NASA and Beyond: Field Experience in Developing Entrepreneurial Partnerships

Session Leader:
Leslie Lowes, NASA Jet Propulsion Laboratory

Session Moderators:
Amelia Chapman, NASA Jet Propulsion Laboratory
Bev Girten, NASA Headquarters
NASA’s Exploration and STEM Engagement
NASA’s Exploration and STEM Engagement
Objective 2.4

Advance the Nation’s STEM education and workforce pipeline by working collaboratively with other agencies to engage students, teachers, and faculty in NASA’s missions and unique assets.
NASA Education transitioning to NASA STEM Engagement

Vision
We immerse the public in NASA’s work, enhance STEM literacy, and inspire the next generation to explore.

Mission
We engage the nation in NASA’s mission.

• Create unique opportunities for students and the public to contribute to NASA’s work in exploration and discovery.
• Build a diverse future STEM workforce by engaging students in authentic learning experiences with NASA’s people, content and facilities.
• Strengthen public understanding by enabling powerful connections to NASA’s mission and work.
CP4SMPVC Grants

Competitive Program for Science Museums, Planetariums, Visitor Centers

Visit the NASA poster on Sunday, October 22, 10:15 am for more info.
Today we hope you will...

• Gain inspiration from entrepreneurial ideas on partnerships

• Learn practical tips from projects’ successes, challenges, adaptations, and benefits

• Build contacts

• Consider strategies for direct application at your home institution
Session Format

• Overview presentations from awardees
  – Think about the entrepreneurial partnership theme you are most interested in
  – Please write down one thing you’d like to have discussed in the small group

• Break into discussion groups on each partnership issue “theme” (2 rotations of 20 minutes each)

• Please hold questions for the discussion groups
PLEASE Evaluate Our Session

October 21, 2017
Today’s Topics and Presenters

• Connecting Audiences with Cultural Content
  – Timothy Hecox, Oregon Museum of Science and Industry

• Facilitating Meaningful Partnerships Across Outside Organizations
  – Anne Holland, Space Science Institute

• New Partners to New Audiences
  – Brandon Lanman, Orlando Science Center

• Creating an Exhibit in a City of Experts
  – Jan Luth, Exploration Place

• From Parks to School Libraries: Growing STEM in Unique Places
  – Katelyn Wamsted, Girlstart
Connecting Audiences with Cultural Content

Lenses on the Sky

Timothy Hecox

Oregon Museum of Science and Industry (OMSI)
OMSI is a science center in Portland, Oregon serving over 1 million visitors at the museum and through off-site education programs throughout the West.

Lenses on the Sky

Our big idea:

*Humans have used observational tools and techniques across cultures and time to understand space phenomena.*

Our audience:
Families with children 9-14

with a special focus on:
- Hispanic communities
- African American communities
- Native American communities
- Rural Oregon

Our Community Partners:
- Libraries of Eastern Oregon
- Rosa Parks Elementary School
- Rose City Astronomers
- Confederated Tribes of Grand Ronde
- Portland Public Schools Indian Ed
- METRO Regional Government
  + Several local cultural organizations
– Focus: Observable sky objects and processes
  • Moon
  • Sun
  • Stars
  • Planets
  • Meteors/meteor showers

– Partnership Goals:
  • Include diverse content
  • Engage new audiences
  • Build on existing partnerships
  • Create new partnerships
Museum Exhibitions: Creating Easily Updatable Platforms with Cultural Connections
Museum Exhibitions: Overhead Component
Public Programs: Integrating new cultural content in existing platforms

Join me at my table to talk more about engaging with our communities!
Facilitating Meaningful Partnerships Across Outside Organizations

From Our Town to Outer Space (FOTOS)

Anne Holland
Space Science Institute
Facilitating Partnerships between Libraries, NASA SME’s, Museums and Schools

– The Space Science Institute is primarily a research institution, with a small education branch. Our current focus is our STAR Library Education Network, which provides STEM activities, exhibits and professional development for public libraries. We also work with museums, science centers and other informal learning venues
-FOTOS (From Our Town to Outer Space) included a travelling exhibition (Discover NASA) that toured to rural and underserved libraries across the country. The audience for the exhibition was pre-K to adult, with a focus on families.
- The exhibit addressed content and missions across all of NASA, including SMD robotic missions, historic mission, past and current aeronautics programs, manned spaceflight, and personal NASA connections (it’s a library, you need a story!)
Building Meaningful Partnerships

- Our libraries developed new partnerships with groups ranging from Solar System Ambassadors and Night Sky Network volunteers, all the way up to key staff at Glenn Research Center, Langley, and Johnson Space Center.

- Our libraries also reported that this program made it easier for them to foster better collaboration with existing partners (such as museums, local park service and public schools).
• A key “lesson learned” is that the partnerships had to be symmetric to have any chance of last beyond the term of the exhibit. It can’t be one organization bestowing their knowledge or resources on another. Both organizations need to find meaning and support in the partnership.

• From the Space Science Institute end, this project was huge. The cache of NASA allowed us to be more risky with our asks, (meaning, approaching people we wouldn’t have approached before), and has really helped us put libraries on the map as place of informal STEM learning.
New Partners to New Audiences

STEM Satellites: A Mobile Mathematics and Science Initiative for Orlando Metropolitan Area Children’s Hospitals

Brandan Lanman
Orlando Science Center
Orlando Science Center

Served: 637,000 in FY 2017

Members: 11,250

Annual Budget: 10.3 Million
Science Mission Directorate

Three Content Focus Areas

– Stars and Beyond
  – Mission(s): Webb
  – Focus: Astronomy/Mathematics

– Mars
  – Mission(s): Mars 2020
  – Focus: Engineering/Robotics

– Origins of the Solar System
  – Mission(s) – OSIRIS-Rex
  – Focus: Physics/Mathematics
Partnerships
Benefits

– Orlando Science Center
  • Opens up a new, in need, audience
  • Targets a Strategic Goal – “From nice to necessary.”

– Partner Organizations
  • Research opportunity to improve learning practices in hospital environments
  • Improved patient welfare
  • Volunteer retention
Creating an Exhibit in a City of Experts

*Design Build Fly: A New Aviation Exhibit*

Jan Luth
Exploration Place: The Sedgwick County Science and Discovery Center
About Exploration Place

• 100,000 sq. ft.
• Children’s museum / science center combo
• 17 years old

• Serves 250,000 a year
• 70,000 students a year – on site & outreach
• Core audience – families
NASA’s Aviation Division
Engineering and Advanced Manufacturing
Authentic Experiences
See the Industry
Help Wanted

Airplane Mechanic

Certification Required * 2 years exp. preferred * Resume with references and employment history required * Must have valid driver’s license

Full and Part Time Positions Available, Flexible Schedule, Full Benefit Package, 401k and Insurance

All Applications are Confidential, Equal Opportunity Employer Located in Wichita

- Reposition science center’s community perception
- Align with community needs
- Range of jobs in industry
- Rebuild community pride
- Experiences for underserved audiences
Community Relationships

- City with 40,000 experts
- Brand-neutral exhibit
- Huge community support
From Parks to School Libraries: Growing STEM in Unique Places

Katelyn Wamsted
Girlstart
Growing Plants in Space

Virtual Reality

Solar Eclipse

Exploring Space Suits

Astronaut Helmets
Museum Atrium

Outdoor Space

Classroom
Partnership Benefits....

- Expanding our mission reach
- Reaching new audiences to increase STEM interest
- Partners didn’t have to reinvent the wheel or provide programming they were uncomfortable with
- Opportunity to grow existing partnerships, but also create new ones
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