

**Session Title:** Panel – Best Practices in Sphere Content Creation

**Moderator:** Carrie McDougall

**Note taker:** Lexie Brown

**Panelists:** Michael Starobin – NASA Goddard

Sue Guevara – Lawrence Hall of Science

Joe Verrengia – Department of Energy NREL

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**General Notes:**

- Michael Starobin
  - There are different answers for different audiences in terms of what is “best practices”
  - In general: Live presentation vs. autorun (standalone)
    - Standalone – embrace that SOS is not a rectangle
      - Picture-in-picture denies geometry of sphere itself – should be used with great care and rarely in standalone pieces
      - Use sphere for sphere (Earth, Mars, etc.)
        - Must adapt vocabulary for sphere
      - Showing a regional slice/phenomenon (i.e. Hurricane Katrina)
        - A new way of showing regional phenomenon is demonstrated in “Frozen” by quartering the screen
        - It is possible expand a regional section and show something else on the other side
          - Requires precision timing in script
      - “Return to the Moon” – spherical artificial city
        - Used picture-in-picture superimposed on sphere
        - Everyone seeing different images simultaneously
    - Use full brightness of projectors
    - Calculating axial tilts – run out to 6 or 7 decimals
    - 3D on the sphere – let’s talk later
- Sue Guevara
  - Goal of institution: focus on hands-on science inquiry
  - Watched people use the sphere and listened to their questions

- Designed a quick program for volunteers to ask people about one particular dataset (Earth at Night)
        - Provided volunteers with question map to facilitate discussion
      - Created workshop with school groups – ocean currents and global weather
        - Used existing curriculum, re-worked for museum floor
    - Use what you already have (i.e. curriculum and other exhibits)
    - Linked hands-on activities to datasets to make explanations of what they see on the sphere
      - Less is more in live presentations
        - Fewer datasets → can have more time to explain, make sense of them
    - Plan on comparing autorun to live presentations (long and short) and evaluate
- Joe Verrengia
  - SOS needs to tell a story (can't just provide data)
    - Fill in story with data
  - Know your audience and program to it
    - Requires working together within your SOS team (education, visitor, and science people with different expertise)
- Questions:
  - How to convince people to move from content for domes to content for spheres?
    - Michael: Natural cognitive connection between domes and sphere
    - Michael: Highlight innovation of sphere
      - The dome is not a half-sphere
      - Sphere as “intimate cinema” that you share space with it
    - Joe: People have trouble if they don't see entire revolution of the sphere (feel like they missed something)
      - People want everything – if you repeat everything all the way around, they felt it went too slowly
    - Sue: We don't have people sit down so they can walk around and see what they want to see
    - Carrie: Other comments about domes?
      - Leon Geschwind: We have school kids rotate the sphere and are trying to “find” something (Kids move instead of sphere move)
      - Eddie Goldstein: domes and sphere are very different
        - Picture-in-picture and zoom-in are easier with a dome, but sphere has a kinesthetic aspect (can see it as a physical entity you can move around)
      - Carrie: Sphere is a 3D object that you can sense whereas a dome is inherently not (from Martin Shtorshtik)
      - Maurice Henderson: There is a large community that is using sphere as their only visualization platform (should take advantage of that audience in developing content)

- Think of sphere as a view of universe from 50 million light years away
- An individual watching the sphere has a unique view
- Joe: People personalize the sphere when they look at it as Earth
  - “This is where I live”
  - Don’t have that experience in a planetarium
- George Sharman: Kids often say “Wow, is that a holograph? That’s just like Star Wars!”

**Recommendations to NOAA (Office of Education, Earth System Research Laboratory, National Visualization Laboratory):**

**Actions/Next Steps:**

<i>Action/Next Step</i>	<i>Responsible Network Member/Institution</i>

**Research Questions for Further Exploration:**

- Evaluating differences in effectiveness/learning from autorun programs versus facilitated presentations (Sue Guevara – Lawrence Hall of Science)