

Digital Planetaria: Building Bridges

**Building Bridges Between Institutions, Universities,
Programmers, and NASA**

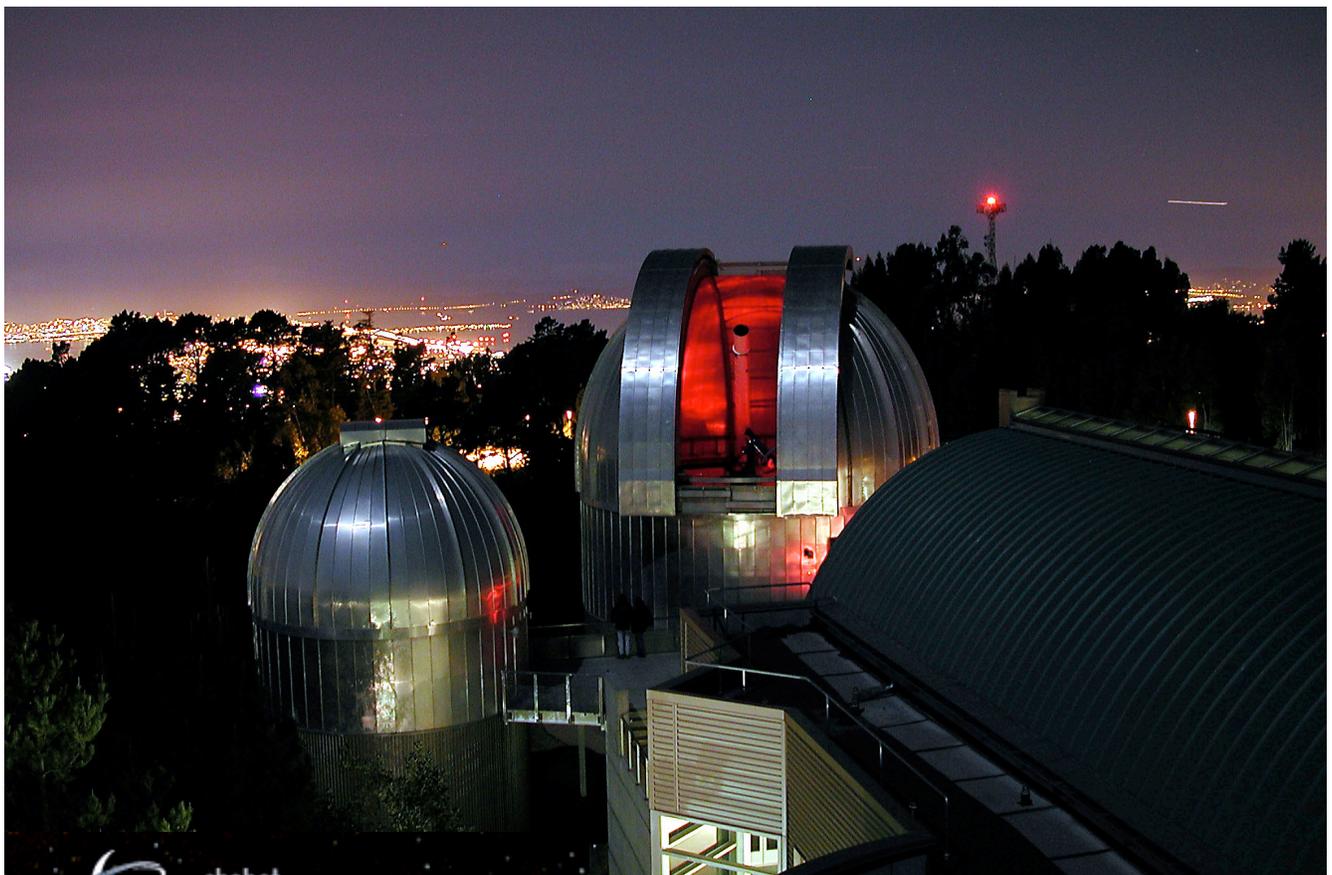
**Chabot Space & Science Center
January 23-24, 2005**

Total Number of Participants: 33

Focus Group Goals & Objectives: The goal of the Building Bridges focus group was to create a framework for collaboration between NASA, digital planetarium experts, formal and informal science education facilities, and the multimedia industry that will facilitate the integration of NASA resources into engaging, interactive and educational digital planetarium presentations. Over the course of the two-day Focus Group and subsequent discussions and activities, the participants analyzed current information, brainstormed new ideas, and discussed the groundwork for future collaboration. We also had great fun playing with interactive applications and dreaming about their potential in the digital dome environment.



