



## INFORMAL SCIENCE LEARNING, THE MEDIA, AND YOU

ILI hosted an impressive gathering of media expertise and potential partners at an invitational conference in mid-March. Funded by the National Science Foundation [NSF-DRL-0636124], with additional support from the National Park Service, the meeting drew together leading thinkers and practitioners from the worlds of television, gaming, mobile technology, web-based learning, and science-related museums and parks to explore how best to support informal science learning. ILI partnered with Grunwald Associates to challenge the participants to consider how their collective expertise can build public engagement with science.

Noting that the experts in attendance shared a common educational mission, Beverly Sheppard urged the participants to approach the meeting as an “incubator of thought and possibility.” She invited all attendees to share their specific lens on science learning with the group, encouraging the cross-fertilization of ideas and the potential for creating new partnerships. The group’s overarching goal was to establish the frameworks for an ongoing conversation that will take place on a new wiki-based website. We hope you will join the conversation as well.

**Add your own creativity and innovative thinking to the challenge of enriching informal science learning when the website launches (anticipated by May 15). Please join in at [www.mediasciencelearning.com](http://www.mediasciencelearning.com).**

To view an extraordinary example of how a collaborative approach can build a very exciting, integrated learning experience, read about 400 Years of the Telescope in this edition of our bulletin.

## ILI STAFF NEWS

Join us in welcoming **VICTOR YOCCO** to the ILI staff as a Research Associate. Victor joins us from Central Ohio where he has spent the last two years conducting visitor evaluation for the Columbus Museum of Art. Victor has worked with a number of free-choice learning institutions in Columbus and throughout Ohio, and has been involved with a variety of ILI projects over the past few years. He is currently a PhD candidate at The Ohio State University, School of Environment and Natural Resources and will be balancing his academic pursuits with ILI projects, including Science in the Circle, Wild Research, WolfQuest, Evolution and Health, and an audience study for the Ohio Historical Society.

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Cheryl Kessler, Joe Heimlich, and Jessica Sickler have all been elected to the VSA Board.



Jill Stein is the CARE Regional Representative, Mid-Atlantic Region



A Standing Professional Committee of the American Association of Museums

## REACHING FOR THE STARS

ILI celebrates the International Year of Astronomy with exciting projects and partners.

In the year 2009, the world celebrates the International Year of Astronomy as it commemorates the 400th anniversary of Galileo's use of a telescope to study the skies, and Kepler's publication of *Astronomia Nova*. ILI is proud to be a partner in research and evaluation projects that support amateur astronomy and astronomy outreach efforts across the nation. Our work over the years has enriched our understanding of this rapidly growing field—from scientist to hobbyist.



<http://astronomy2009.us>

- ♦ **400 Years of the Telescope:** *A Journey of Science, Technology, and Thought*  
The 400 Years of the Telescope project is an exciting multimedia celebration of Galileo's first telescopic observations of the cosmos, and the resulting journey of discovery for humanity. ILI is working with project partners Interstellar Studios, Southern Oregon Public Television, 'Imiloa Astronomy Center of Hawaii, Carnegie Science Center, and the Astronomical Society of the Pacific (ASP), to conduct a summative evaluation of the project's multifaceted programs: a PBS documentary, planetarium program, web site and tool kit for amateur astronomers. More information about this project is available at <http://www.400years.org>.
- ♦ **Sharing the Universe:** This four-year project funded by the National Science Foundation [NSF-ISE #0638873] aims to help amateur astronomers find ways to improve the quality and effectiveness of education and public outreach (EPO) opportunities, and create a more connected and active network of amateur astronomy clubs involved in public education nationwide. In partnership with the Astronomical Society of the Pacific (ASP), ILI is conducting ethnographic research to explore the nature of astronomy clubs and their role in science outreach. More information about this project is available at <http://www.astrosociety.org/stu/index.html>.
- ♦ **Astronomy From the Ground Up:** Also funded by the National Science Foundation [NSF-DRL #0451933], this program will provide informal science educators at science centers, nature centers, museums, and other informal education venues with new and innovative ways to communicate astronomy content to their visitors. As project evaluators, ILI partnering with Astronomical Society of the Pacific (ASP), Association of Science-Technology Centers (ASTC), and National Optical Astronomy Observatory (NOAO), to research professional development strategies and test new methods of informal science education. More information on this project can be found at <http://www.astrosociety.org/afgu/index.html>.
- ♦ **Science Theater Education Programming System (STEPS):** The Space Science Institute (SSI), Astronomical Society of the Pacific (ASP), the University of Colorado (Denver), and the Association of Science-Technology Centers (ASTC), and eight science centers/museums are collaborating to develop an innovative, interactive museum theater presentation system that supports the integration of multimedia and audience participation activities into museum theater programs. The project focuses on astrobiology and space exploration. ILI provides front-end, formative, summative and process evaluation support for the project. The project is funded by the National Science Foundation under DRL #0714241.
- ♦ **Maya Skies:** Maya Skies is a bilingual, full-dome, immersive planetarium show on Maya archaeoastronomy, featuring the scientific achievements and the cosmology of the Maya. A collaboration between the Chabot Space and Science Center, ARTSLab (University of New Mexico), ILI, and the Institute for Study and Integration of Graphical Heritage Techniques, the production will use cutting-edge architectural laser scanning technology to digitally recreate the great Maya city of Chichen, thus providing an immersive experience of unprecedented realism. ILI serves as Co-PI and research partner, providing scientific and educational input into show development, and using the show to investigate the influence of "immersion" on learning. The project is funded by the National Science Foundation under NSF-ISE #061025. More information on this project is available at <http://mayaskies.net/> and <http://www.chabotspace.org/aboutus/mayaskies.asp>.
- ♦ **Asteroids!:** This five-year project funded by the National Science Foundation [NSF-ISE# 0813528] will produce a traveling exhibition, small exhibit components, and comprehensive education and public outreach designed to support public understanding of near earth objects (NEOs) like asteroids and comets, the risks they pose, and the steps that scientists are taking to prevent a devastating NEO impact. This integrated informal education project is lead by Principle Investigator, Paul Dusenbery at the Space Science Institute of Boulder, CO, in partnership with the Astronomical Society of the Pacific (ASP), the Association of Science-Technology Centers (ASTC), Catawba Science Center and the New Mexico Museum of Natural History and Science. ILI is conducting evaluation throughout all phases of the project as well as researching ways that web 2.0 activities might support innovative approaches to exhibition design and evaluation. More information about this project is available at: [http://www.spacescience.org/pressroom/releases/SSI\\_Asteroids\\_Press\\_120408.pdf](http://www.spacescience.org/pressroom/releases/SSI_Asteroids_Press_120408.pdf).

