

GET INVOLVED IN PLANETARY SCIENCE EDUCATION AND PUBLIC OUTREACH! HERE'S HOW!

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Why should scientists get involved with Education and Public Outreach (E/PO)? Scientists are the holders of current, accurate scientific knowledge, and perhaps more importantly, understand deeply the nature and process of science. The means of understanding and addressing many of the issues facing society lie in science, technology, engineering, and mathematics. While the public is interested in science, it is not necessarily scientifically literate. And yet, a scientifically engaged, literate, and supportive public is a necessary partner in addressing the challenges of the future.

Scientists can transfer ownership of science to the public by increasing access to scientific thought and discovery. Scientists can do this through a variety of vehicles and in collaboration with partners such as science education specialists, teachers, and journalists. Active engagement of scientists in E/PO activities results in benefits for both the audience and the scientists.

How can scientists get involved? Most scientists are trained in research but have little formal training in education. The Planetary Science E/PO Forum helps the Science Mission Directorate (SMD) support scientists currently involved in E/PO through resources, communications, opportunities for involvement, and professional development opportunities. The Forum also assists scientists who are interested in becoming involved in E/PO efforts find ways to do so through a variety of avenues that are appropriate for the interested scientist.

Current and future opportunities and resources for scientists to become engaged in education and public outreach include: thematic resources for teaching about the solar system (archived resources from the Year of the Solar System), professional development resources for writing NASA SMD E/PO proposals (webinars and other online tools), toolkits for scientists interested in best practices in E/PO (online guides for K-12 education and public outreach), EarthSpace (a community web space where instructors can search and share about teaching Earth and space sciences in the undergraduate classroom, including class materials, news and funding opportunities, and the latest education research), and an

online database of scientists interested in connecting with education programs.

New Worlds, New Discoveries: The Year of the Solar System and the 50 Years of Solar System Exploration: New Worlds, New Discoveries offers valuable educational materials and resources to help scientists engage students and the general public in exciting topics related to today's big questions in planetary science.

The Year of the Solar System provides a framework of thematically structured existing products and activities, as well as a platform for more effective and efficient collaborations and partnerships. Each topic highlights different aspects of our solar system – its formation, volcanism, gravity, ice, possible life elsewhere – weaving together activities, resources, and ideas that scientists, faculty, teachers, clubs, and organizations can use to engage students and the general public in exploring NASA's big questions in Planetary Science. Educational and promotional materials, background information, the latest planetary science news, a calendar of activities, and a space to share YSS experiences are available at NASA's Solar System website: <http://solarsystem.nasa.gov/yss>.

During the last five decades, NASA has launched a variety of robotic spacecraft and manned missions to study the planets and moons of our solar system. During that time, our understanding of the objects in our solar system has been revolutionized, as has the technology that has made these discoveries possible. Browse the galleries to learn more about key moments in solar system exploration history at the 50 Years of Solar System Exploration website: <http://solarsystem.nasa.gov/50th>.

The celebration of the 50 Years of Solar System Exploration is an opportunity this year that can be taken advantage of in classes and programs. Collections of online resources can be found on the Year of the Solar System and 50 Years of Solar System Exploration websites; additionally, brochures and bookmarks are available in hardcopy.

Resource Toolkit: The Planetary Science E/PO Forum has put together a Resource Toolkit for scien-

tists, including a sampler of activities, tools for E/PO proposals, the NASA SMD Scientist Speaker's Bureau, and a one-page quick guide on tips and tricks for increasing impact for K-12 audiences and public events, which is currently in review and will be available soon.

Planetary Science E/PO Resources Sampler: The sampler is for use with K-12 audiences and the general public, organized by thematic topics and NASA's Big Questions in Planetary Science. The sampler is available in hardcopy and can be found on the Forum's online community workspace at http://smdepo.org/sites/default/files/PS_EPO_Resource_s.pdf.

Tools for E/PO proposals: A webinar was created to familiarize scientists that are new to E/PO with the NASA SMD E/PO terrain. It introduces SMD E/PO organizational structure, funding opportunities, and review criteria, and gives pointers on writing a good E/PO proposal. The video can be viewed at the IGES website:

http://video.strategies.org/videos/2011/May/Understanding_NASA_EPO_Emily_CoBabe_May31_201_noCC_parts_final.

NASA has posted an online proposal guide and review criteria for the ROSES Program Element: Opportunities in Education & Public Outreach for Earth and Space Science (EPOESS) program. This information about EPOESS can be found on the NASA website: <http://science.nasa.gov/researchers/education-public-outreach/explanatory-guide-to-smd-e-po-evaluation-factors>.

NASA SMD Scientist Speaker's Bureau: The Forum offers a tool to enable educators and institutions to contact NASA scientists who are interested in giving presentations, based upon the topic, logistics, and audience. The information submitted into the database will be used to help match scientists (you!) with the requests being placed. More information can be found in the NASA SMD Scientist's Speaker Bureau abstract by Shupla et al. and at the Speaker's Bureau website: <http://www.lpi.usra.edu/education/speaker>.

EarthSpace: EarthSpace is a national clearinghouse for higher education materials in Earth and space sciences. Created in response to calls from the Earth and space science higher education community, EarthSpace is a searchable database of undergraduate classroom materials for faculty teaching Earth and space sciences at both the introductory and upper division levels. EarthSpace was designed for easy submission of classroom assets – from homework and computer

interactives to laboratories and lectures. All materials are peer-reviewed before posting, and authors adhere to the Creative Commons Attribution (CC BY 3.0). EarthSpace materials are automatically cross-posted to other digital libraries (e.g., comPADRE) and virtual higher education communities (e.g., Connexions). Peer review ensures that the quality of the EarthSpace materials is high and also provides important feedback to authors.

Your submission is a reviewed publication! Beginning in 2013, all EarthSpace materials will be assigned a unique, permanent doi (digital object identifier) for publication reference. When you volunteer to review submissions, we ask for your areas of expertise so we can match the resources submitted to reviewers who know the topics well. You will also enter your availability; whether you have time to review materials once a month or once a year, your input is valuable!

In addition to classroom materials, EarthSpace provides news and information about educational research and best practices, funding opportunities, and ongoing efforts and collaborations for undergraduate education. Updates about EarthSpace and higher education news can be received via RSS feed or by joining the HE-News list-serv.

For more information about EarthSpace, please view LPSC 2013 abstract #2579 and visit the EarthSpace website: <http://www.lpi.usra.edu/earthspace>.

Forum contacts: Members of the Planetary Science E/PO Forum would be happy to help if you have questions or would like more information on the resources provided by the Forum. Contact Forum Lead Stephanie Shipp (shipp@lpi.usra.edu), Higher Education Lead Emily CoBabe-Ammann (ecobabe@spaceeducation.org), and Scientist Engagement Lead Sanlyn Buxner (buxner@psi.edu), or browse the Forum's online community workspace at <http://smdepo.org>.