

# Raising the Prestige of Public Engagement within the Planetary Science Community in Europe

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## Summary

We describe the outreach programme of the Europlanet Research Infrastructure (RI), a four-year project funded by the European Union under Framework 7 and designed to maximise planetary science output in Europe. Outreach is a key activity within Europlanet RI and we have put in place a programme to build channels of communication between the planetary science community, the public and the media. One of the major challenges that we have identified is the low value that some parts of the research community place on outreach activities. We describe how we hope to change attitudes and raise the prestige of public engagement in planetary science by establishing an annual prize and a funding scheme. Both schemes are now in their second year, with the third round due to be announced at the EPSC–DPS Joint Meeting in October 2011.

When identifying new priorities in the 2008 European Space Policy progress report, the 5th Space Council underlined the value of space exploration for inspiring young Europeans to choose a career in science and technology and to strengthen these capabilities in Europe<sup>1</sup>. European-wide initiatives such as the *ASTRONET Infrastructure Roadmap*<sup>2</sup> are making increasing efforts to foster a more proactive culture in public engagement within the European astronomical community. However, a common complaint from many individual researchers is that, on a departmental level, they receive little support and encouragement — and sometimes even active discouragement — in pursuing outreach activities. In a 2006 survey of factors affecting science communication by scientists and engineers, published by the Royal Society, only 50% of respondents described their department as supportive of those who took part in public engagement activities<sup>3</sup>. Even those who have developed highly successful public

engagement programmes often feel that their efforts are given little credit and recognition compared to academic achievements. Tightening budgets and the need for increasingly complicated paperwork can make departments see outreach as a luxury (both in terms of time and financial resources), rather than part of their remit and core responsibilities.

The Europlanet project is the initiative of a group of European scientists who worked on the Cassini–Huygens mission to Saturn and Titan. In the initial project, funded under the European Union's Framework 6 programme from 2005–8, Europlanet provided a network for European planetary scientists that enhanced the community's ability to define key science goals, exchange ideas and personnel, and build a prototype interactive database.

In a second four-year phase that began on 1 January 2009, Europlanet received six million euros of funding under the Euro-

pean Union's Framework 7 Research Infrastructure programme. The Europlanet Research Infrastructure provides transnational access to Europe's leading research facilities and organises highly focused joint research activities, while maintaining the momentum of the networking activities developed under Framework 6<sup>4</sup>. The Europlanet RI is a large and complex project involving 27 participants and more than 70 associates from 20 European countries, Brazil, Japan, the USA and the Russian Federation. It supplies access to 20 different laboratory facilities, six field sites and access to the world's largest data bank and modelling consortia in planetary science, creating a European structure greater than the sum of national and local activities and facilities.

Outreach and communication are key components within the framework of Europlanet RI's activities. Our outreach team consists of three part-time staff, Thierry Fouchet (Activity Co-ordinator), Eleni Chatzichristou



**Figure 1.** Participants in outreach sessions at EPSC 2009 in Potsdam, Germany. Credit: Lee Pullen.

and Anita Heward, working on outreach and media activities, plus a web manager, Olivier Marco, for the Europlanet outreach website. The outreach programme is overseen by the Activity Deputy Co-ordinator, Steve Miller of University College London, and Jean-Pierre Lebreton of ESTEC, together with the Outreach Steering Committee, which comprises seven members with strong track records in outreach and media communications who have agreed to act in an advisory capacity.

Europlanet RI's outreach and media strategy is based around a network of national nodes in the European countries with institutions participating or associated with Europlanet. The role of the nodes is to respond to queries from the general public and the media about planetary science in their country and to be aware of outreach and media opportunities where planetary science could be highlighted. In addition, the nodes are responsible for translating, expanding and maintaining their national page on the Europlanet outreach website<sup>5</sup>.

To date, we have activated a network of 14 nodes. With the assistance of the network of nodes, we aim to build channels of communication between the planetary science community, the public and the media that should last beyond the lifetime of the Framework 7 project.

In addition, we have set up a European Planetary Media Centre that assists in promoting the latest planetary science research through the media. As well as providing a media distribution service and

communication training for European planetary scientists, the Media Centre can put journalists and broadcasters in touch with local planetary scientists, who can provide comment and give a regional viewpoint on planetary science stories.

