

Geraint Jones, Will Dunn, Marianna Felici, Leonardo Regoli attended Magnetospheres of the Outer Planets 2015, Georgia Institute of Technology, Atlanta, 1-5 June. Planetary Science group were involved in several presentations:
- Coates, A.J., A. Wellbrock, J.H. Waite and G.H. Jones, An upper limit to the field-aligned Potential near Titan;
- Wellbrock, A., G.H. Jones, A.J. Coates, J. H. Waite, Photoelectrons at Titan near the terminator;
- Wellbrock, A., A.J. Coates, G.H. Jones, J.H. Waite. Negative ion observations at Titan;
- Felici, M., C. Arridge, D. Reisenfeld, M. Thomsen, A. Coates, Survey of the plasma composition in Saturn’s magnetotail;
- Jones, G.H. and the Cassini CAPS Team, Directly-detected electron beams near Enceladus;
- Jasinski, J.M., C.S. Arridge, A.J. Coates, M.K. Dougherty, Saturn’s magnetospheric cusp as observed by Cassini;
planetary period oscillation currents.

Nadine Kalmoni:
- Attended the Geospace Environment Modeling workshop in Snowmass, Colorado, 14-19 June. Nadine presented a poster titled ‘Statistical characterisation of the growth and spatial scales of the substorm onset arc’ and gave a talk in the focus group called ‘Testing proposed links between mesoscale auroral and polar cap dynamics and substorms’ on quantitative analysis of the aurora, with the title ‘The auroral dispersion pattern’;
- Attended the Van Allen Probes SWG at The Johns Hopkins University Applied Physics Laboratory, Baltimore in July.

Tom Kitching:
- Gave the Weak Lensing Plenary at EUCLID Consortium Meeting 2015, SwissTech Convention Center, Switzerland, 8/12 June;
- Invited talk at the Accurate Astrophysics, Correct Cosmology RAS Meeting, 13/16 July.

Daisuke Kawata:

Ellis Owen:
- Attended the Advanced Workshop on Cosmological Structures from Reionization to Galaxies: Combining Efforts from Analytical and Numerical Methods in Trieste, Italy, 12/15 May;
- Gave a seminar on: ‘Ionizing the Universe: from the first Star Light to Cosmic Rays’ at the Max-Planck-Institut für Kernphysik in Heidelberg, Germany, 13 July.

David Perez Suarez:
- Talk at the 5th Spanish Solar Physics Meeting.

Jonny Rae, Colin Forsyth and Dimitry Pokhotelov attended the IUGG General Assembly in Prague, 22 June/2 July and gave the following talks:
- ‘Determining the substorm onset instability using ground and space based measurements’ (Jonny Rae);
- ‘The substorm onset arc: Diagnosing the magnetotail instability from the ground’. (Jonny Rae on behalf of Nadine Kalmoni);
- ‘Increases in plasma sheet temperature with solar wind driving during substorm growth phases’ (Colin Forsyth);
- ‘Examining the transfer of energy from the solar wind to the magnetotail and its release during substorms’ (Colin Forsyth on behalf of John Coxon University of Southampton);
- ‘The influence of solar wind variability on magnetospheric ULF wave power’ (Dimitry Pokhotelov).

Jamie Ryan:
- Attended the IRIS4 meeting in Boulder, CO.

George Seabroke:
- Gave a talk on ‘Gaia’s Radial Velocity Spectrometer Performance’ at EWASS 2015, La Laguna, Tenerife, Spain, 22/26 June;

Simon Thomas:
- Attended the International Cosmic Ray Conference in The Hague, Netherlands, where he presented two posters; ‘Galactic cosmic ray modulation near the heliospheric current sheet’ and ‘NearEarth cosmic ray decreases associated with remote coronal mass ejections’.

Gherardo Valori:
- Seminar at Cambridge University (June 1) and Dundee University (June 9).

Gherardo Valori and Lidia van Driel-Gesztelyi:
- Attended the Lorentz conference on flares in Leiden.

Robert Wicks:
- Two talks describing the science and design of the THOR mission in July at the SHINE workshop in Stowe, Vermont, USA;
- Visited NASA Goddard Space Flight Center in July to collaborate in ongoing science projects and set up the new THOR Turbulence Electron Analyser (TEA) instrument collaboration between MSSL and NASA GSFC instrument scientists.

Dave Williams:
- Seminar at Lockheed Martin, Palo Alto (June 25).
energy particles in jets, outflows and bubbles in galaxies and beyond galaxies’ at a conference ‘New Approach to Active Processes in Central Regions of Galaxies’, International Space Science Institute, Beijing, China, 1/5 June;
- Gave 5 seminars at Nanjing University, Purple Mountain Observatory, Institute of High-Energy Physics and National Astronomical Observatory of China (x2) on 4 different topics.