## NEW CULTURAL FRONTIERS

Steve Yalowitz represented ILI at this year's **Expanding Informal Science Education for Latinos** conference in Albuquerque, NM. In his session entitled "Culturally Appropriate Evaluation," Steve discussed the importance of including Latinos in visitor studies and shared strategies for how to incorporate this audience in a culturally sensitive and appropriate manner—considering language, culture, bias, and sampling. In addition, Steve was joined by Cecilia Garibay to lead a discussion in a session entitled "Evaluating Impact." Steve's contributions to this forum and his continued efforts in bilingual research and evaluation projects has helped build new opportunities for ILI.

Moving forward, Steve will lead a new project with the Self Reliance Foundation (SRF) and its new endeavor, ConCiencia, the nation's only Spanish-language Hispanic Science Newswire service. Steve, along with research associate Angie Ong, will be working with the SRF team to conduct formative and summative evaluation of this media service. For more information, visit the SRF website (<http://www.selfreliancefoundation.org>) or email Steve Yalowitz.



## JOIN US AT AAM PHILADELPHIA

ILI staff will be at this year's annual meeting of the American Association of Museums (April 30-May 4, 2009). Details of our workshops and presentations are listed below. A full AAM schedule is available on their website ([www.aam-us.org](http://www.aam-us.org)).

| ILI Staff                     | Session name                                                                               | Session Date/Time                       |
|-------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------|
| Steve Yalowitz                | <i>"Measuring the Impact of Advertising: Useful Metrics or Impossible Dream?"</i>          | Thursday, April 30<br>2:15 to 3:30 p.m. |
| Jes Koepfler<br>Angie Ong     | <i>"Where the Rubber Meets the Road: Economy, Tourism, and Museums"</i>                    | Friday, May 1<br>9:00 to 10:15 a.m.     |
| Jill Stein                    | <i>"Informed Engagement: Museum and Immigrant Communities"</i>                             | Friday, May 1<br>9:00 to 10:15 a.m.     |
| Martin Storksdieck            | <i>"Mixing It Up — Engaging Visitors Through Cross-Disciplinary Exhibits"</i>              | Friday, May 1<br>2:15 to 3:30 p.m.      |
| Jessica Luke                  | <i>"Traveling with Jacob Lawrence's Migration Series—A National Community of Practice"</i> | Friday, May 1<br>2:15 to 3:30 p.m.      |
| Beverly Sheppard              | <i>CARE Marketplace of Ideas</i>                                                           | Friday, May 1<br>3:30 to 5:30 p.m.      |
| Steve Yalowitz                | <i>"Visitor Studies 101"</i>                                                               | Saturday, May 2<br>2:00 to 3:15 p.m.    |
| Jill Stein<br>Jessica Sickler | <i>"Museums and Society: Engaging Visitors in Civic Issues"</i>                            | Sunday, May 3<br>9:00 to 10:15 a.m.     |
| Jessica Sickler               | <i>"Who Defines Value? Assessing Museum Impact in School Communities"</i>                  | Sunday, May 3<br>2:00 to 3:15 p.m.      |

