

**ENGAGING SCIENTISTS IN NASA EDUCATION AND PUBLIC OUTREACH: RESOURCES AND TOOLS FOR SCIENTISTS.** J.A. Grier<sup>1</sup>, S.R. Buxner<sup>1</sup>, B. Hsu<sup>2,3</sup>, C. Shupla<sup>3</sup>, H. Dalton<sup>3</sup>, B. Meinkie<sup>4</sup>, L. Petricolas<sup>5</sup> <sup>1</sup>Planetary Science Institute (1700 East Fort Lowell Road Suite 106, Tucson AZ 85719; jgrier@psi.edu, buxner@psi.edu), <sup>2</sup>NASA Goddard Space Flight Center (8800 Greenbelt Road, Greenbelt MD 20771), <sup>3</sup>Lunar and Planetary Institute (3600 Bay Area Blvd., Houston TX 77058), <sup>4</sup>STScI (Baltimore, MD; meinke@stsci.edu), <sup>5</sup>Space Sciences Laboratory, University of California, Berkeley (Berkeley, CA; laura@ssl.berkeley.edu).

**Importance of Scientist Engagement in Education and Public Outreach:** Scientists are the holders of up-to-the-minute, accurate scientific knowledge, and perhaps more importantly, they understand deeply the nature and process of science. Also, scientists serve as models for those interested in careers in STEM and related fields. While the public is interested in science and in understanding what scientists do, 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 and understanding of science to the public by increasing access to scientific thought and discovery. This brings the public along on the journey of active research. 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.

**Getting Involved:** Scientists fall on a continuum with regard to experience and training in science education – from very experienced to just starting out. Most scientists are formally trained in research, but have not had formal training in education pedagogy. The NASA E/PO Forums help the Science Mission Directorate (SMD) support scientists currently involved in E/PO through resources, communications, opportunities for involvement, and professional development. These professional development opportunities include workshops at major society and scientific meetings for those who are interested in becoming involved in E/PO. The Forums also assist 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 scientist. The Forums understand that scientists have a range of experience, time, and interests in E/PO, and provides tools and opportunities for a variety of needs.

**Resources for Scientists:** The Forums have produced, and continue to develop, a suite of resources and tools that scientists can use in their E/PO endeavors. Some tools can help scientists early in the process to ‘get started’ while other tools are useful for those who have long been engaged in E/PO to expand the impact of their work, and to increase their efficiency.

*EarthSpace.* EarthSpace is a place to find community and peer-reviewed resources related to both undergraduate and upper division teaching. The searchable database contains a range of materials including lectures, presentations, visualizations, homework and more. Earthspace also provides information, news, and updates about developments in education research, opportunities for collaboration, and best practices. The social media and ‘comment’ aspect of EarthSpace allows for ongoing conversations and connections with others in the community.

<http://www.lpi.usra.edu/earthspace>

*Speaker’s Bureau.* NASA SMD has developed the Scientist Speaker’s Bureau online portal to connect interested scientists with those in the general public looking for a speaker for a single event or series. Joining the list is quick and easy – visit the URL below to include your name and other relevant information, (such as your interest in classroom visits, public talks, libraries, or virtual settings). When organizations need speakers, they input their needs and are connected only with those speakers whose information is a match. You will be contacted through an automatically generated email with a request, which you can accept or decline.

<http://www.lpi.usra.edu/education/speaker/>

*SMD EPO Forum Community Workspace.* Connect directly with the Forum Community on the Workspace. This is a place to find out more about the latest events and news, as well as to engage in discussions about E/PO issues of interest, professional development, announcements, and projects in development.

<http://smdepo.org>

*Getting Started Guides.* Addressing the scientist’s need for information guides that are both brief and easy-to-use, we are developing a series of short Guides to important topics in E/PO. Topics cover a wide range from “The Quick Introduction to Education and Public Outreach” to “Making the Most of Your E/PO Time – Increasing Your Impact and Efficiency.” Also in development are *One-Page Tips and Tricks* documents to assist with situations commonly encountered during E/PO such as “Classroom Do’s and Don’ts” and “Public Talks.”

<http://smdepo.org>

*NASA Wavelength.* NASA Wavelength is a resource for educators at a wide range of levels, including K-12, higher education, and associated programs. This digital collection of materials has been through a peer-review process by both scientists and educators.

<http://nasawavelength.org>

**Feedback from Scientists:** The Forums are interested in your ideas and feedback. Products are constantly in development and revision, and your feedback makes them more useful and effective.

**Sources:** Shupla, C. et al. (2013) *LPS XLIV*, Abstract #1211. Dalton, H.A. et al., *LPS XLIV*, Abstract #2753. Dalton, H.A. et al., *LPS XLIV*, Abstract #2579.

**Additional Information:** Learn more and become involved at <http://smdepo.org>. Contact Jennifer Grier ([jgrier@psi.edu](mailto:jgrier@psi.edu)) or Sanlyn Buxner ([buxner@psi.edu](mailto:buxner@psi.edu)) for more information.