Stephanie Yardley:
- Gave a talk at the 3rd SOLARNET Workshop in Granada, Spain.

Silvia Zane:
- Gave an invited talk on magnetar’s theory at 14th Marcel Grossman Meeting, University of Rome ‘a Sapienza, 12/18 July.

Andrew Coates, Craig Leff and Geraint Jones attended the 4th UK in Aurora programme meeting, Geological Society, 15 May:

Outreach

Kim Birkett:
- Talk at South Downs Astronomy Society 1 May: Rosetta;
- UCL Junior Masterclass 28 May: Can you escape the solar system?;
- Ogden Trust Physics Forum panel member 13 July : The Battle for Physicists;
- Talk at Southern Area Group of Astronomy Societies 18 July: Rosetta;
- Explore UCL Year 11 Summer School 20
  /21 July: Comets and Rosetta;
- Year 10 Debating Summer School 29 July: The Next Step for Mankind.

Graziella Branduardi-Raymont:
- Talk on ‘Astronomy from Space’ at the Careers Fair at Richard Collyer’s College, Horsham, 26 June;
- Talk ‘From mission concept to launch’ at the Work Experience Week held at MSSL 14 July;

Chris Brockley-Blatt:
- Talk and QandA session for the pupils of Year 5 at her son’s school, Sompting Village Primary School, about the roles of engineers and about space science; Year 5 are currently studying the biographies of famous scientists and engineers and invited the Brockleys for interviews so they could write up their own reports;
- Raised money to buy Year 5 12 Raspberry Pis, cables, keyboards, electronics kits and books, so that the school has better equipment in order to teach the new national curriculum on computer science and electronics. The raspberry pis are small card-like computers which have a linux based OS and help teach children about the programming languages Scratch and Python. Teachers will now have more choice in how to plan their lessons and will help towards their own training and development;
- A cake sale was held at MSSL and raised £132, enough to buy two complete kits and text books. So far, the family, through help of family, friends and colleagues have bought the school eight sets of Pis, keyboards, mice, cables, dongles and monitors between the two classes, as well as four textbooks and two sets of electronic experiment boards to go with them. Nicola and Sarah, the two Year 5 teachers, are using them in their lessons. All the children have to write a report of their year as part of their school report; One little boy has written ‘This year was the funest year at school. The best bit was the raspberry pis and Mr and Mrs Brockley coming in.’ The Pis are making a difference already. The kids are doing experiments and have taken to them more than Chris, Brock, Sarah and Nicola could have dreamed of. Thank you to everyone who helped and contributed to the cake sale, especially Sue Ford, Gill Watson, Julia Gaudelli and Lyn Gilbert;
- Visited Steyning Grammar School in Steyning to give the sixth form a talk on engineering in the space industry, highlighting Solar Orbiter. It was well received and 60 six formers were in attendance.

Andrew Coates:
• Talk on Saturn, Titan and Enceladus: recent results from Cassini, at U3A Guildford Science group, 12 May;
• Talk ‘Rosetta and Philae – unlocking the secrets of comets’ at Croydon Natural History and Scientific Society 10 June;
• Assembly for year 7-10 at Duke of Kent School, Ewhurst, Surrey on Mars Exploration and the ExoMars mission 12 June;
• Introduction to MSSL – London International Youth Science Forum (LIYSF) visit 28 July.

Will Dunn:
• Organised a work experience week for 6th formers during July. The young people worked on group projects throughout the week and presented them to staff in a Q and A session. Nearly 30 MSSL staff, and every research group, was involved.

Colin Forsyth:
• Talk in June on the aurora to the Cam And Dursley Astronomy Club (CADAC) entitled ‘The greatest light show on Earth’;
• Participated in the first ‘Concept Album Talks’, hosted by Houston PR. Each talk was based on a track title from Pink Floyd’s Dark Side of the Moon and lasted for the length of the track. Colin talked about the aurora under the title ‘The great gig in the sky’.

Lucie Green:
• Spoke at the public event at the Royal Observatory to mark the launch of Simon Barraclough’s new book of poetry inspired by the Sun;
• Attended the Cheltenham Science Festival to talk about historical moments in space science, latest missions and results and presenting on the BBC’s Sky at Night and Stargazing Live!

Louise Harra:
• Talk in May at Orpington Astronomical Society on the mysteries of the solar cycle.

Sarah Matthews:
• Ran three sessions on ‘A day in the life of a space scientist’ at St Peter’s School in Guildford.

George Seabroke:
• Contributed to MSSL’s Work Experience Week, Gaia presentation and Gaia workshop, which is now publicly available on Gaia’s outreach portal, Gaiaverse: http://gaiaverse.eu/feat_news/gaia-workshop-bringing-stellar-exploration-closer-to-students/.