In developing our plans for public engagement by Europlanet, one of the greatest challenges that we have identified is how to change the culture towards outreach and media activities within the more reluctant institutions and departments.

We are looking to tackle this in five ways: firstly by building up the outreach sessions (see Figure 1) established at the European Planetary Science Congress (EPSC) during the Framework 6 project, and by increasing the visibility of outreach during the meeting. We aim to do this by ensuring that outreach sessions are scheduled within the timetable for the scientific session rather than being regarded as add-ons for a separate community, by funding the national nodes to attend the Congress and take part in networking events with the wider planetary science community, and also by building up an outreach poster session to increase awareness of outreach initiatives beyond those people attending the oral sessions.



**Figure 2.** The Austrian Space Forum, winner of the 2011 Europlanet Prize for Excellence in Public Engagement with Planetary Science. Credit: OEFWF (Paul Santek).

The EPSC is one of the biggest events in the planetary community's calendar (more than 700 scientists from Europe and around the world attended EPSC in 2010), making it an important opportunity to showcase public engagement and raise awareness of what can be achieved by proactive departments and individuals. Three outreach sessions were held during EPSC 2010 and these included 26 talks and 15 posters. As well as highlighting public engagement in Europe, the sessions to date have also provided a perspective on what is going on in the international outreach community, e.g., with talks by JPL on the Cassini Scientist for a Day programme<sup>6</sup>. EPSC in 2011 will be a joint meeting with the Division for Planetary Sciences (DPS) of the American Astronomical Society. EPSC–DPS 2011 will take place in Nantes, France, from 2–7 October 2011<sup>7</sup>.

Secondly, we aim to encourage a high-level commitment to outreach from institutions involved in planetary research. At Europlanet's General Assembly, held during EPSC 2010, the outreach team announced its goal for every associate and participant member institution of Europlanet RI to endorse the IAU Washington Charter for Communicating Astronomy with the Public<sup>8</sup>. The network of outreach nodes has now been tasked to follow this up with each Europlanet institution in their home country. As well as promoting the admirable recommendations of the Charter, this exercise should help the outreach nodes to build links with the Europlanet community, hopefully fostering a bottom-up culture of outreach in institutions, as well as top-down.

Thirdly, we launched the Europlanet Prize for Excellence in Public Engagement with Planetary Science<sup>9</sup> at EPSC 2009. Europlanet RI is awarding the prize of 4000 euros annually during the Framework 7 phase of the project to recognise outstanding initiatives to engage the general public with planetary science. Individuals or groups can be nominated by third parties or nominate themselves, supported by three letters of reference.

As well as showing appreciation for the work involved in public engagement initiatives and providing some funding to support ongoing activities, we hope that the prize, in particular among Europlanet's

outreach initiatives, will be effective in raising the prestige within the science community associated with public engagement and media activities.

The inaugural prize was awarded to Jean Lilensten of the Laboratoire de Planétologie de Grenoble during EPSC 2010. For more than ten years, Dr Lilensten has worked to share the magic of planetary aurorae with school children and members of the public across Europe, using his 'planeterrella' experiment. The planeterrella<sup>10</sup> is inspired by experiments carried out at the turn of the last century by the Norwegian physicist, Kristian Birkeland, who first described how the northern lights were caused by the solar wind's interaction with the Earth's magnetic field. In a series of experiments, Birkeland aimed a beam of electrons at a magnetised sphere (terrella) inside a glass vacuum chamber and succeeded in recreating the ethereal glow of the aurora at the sphere's poles.

Dr Lilensten has developed a portable, flexible version that can be used both as a scientific tool and for public demonstrations.

He has trained colleagues and students in demonstrating the planeterrella and the Laboratoire de Planétologie de Grenoble hosts approximately two shows per month. Observatories in Toulouse and Paris-Meudon now have their own copies of the planeterrella and another will go on display in the Palais de la Découverte in Paris later this year. Dr Lilensten is working with groups in the UK, Italy and Switzerland who propose to build their own versions.