L to R, Back to front: John Stoke, Alan Gould, Timothy Childs, Carter Emmart, Geoff Bruce, Edna DeVore, David McConville, Loren Carpenter, Martin Radcliffe, Ka Chun Yu, Kevin Hussey, Laura Shawnee; Phil Beffrey, Ali Diaz, Sam Black, Will Wright, Dan Neafus, Ryan Wyatt, Dave Beining, Jeff Kirsch, Ryan Diduck, Steven DosRemedios; Ed Lantz, Mary Miller, James Talmage, Mike Murray, Rachel Carpenter, Aaron McEuen, Anita Sohus, Alex Barnett



Unique features of the event

The number of attendees was limited (29 attendees plus 4 participating conveners) to ensure tight focus and full participation.

The following five focus questions were addressed over 2 days by breakout groups of 5-6 participants, with a representative from each group summarizing their findings (transcripts included in the report):

- **Mission:** Who are we trying to reach and what messages are we trying to get across? What is a digital dome the best medium for? Why?
- **Interactive Technologies:** How can interactive technologies better deliver the desired stories and experiences to the audiences identified?
- **Programming Requirements:** What types of program data and formats should we need?
- **Available Assets:** What specific programming assets and resources are available and where can they be found?
- **Acquisition:** How can we facilitate the flow of programming assets and resources from all sectors into the digital planetarium and related products?

Interactive software was demonstrated and discussed, including:

- **Maxis' Proprietary R&D Product:** Will Wright of Maxis, best known for his acclaimed games *The Sims*[™] and *SimCity*[™], demonstrated a next-generation product that impressed everyone with its potential to make the digital planetarium a highly engaging, educational, team-building experience.
- **NASA's World Wind:** This open-source application allows users to seamlessly zoom from space to any place on Earth using Landsat and Shuttle Radar Topography data. While all felt strongly about its potential for the dome, we learned that its NASA funding may be terminated due to insufficient justification.
- **Ka Chun Yu:** Denver Museum of Nature & Science's Curator of Space Science demonstrated spherical manipulation software used in their real-time interactive presentations.

Key Findings

When NASA personnel understand the needs of, and the potential of, the digital dome community, great things can happen that reach very large public audiences with NASA messages. Anita Sohus (JPL) and John Stoke (STScI) exemplify this.

NASA has many personnel with relevant talents and skills for interfacing with the Digital Dome community, but often they don't even know about each other! Facilitating information exchange and creating networks both within NASA and outside will remove many of the current roadblocks to success.

Bringing together multimedia/games developers with NASA and informal science education entities produced a significant brain trust that generated many new ways of thinking and engaging with different audiences.

Products developed by the games market have the potential, with the right partnerships, to provide significant stimulation to the goals of driving awareness in science, technology, engineering and math.



(left) and center from the first column (right) photo.



and Loren Carpenter get some networking in



Assistant Candyse

Summary of Next Steps

- The group recommends that a **Task Force be set up and funded to further research the needs of the digital dome community** to enable it to best support NASA goals of inspiring the next generation of explorers. The group would comprise both NASA representatives and Digital Dome community representatives. A detailed list of deliverables from this task force are suggested.
- We recommend that efforts be directed towards **raising awareness of the benefits of working with the Digital Dome community in Education and Public Outreach**, and that **efforts be put into improving and streamlining communication between NASA and the Digital Dome community**.
- **Professional development is needed to link digital dome presenters with scientists and ensure scientists understand the potential of the digital dome as a communications tool.** Digital Dome technology Master Classes for NASA visualization scientists and a Digital Dome professional development area for programs like the Solar System Ambassadors are two suggestions. A small working group should map the professional development needs and study the best way to address this.
- **Funding is needed for some basic demographic research.** We need to better understand who our audiences are, and who they are not. A small working group should formulate a **request for proposals** that can be tendered to the informal science education evaluation community for a representative study.
- The group advocates funding a small subset of the Building Bridges NEI to **develop a collaborative project with the gaming industry to explore the relevant ideas raised in this NEI**, and to disseminate the resulting ideas and best practice to the informal science education field and to relevant NASA parties.
- We believe that creating a **Task Force to explore the issues of role playing and interactivity for educational based activities in domes and exploring the possibility of working with Challenger Centers** as part of this would generate ways of reaching new audiences.