Robert Wicks:
• Talk in June to the Institute of Physics in the UCL Harrie Massie Lecture Theatre titled ‘Sounds of the Solar System’, exploring many solar, space and atmospheric physics effects throughout the solar system through the medium of sound.

Megan Whewell:
• Performed at Science Showoff, part of the Royal Society Summer Science Exhibition. https://royalsociety.org/events/2015/06/science-showoff/.

Dave Williams:
• Took part in the Wellcome Trust’s festival ‘On Light’ on 2 May at UCL, describing the Sun and the work that MSSL Engineers did to allow us to see it in ultraviolet light.

Stephanie Yardley:
• Space weather lecture and workshop as part of the work experience week held at MSSL;
• Talk and a workshop on exoplanets as part of the London International Youth Science Forum visit to MSSL.

Members of the Plasma Group were involved with this year’s MSSL Work Experience Week:
• Simon Thomas and Georgina Graham gave the morning workshop on Space Plasma Physics, focusing in particular on the Sun/Earth connection, CMEs and geomagnetic storms;
• Simon and Kirthika Mohan also supervised work experience students during their mission planning challenge.

Press releases

Graziella Branduardi-Raymont:

Planetary Group:
• UCL MAPS and MSSL press releases on GRL paper on Titan polar wind, June.
Silvia Zane:
- Magnetar near supermassive black hole delivers surprises, NASA Chandra, http://chandra.si.edu/photo/2015/sgr1745/

Silvia Zane and Kinwah Wu:

Media Broadcasts and Features

Andrew Coates:
- Interviews for UK Space Agency/Imperative Space Aurora outreach film, 27 March (Shropshire), 10 April (MSSL), 15 May (RAS) on ExoMars PanCam, 2015;
- Interview on Venus Express results for Sky at Night (filmed at MSSL, included ExoMars hardware also), 24 April. First transmitted on BBC4 10 May;
- Interview on AJ Jazeera on Mercury, Pluto and solar system exploration, 30 April.
- Info for the Sunday Times on Pluto, 28 April;
- Info for Guardian on methane, life and ExoMars;
- UCL MAPS press release on GRL paper on Titan polar wind, featured by Mail online, Huffington Post, Vice motherboard, space.com, phys.org and others, 18-21 June 2015;
- Interview for BBC News online on Pluto, 9 July;
- Article for The Conversation on New Horizons Fly-by missions: what is the point when we have the technology to go into orbit? (included New Horizons, ExoMars, Giotto, Cassini), 14 July;
- Info for the Guardian on New Horizons Pluto encounter (used online), 15 July;
- Interview on Pluto/New Horizons and Rosetta, for BBC World Service Newshour, 16 July;
- Interview (quoted on Giotto, included Cassini-Huygens, Rosetta, ExoMars) for BBC News online on 5 favourite planetary missions, 30 July;
- Interview for Naked Scientists on Philae results, mentioned ExoMars and JUICE, 29 July 2015 (used BBC Radio 5 1 August, BBC East 2 August;
- Interview on Indian and international space programmes for Maclean’s magazine (Canada), 16 July;
- Interview for BBC Horizon documentary on life in the solar system (included ExoMars, Cassini, JUICE, Rosetta), 23 June.
- BBC Horizon filmed at the lab on 15 June, for a documentary on Dark Energy;
- The Solar Orbiter SWA EAS sensor was exhibited by Andrew Coates during the BBC’s ‘Sky at Night’ program on May 10. Although the program concentrated on results from the Venus Express mission, it was recorded at UCL/MSSL and featured some of the wider aspects of MSSL's activities.

Other News

- Ravindra Desai was awarded a Vela fellowship to attend the Los Alamos Space Weather Summer School. He completed a research project with a Los Alamos scientist as a mentor with whom he has an ongoing collaboration;
- Ravindra Desai attended the GEM conference in Aspen, Colorado;
- Nadine Kalmoni was part of the Los Alamos Space Weather Summer School, 1 June/24 July, funded by the Vela Fellowship. Working with Mike Henderson on substorm injections: observations and models of dispersion patterns using data from RBSP (HOPE, MagEIS, REPT) and LANL (MPA, SOPA) to identify the azimuthal and radial extent of the injection region;
- Nadine Kalmoni had a USRA-funded placement at NASA GSFC where she collaborated with Kyle Murphy and David Sibeck on substorm injections, 27 July/27 August;
- Roberto Mignani, who spent eight years at MSSL as a PDRA, has been made a university professor by the President of Poland;
- Dave Williams spent a month working with the IRIS team at Lockheed Martin, Palo Alto.

Next Issue

The next issue of The Newsletter (Volume 12, Issue 4) will be published in January 2016. This will cover activities from 1 August to 30 October 2015.