

# Preparing Scientists to Engage the Public

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## Abstract

Planetary scientists can face challenges in effectively interacting with audiences. To help address their needs, the Lunar and Planetary Institute (LPI) conducts professional development for planetary scientists through seminars and workshops. LPI also enables scientists to participate in public events, and connects them to requests for speakers. LPI's Sharing Planetary Science seminars include current educational research and incorporate the participants' own knowledge and experiences in engaging public audiences. Participants attend in-person or online. Post-session surveys indicate that all participants (100%) have found at least one aspect of each seminar valuable. Resulting resources are available online. [www.lpi.usra.edu/education/scientist-engagement](http://www.lpi.usra.edu/education/scientist-engagement). In March 2019, working with the Volatiles, Regolith and Thermal Investigations Consortium for Exploration and Science (VORTICES) program, LPI conducted the first Planetary Scientist Engagement Institute. This 2-day training was attended by 23 planetary scientists from across the U.S. who learned about audience needs, common solar system misconceptions, resources for engaging audiences, addressing controversial topics, partnering to reach diverse audiences, and more. In the follow-up evaluation, all (100%) of participants found that the program met their goals and was useful. LPI has conducted a variety of scientist engagement activities at conferences, including sessions and workshops on communicating with audiences, using social media to share their science, and communicating with news media. All have proven popular. LPI hosts a variety of public events, and enables planetary scientists to participate as speakers and as activity facilitators. LPI connects scientists with requests for presentations, both locally and virtually. Future plans include developing a mechanism for evaluating the process and the perceived impact by the scientists. This poster will include further details of these professional development sessions, their resulting resources, the evaluations, and future plans.

# Preparing Scientists to Engage the Public

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The Lunar and Planetary Institute (LPI) conducts professional development for planetary scientists to help address the challenges of effectively interacting with audiences. Scientists have opportunities to practice sharing their science through activities and presentations. Evaluation has indicated participants find these efforts valuable.

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## Sharing Planetary Science Seminars

LPI's Education and Public Engagement team conducts hour-long seminars, which began in February 2018. Seminars include current education research, and incorporate the scientists' own knowledge and experiences, through guided activities and facilitated discussions. Participants attend in-person and via webinar online.

Resulting resources are available: [www.lpi.usra.edu/education/scientist-engagement](http://www.lpi.usra.edu/education/scientist-engagement)

### Past Topics

Addressing Controversial Topics  
Sharing Science with the News Media  
Common Planetary Misconceptions  
Making Planetary Science Relevant  
Getting the Audience's Attention  
Understanding Audience Goals  
Using Social Media  
Sharing Science with the News Media  
Measuring Your Impact

### 2020 Topics

Giving Successful Press Interviews  
Presenting to Culturally Diverse Audiences  
Writing Popular Science  
Sharing Through Social Media



An anonymous evaluation survey was conducted after each session. All responses (100%) indicated that at least one aspect of the seminars was valuable. The most useful aspects of the seminars ranged from the information presented, to discussions of the concepts, to practicing solutions to issues.

## Events and Opportunities

LPI hosts public events and enables planetary scientists to participate as speakers and as activity facilitators. LPI connects scientists with requests for presentations, both locally and virtually.

**Sky Fest** is a family event held at LPI about 5 times a year. The event provides audiences with the opportunity to interact with scientists, but also provides a valuable opportunity for scientists to gain experience in conducting outreach. Typical SkyFest events may include 3 to 5 stations with hands-on activities, two or more 15-minute lectures geared for children, night sky viewing with telescopes, and solar system tours in a portable planetarium. Each event has a theme, such as *International Observe the Moon Night*, Earth Day, the launch of a planetary mission, or space careers.

The **Cosmic Exploration Speaker Series** is an annual lecture series geared for inquisitive adults, held at LPI about 5 times a year. Each year has an overarching space science theme; the theme for 2019-2020 is *Apollo to Artemis: Exploring Our Moon*. The presentations are also streamed and recorded. Presenters who are local are invited to give a trial presentation and receive feedback in preparation before the event.



LPI also responds to a variety of requests to conduct activities or provide planetarium tours of the solar system at Houston-area events, such as school STEM-nights, library events, and festivals. Scientists often attend with education staff and present activities or give presentations, sharing their science, providing audiences an opportunity to interact with a scientist, and gaining experience in outreach.

## Planetary Scientist Engagement Institute

In March 2019, working with the Volatiles, Regolith and Thermal Investigations Consortium for Exploration and Science (VORTICES) program, LPI conducted the first *Planetary Scientist Engagement Institute*. This 2-day training was attended by 23 planetary scientists. In the follow-up evaluation, all (100%) of participants found the program met their goals and was useful.

The program covered a variety of education topics, such as common solar system misconceptions, techniques for addressing controversial topics, activities and demonstrations for engaging audiences, and partnering with educational institutions. The program included interactive activities and extensive discussion time to allow participants to share their experiences and insights.



Twenty-three participants attended. Most were graduate students and early-career scientists, but five were experienced/ senior scientists, and one was a planetary science education specialist.

Participants' goals in conducting public engagement included sharing their science/research, inspiring STEM careers, and educating and informing audiences. Many incorporated the need to demonstrate diversity of scientists and the need to reach diverse audiences in their goals.

A final evaluation was conducted after the event through an online survey.

- Participants were invited to rank how well the overall institute met their goals on a 4 point scale: "Extremely well," "Fairly well," "Somewhat," and "Not at all". All (100%) of responses were positive: 72% responded "extremely well," 22% responded "fairly well," and the remaining response selected "other: I was excited to know more, by the Methods you use to share planetary sciences."
- Participants were invited to rank how useful the overall institute was for their future public engagement efforts on a 4 point scale that ranged from "Extremely useful" to "Not at all". 100% of responses were positive, with 72% responding "extremely useful" and 28% responding "fairly useful."
- Participants suggested a variety of topics for future sessions, including social media, interacting with journalists, and reaching out to underrepresented minorities. Participants were asked what they would change about the institute; most indicated they would not make any changes. Several suggested that it could be longer.

## The Future

**Professional development:** LPI will continue to conduct professional development for planetary scientists, with input from the community. Online participation increased in 2019 and is expected to continue increasing. We anticipate conducting Planetary Scientist Engagement Institutes every few years. We intend to collect data on the impact that participating in outreach events has on scientists themselves.

**Resources:** We are planning public engagement resources for scientists, such as editable powerpoints on assorted planetary topics.

**Events:** In addition to its current activities, LPI is working with NASA @ My Library to assist scientists in delivering virtual programs to libraries in the United States, using a model developed by Portal to the Public.

To learn more about engaging the public in planetary science, or provide suggestions on ways that LPI can help scientists with education and public engagement, contact Christine Shupla at [shupla@lpi.usra.edu](mailto:shupla@lpi.usra.edu).