The 2011 Europlanet prize will go to the Austrian Space Forum, a national network for aerospace specialists and space enthusiasts. It is a volunteer organisation led by space professionals, focusing on space research including human-robotic Mars exploration (Figure 2). Since 1998, it has developed an outreach programme that targets schools, teachers, the general public and the media. The spectrum of its outreach activities includes simple classroom presentations, space exhibitions reaching 15 000 visitors, schools competitions to design Mars missions, and the development of planet-themed outreach kits, e.g., a set of spacesuits, a Martian landscape and a remote-controlled Mars rover, complete with cameras and a



Figure 3. The launch of Rosetta's Comet Touchdown. Credit: The authors.

robotic arm. The award will be presented to the Austrian Space Forum at the EPSC–DPS 2011 Joint Meeting in October.

Fourthly, we launched a funding scheme<sup>11</sup> at EPSC 2009 aimed at developing new ways of bringing planetary science to audiences of the general public across Europe. Applications are judged on criteria of innovation, the potential legacy of the proposed project and the possibilities for wide European participation.

Although we do not have large sums to allocate (approximately 15 000 euros per funding round) we believe that the grant scheme has the potential to make a significant European-wide impact through the development of pilot activities or by providing seed-funding that could be matched by other funding bodies. As with the prize, we encourage successful applicants to share experiences and lessons learned through Europlanet's node newsletter, outreach website and the outreach sessions at EPSC. Evaluation reports will be made accessible online for the wider outreach community.

In 2010, Europlanet awarded grants to two projects: 5000 euros to Rosetta's Comet Touchdown, an educational kit to build models of the Rosetta Lander using LEGO Mindstorms®, and 10 000 euros to the Space Eyeful: Virtual Microscope for Extra-Terrestrial Rocks. The Rosetta's Comet Touchdown project<sup>12</sup>, produced by Lightcurve Films and co-funded by the

LEGO Group, LEGO® MINDSTORMS®, the European Space Agency and the German Aerospace Centre (DLR), was launched at EPSC 2010 (Figure 3) with a group of engineering and art students from the University of Rome testing a prototype of the kit. Further, longer-term trials have been carried out in 2011 with schools in Setúbal, Portugal and Sopron, Hungary<sup>13</sup>. Feedback will be used to refine and develop the kit. The Space Eyeful is a pilot project to adapt an online virtual microscope and give members of the public the opportunity to interact with samples of extraterrestrial rocks. The project is a collaboration between the Open University in the UK and the Natural History Museum in Vienna, Austria. A prototype library of extraterrestrial samples<sup>14</sup>, including three lunar samples, one Martian meteorite and two chondritic meteorites, has been created. This will be expanded and developed as a public engagement tool during 2011.

Europlanet is also pleased to announce that in the 2011 round of the funding scheme, it has awarded a grant of 12 000 euros to the Virtual Mars Rover (VMR) Mars Life Challenge, a multiplayer game for mobile phones, created by members of the Mars Society Polska. It has also awarded 4000 euros to the Astronomical Observatory — University of Valencia to develop 3D tactile models of the Moon for use in planetaria<sup>15</sup>. The call for nominations and applications for third round of the Europlanet prize and funding scheme will be announced at EPSC–DPS 2011 in October.



**Figure 4.** Trainees and trainers at the Europlanet science communication training workshop at the Observatoire de Paris-Meudon in June 2010. Credit: the authors.

Finally, Europlanet has undertaken to hold two science communication training workshops during the Framework 7 project, which aim to enable planetary scientists to engage with lay audiences, either directly or through the media. The trainers for this workshop are provided by ESConet, the European Science Communication network<sup>16</sup>. Workshop sessions include talks and practical exercises on writing press releases, being interviewed and designing web pages. The first workshop took place from 17–19 June 2010 at the Observatoire de Paris-Meudon (Figure 4). It was attended by 16 participants from seven countries. A second workshop will be held during 2012. The Europlanet outreach team also holds short workshops on writing for the media during EPSC, which are regularly attended by around 20 participants.

Europlanet's approach to outreach has changed significantly from the Framework 6 project, where the focus was on producing materials and developing initiatives in-house. The emphasis for Europlanet RI is on people: the nodes acting as a hub for planetary outreach in their respective countries; the Media Centre staff building links between the research community and journalists; the scientists obtaining access to training in order to develop their com-

munication skills; the best communicators and outreach providers gaining proper recognition and opportunities to share their expertise. The project now approximately mid-way through. We are evaluating the progress on a regular basis and look forward to updating you in the future.