## ALSO ON THE ROAD...

- ♦ Kate Haley Goldman and Jes Koepfler attended the **Museums and the Web** conference in Indianapolis, IN, April 15-18. There they participated in a panel and presented a paper entitled "Learning in the Wild: Evaluating WolfQuest's Impact on Game Players." This workshop is a culmination of the work Kate and Jes had undertaken as part of the project WolfQuest, an online multi-player, role-playing game developed by EduWeb and the Minnesota Zoo.
- ♦ Jessica Luke attended the **National Art Education Association** conference in Minneapolis, MN, April 17-21. Jessica joined members of the Education Department from the DeCordova Museum & Sculpture Park to discuss research findings from their three-year IMLS study in "Interactive Models for Learning: Final Research Results from DeCordova Museum." In addition, Jessica presented a progress report in project session entitled "Intergenerational Learning in Art Museums."
- ♦ Jessica Luke and Cheryl Kessler will attend the **Association of Children's Museums Interactivity Conference** in Philadelphia, PA, April 28-30. Together they will present a workshop entitled "Assessing Health and Wellness Partnerships." In addition, Cheryl will be participating in the "Every Child Matters" Initiative panel.

## RECENTLY PUBLISHED



Most environmental learning takes place outside of the formal education system, but our understanding of how this learning actually occurs is in its infancy. By surfing the Internet, watching nature documentaries, and visiting parks, forests, marine sanctuaries, and zoos, people make active choices to learn about various aspects of their environment every day. *Free-Choice Learning and the Environment* explores the theoretical foundations of free-choice environmental education, the practical implications for applying theory to the education of learners of all ages, and the policy implications for creating new and sustainable environmental education opportunities.

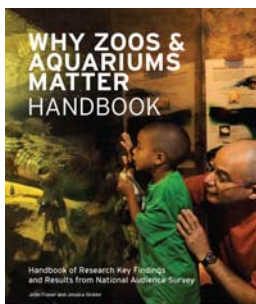
Falk, J.H., Heimlich, J.E. & Foutz, S. (eds.) (2009). *Free-Choice Learning and the Environment*. Lanham, MD: AltaMira Press.



### Why Zoos & Aquariums Matter

In March 2009, the Association of Zoos and Aquariums (AZA) published two useful tools for their members under the banner of their national public research initiative. ILI researchers John Fraser and Jessica Sickler were the authors of *Why Zoos and Aquariums Matter Handbook*, a summary of results from their 3.5-year study of Public Perceptions of the Value of Zoos and Aquariums to the Community of Learners, a project collaboratively funded through a major grant from the Institute for Museum and Library Services with matching funding from the Wildlife Conservation Society. At the same time, AZA also reprinted the *Why Zoos and Aquariums Matter Toolbox*, a guide for using four research tools developed by ILI researchers John Falk, Joe Heimlich, and Kerry Bronnenkant, through funding from the National Science Foundation.

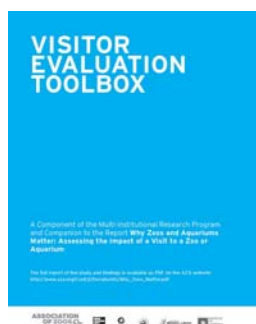
ILI is now planning workshops around the country to help AZA members learn how to apply these research findings and tools at their institutions. Two workshops have already been scheduled for the AZA national conference in Portland, OR on September 13-14, 2009, and more regional workshops are sure to follow. Look for an announcement about when these publications are available online, or email Judy Behm ([behm@ilinet.org](mailto:behm@ilinet.org)) at the ILI office to request your own copy of the results today.



### *Why Zoos & Aquariums Matter Handbook*

This 88-page publication is the full version of the project's Handbook. This document provides a thorough review of the results, analysis, and implications of the Value of Zoos and Aquariums Research. The two sections that comprise this book are also available on this CD.

- ◆ *Handbook: Section 1* provides readers with a set of user-friendly, two-page summaries of key findings and implications that resulted from each area of inquiry within the research and are designed to facilitate communication of the research to all members of the zoo/aquarium field.
- ◆ *Handbook: Section 2* provides detailed presentation of the quantitative data collected from national survey panels in this research presented primarily through tables and graphs, and organized by the value themes explored in the research.



### *Visitor Evaluation Toolbox*

This publication is an instructional guidebook that directs zoo and aquarium professionals in how to collect adult visitor data using the four tools developed by this research project. This practical document provides basic instructions on how to conduct *any* visitor evaluation, as well as specific instructions and procedures for collecting visitor data using the four MIRP tools. An accompanying CD contains software for easy data entry and analysis.