

OSIRIS-REx, JWST, AND GIRL SCOUTS PARTNER WITH LOCAL LIBRARIES FOR WOMEN'S HISTORY MONTH AND BEYOND. A. H. Spitz¹, L. A. Lebofsky^{1,2}, M. L. Higgins², R. Dubois¹, M. Dykhuis¹, A. Braun³, J. Walter³. ¹University of Arizona, Lunar and Planetary Laboratory, Tucson, AZ, USA, aspitz@lpl.arizona.edu, ²Girl Scouts of Southern Arizona, AZ, USA, ³Pima County Public Library, Tucson, AZ 85701, USA.

Introduction: NASA's OSIRIS-REx Asteroid Sample Return Mission began a partnership with local libraries to provide public outreach in 2013. This partnership was launched in conjunction with NASA's James Webb Space Telescope (JWST) Education and Public Outreach (E/PO) and the Girl Scouts of Southern Arizona (GSSoAZ) using Women's History Month as a catalyst. OSIRIS-REx led efforts to produce materials about women in space science focusing on OSIRIS-REx women and including women scientists and engineers from regional research organizations (National Optical Astronomy Observatory, University of Arizona's [UA] Lunar and Planetary Laboratory [LPL], UA Steward Observatory, and The Planetary Science Institute) and historical figures. Product development criteria centered on library needs, a focus to attract girls, and the ability to multipurpose the products. We worked closely with librarians to create content, prepare usable formats, and ensure accessibility. With minor modifications, we used the products at other events and posted them online for continued and wider access and use.

Pima County Library Partnership: Libraries remain relevant in the twenty-first century by embracing new technologies, expanding content and activities, and partnering with other groups which offer exciting and relevant content [1]. Local libraries provide established and far-reaching networks for reaching the public to communicate about science, technology, engineering, and mathematics (STEM) careers. The Pima County Library system provides multipurpose community centers to diverse populations throughout 9,189 square miles (23,799 km²) of Pima County in southern Arizona. Pima County libraries are committed to helping community members develop twenty-first century skills and want to partner with universities, local organizations, and corporations to expand the services and opportunities they offer at their branches and online [2]. We worked closely with librarians, first to inform about our availability and capabilities, then to plan infrastructure for partnering, and finally to create materials useful to librarians.

Women's History Month. In 1987 Congress passed resolutions to authorize the President to proclaim March each year as "Women's History Month." Since 1995, Presidents Clinton, Bush, and Obama have issued a series of annual proclamations designating the

month of March as Women's History Month. This annual event provides an opportunity to highlight women in STEM to encourage girls (in fact, all children and young adults) to learn about women in STEM careers and imagine themselves as part of an ongoing history of achievement in STEM. Engaging girls in STEM to increase the percentage of women in STEM careers is a high priority goal for the US [3, 4]. Libraries and other organizations embrace Women's History Month as part of their annual calendar of events. Connecting research and missions to this broader event leverages a popular, well-known activity to greatly expand the reach of, and engagement in, our missions and organizations. Using established networks, such as libraries, provides us the distribution network and the libraries the exciting and relevant content – a win-win for all.

Team structure. UA's Lunar and Planetary Laboratory (LPL) leads the OSIRIS-REx mission. NASA selected OSIRIS-REx as the third NASA New Frontiers mission in 2011. As part of the mission, OSIRIS-REx has an active Communication and Public Engagement (CPE) program. As part of the UA College of Science, LPL is also committed to local outreach to encourage the southern Arizona community's knowledge of, and engagement in, the OSIRIS-REx mission. JWST's Near Infrared Camera (NIRCam) and GSSoAZ have an established relationship to educate girls in southern Arizona in STEM fields. With the encouragement of NASA's *Science4Girls*, the three programs formed a partnership to combine resources and knowledge to reach out to girls during Women's History Month and to use this event to launch a broad-



Melissa Dykhuis participates in Story Time at Pima County Library El Rio Branch, Spring 2013. We participated in Story Time with preschoolers.

er and long-lasting partnership with local libraries.

Establishing resources. The partnership built on existing resources developed for our programs, created new products, and tailored content and format to librarian needs. We presented our resources, discussed options for resources and activities, and planned events with librarians at individual branches and for specialized programs such those as with the children-centered programs. The OSIRIS-REx/NIRCam/GSSoAZ partnership did not create new, standalone events, but provided content, materials, and personnel to satisfy existing and proposed library activity planning. For example, we participated in Story Time with preschoolers, reading a short biography about astronaut Ellen Ochoa and making comets in a hands-on activity. At other library branches, we conducted hands-on activities and provided presentations as part of their ongoing series of events.

Resources created for libraries and other uses included: a video about women working on OSIRIS-REx, one-page vignettes about women in space sciences (local, OSIRIS-REx team members, historical, and well-known), PowerPoint slideshows of the vignettes, book lists and resource listings (*Women in Science Biographies and Science Fiction*, *Asteroids in Non-Fiction and Fiction*, *Planetary Books for the Classroom and Library*, and *Additional Resources from NASA for Libraries*). Librarians were able to display the PowerPoint slide shows and use printouts of the vignettes for displays in their branches. We made our materials available to NASA's *Science4Girls* for wider distribution.

Expansion. Materials created for Women's History Month 2013 and for the libraries continue in use at other events and through other media. For example,



OSIRIS-REx video: *OSIRIS-REx Women Inspiring Innovation through Imagination*. This video was made available to libraries, used in OSIRIS-REx displays at events, and resides on the YouTube channel for wide access by the public and team members.

created for the library partnership at their displays at the *Tucson Festival of Books* in March 2013. *OSIRIS-REx Celebrates Women's History Month* is one of the videos about the mission and team members available on the OSIRIS-REx YouTube channel at www.youtube.com/osirisrex. OSIRIS-REx also maintains a site, *OSIRIS-REx Celebrates Women in Science, Technology, Engineering and Mathematics* at <http://asteroidmission.org/?q=WomensHistoryMonth>. This site provides easy, ongoing access for librarians and other interested users to all the materials created for March 2013 events. These products are part of the larger groups of products available to the team. OSIRIS-REx team members use the videos and materials during presentations to community and other groups.

Future Development: OSIRIS-REx continues to respond to requests for presentations and other activities using the materials created in 2013 and additional products. OSIRIS-REx CPE will continue to mark important mission events and important external events with easily available, high quality, and desired products. Partnerships with local and regional networks and other NASA missions and research institutions will continue to strengthen the OSIRIS-REx engagement effort.

References: [1] American Library Association (2011) *2011 The State of American Libraries*. Chicago: ALA. [2] Pima County Library (2013) *Community Impact Plan*. [3] C. Hill, C. Corbett, A. St. Rose. (2010) *Why so Few? Women in Science, Technology, Engineering, and Mathematics*. Washington: American Association of University Women. [4] White House Office of Science and Technology Policy (2014) *Women in STEM*. Retrieved from <http://www.whitehouse.gov/administration/eop/ostp/women>.