## Notes

- <sup>1</sup> European Commission 2008, Resolution of the 5th Space Council — Taking forward the European Space Policy (Brussels, European Commission) <http://register.consilium.europa.eu/pdf/en/08/st13/st13569.en08.pdf>
- <sup>2</sup> Ros R. M. et al. 2009, *ASTRONET: Public Outreach, Communicating Astronomy with the Public journal*, 5, 26
- <sup>3</sup> Wallace D. et al. 2006, *Factors affecting science communication: a survey of scientists and engineers*, Royal Society <http://royalsociety.org/page.asp?id=3180>
- <sup>4</sup> Europlanet RI project website: <http://www.europlanet-ri.eu>
- <sup>5</sup> Europlanet Outreach website: <http://www.europlanet-eu.org>
- <sup>6</sup> Entradas M. & Miller S. 2009, *EuroPlaNet Outreach Sessions Through a Lens: Engaging Planetary Scientists in the Communication of Science*, *Communicating Astronomy with the Public journal*, 6, 8

- <sup>7</sup> EPSC–DPS 2011 Joint Meeting: <http://meetings.copernicus.org/EPSC–DPS2011/>
- <sup>8</sup> Washington Charter: [http://www.communicatingastronomy.org/washington\\_charter/index.html](http://www.communicatingastronomy.org/washington_charter/index.html)
- <sup>9</sup> Europlanet Prize for Public Engagement with Planetary Science: [http://www.europlanet-eu.org/outreach/index.php?option=com\\_content&task=view&id=258&Itemid=84](http://www.europlanet-eu.org/outreach/index.php?option=com_content&task=view&id=258&Itemid=84)
- <sup>10</sup> Planeterrella website: <http://planeterrella.obs.ujf-grenoble.fr>
- <sup>11</sup> Europlanet Outreach Funding Scheme: [http://www.europlanet-eu.org/outreach/index.php?option=com\\_content&task=view&id=269&Itemid=84](http://www.europlanet-eu.org/outreach/index.php?option=com_content&task=view&id=269&Itemid=84)
- <sup>12</sup> Rosetta's Comet Touchdown Educational Kit: <http://www.vimeo.com/channels/rosettascomettouchdown>
- <sup>13</sup> Ágota Lang, Széchenyi István Gimnázium, Sopron, Hungary Touch the Comet: The Kit Tested: [http://www.europlanet-eu.org/outreach/index.php?option=com\\_content&task=view&id=330&Itemid=41](http://www.europlanet-eu.org/outreach/index.php?option=com_content&task=view&id=330&Itemid=41)
- <sup>14</sup> The Space Eyeful: Virtual Space Microscope: [http://www.open.ac.uk/earth-research/tindley/AGT/AGT\\_Home\\_2010/Virtual\\_Microscope.html](http://www.open.ac.uk/earth-research/tindley/AGT/AGT_Home_2010/Virtual_Microscope.html)
- <sup>15</sup> Case studies of 2011 projects funded by Europlanet: [http://www.europlanet-eu.org/outreach/index.php?option=com\\_content&task=view&id=277&Itemid=84](http://www.europlanet-eu.org/outreach/index.php?option=com_content&task=view&id=277&Itemid=84)
- <sup>16</sup> ESConet Trainers: <http://www.esconet.org/>

## Biographies

Anita Heward is the Press and Outreach Officer for Europlanet RI. As a freelance science communicator, she has worked for more than ten years to raise awareness of Europe's involvement in space and astronomy. She was formerly the curator at the National Space Centre in Leicester, Director of the British Festival of Space, Co-ordinator of the UK goes to the Planets promotional campaign and Press Officer for the Royal Astronomical Society.

Thierry Fouchet is the Outreach Co-ordinator for Europlanet RI. He graduated from the Mining School of Saint-Etienne in 1994, and received a Master degree from Paris 6 University in 1995. He obtained his PhD in 2000 on the Physics and chemistry of Jupiter's atmosphere from ISO observations at Paris Observatory. After two years and a half at Oxford University, he was appointed university lecturer at Paris 6 University in 2003.