REACHING NEW AUDIENCES THROUGH CAMPS. C. Shupla, M. D. Bialeschki, A. Shaner, A. Smith Hackler, 1 Lunar and Planetary Institute (3600 Bay Area Blvd., Houston, TX 77058, shupla@lpi.usra.edu), 2 American Camp Association.

Camps reach broad audiences across the US, including rural audiences and underserved youth. Many camp program facilitators are eager to incorporate meaningful hands-on activities into their programs. Scientists and the Education and Public Engagement (EPE) community can reach new audiences by sharing their resources, providing professional development, and collaborating with camps.

The Lunar and Planetary Institute (LPI) EPE staff have collaborated with the American Camp Association (ACA) for several years; in 2016, LPI conducted focus group discussions with ACA members and staff in order to determine the most effective ways that the science and EPE community can serve camp programmers.

Camp programmers examine demonstrations from Explore Jupiter’s Family Secrets during a conference.

Collaborating with Camps: Camp professionals like to say that there is a camp for every child. For this to be true, camp programs include day camps as well as overnight camps; short three day session to summer-long programs; programs offered year-round (especially for school groups); and camps that range from “traditional” programs (nature, arts & crafts, sports) to more specialized opportunities (STEM, theater, wilderness trips, etc). Some camps focus on specific audiences such as inner city and at-risk youth, children with disabilities, LGBT youth, and other minority groups. And almost all camps offer scholarships for families that need a little help in making this experience available for their child.

Camps build 21st century learning skills such as social skills, independence, problem-solving, self-confidence, identity development, or spiritual well-being, which in turn contribute to career/college readiness and becoming a contributing member of society.

While science and STEM are not always a focus, most camps feature themes that can include science and/or STEM, and almost all camps include a variety of hands-on nature-based activities and crafts that can easily include science experiments and inquiry-based activities. Of the almost 3,000 ACA camps, 32% of all camps offer STEM specific programs, and 47% of day camps offer STEM activities.

One way to reach large numbers of camps is by working directly with ACA, which has over 10,000 individual members. ACA is a large umbrella organization serving and working with many different camp programs, including Girl Scouts and Boy Scouts, the YMCA, 4H, museum camps, medical specialties (diabetes, oncology, burn, etc), and many other youth serving organizations.

Top Recommendations for Scientists and Education and Public Engagement Community: For meaningful connections locally, contact your local camp programmer to learn about their camp audience, program focus, needs, and ways you can share science content with their campers. These connections could include instructing during staff training, conducting activities with the campers, giving a presentation, or providing resources.

If you had positive meaningful experiences at camp yourself as a child, consider volunteering to speak at an ACA regional or national camp conference. Camp staff and volunteers are inspired and informed to hear the impact that their work has on future scientists and engineers. Another conference option would be to share your science education resources through an educational session or a booth, or work with ACA professional development staff to share your resources nationally through ACA’s Professional Development Center. For connections to ACA conferences and staff, contact the authors.

LPI Camp Engagement: In 2016, LPI continued a history of participating in ACA conferences.

LPI conference activities included presenting workshops and holding a booth at the national conference in
Atlanta, and presenting workshops at the ACA Spring Leadership Conference in Palm Springs and the ACA Midwest Conference in Chicago. Workshop activities included *UV Kid*, *Oreo Moon phases*, *Cosmic Survey*, a weather quiz, and several solar system activities from *Explore Jupiter’s Family Secrets*. Workshops were attended by about 100 camp programmers, and over 100 more were reached through conference booths and meetings. Short evaluations for the workshops were conducted; attendees rated the workshop high on their ability to implement NASA activities conducted, knowledge gained, and overall quality.

Two *Marvel Moon* webinars were conducted by LPI on April 5, 2016 for ACA members and others. A two-day workshop was conducted prior to the OSIRIS-REx launch for ACA members in September 2016; 15 of the 31 participants were camp programmers. Hands-on activities and conversations with scientists focused on solar system formation and evolution, asteroids, meteorites, and robotic exploration of the solar system. More than 87% of participants reported feeling “confident” or “very confident” in implementing all presented activities, and over 75% of participants “probably” or “definitely” will implement nearly all the presented activities in their programs.

![OSIRIS-REx workshop attendees analyzed the components of the solar system.](image)

Throughout this period, LPI staff coordinated efforts with Dr. Deborah Bialeschki, the ACA Director of Research, who coordinates ACA’s professional development efforts, to determine which types of interaction would be most beneficial to camp programmers, and to provide introductions to camp programmers, managers, and other facilitators. LPI held a variety of meetings, including focus groups, to gather input from camp programmers on their needs and interests, and the types of Earth and space science activities and resources that would be most useful to camps.

**The Intersection between Camps and Space Science:** Although some camps are for adults, the overarching theme is working with youth; camps can be indoors as well as outdoors, afternoon, after-school, and extended overnight camps.

Some camps do have themes or topics such as science, STEM, or even space. For these camps, quality hands-on STEM activities that use cheap, easily purchased materials, and do not require extensive time, preparation, or background experience to conduct may be useful.

Many camps take advantage of an outdoor setting, and incorporate exercise and health into their programs; related Earth and space science resources could include night sky activities and resources, climate and weather activities and resources, activities related to health in space, activities and resources related to ozone or protection from UV radiation, and connections to NASA volunteer networks such as Solar System Ambassadors and the Night Sky Network.

Camps incorporate games and crafts to help youth develop communication and collaboration skills, and to increase self-confidence. Related resources include a variety of STEM collaborative activities, such as engineering design activities and team-building exercises.

Camps do not have extensive equipment and frequently try to limit the children’s access to technology; however, many use radios, making hands-on radio activities (such as those exploring solar radio signals) a natural connection.

**Opportunities for Action:** For further recommendations and assistance in connecting to camp programs, contact the authors.

**References:**