

*Lessons Learned from the APS/TFI  
Workshop on University/Science  
Center Collaborations: Outreach  
Strategies for Faculty Working with  
their Local Science Museum*

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**Allegheny College**

- On May 31 – June 1, 2008, The Franklin Institute (TFI) hosted the American Physical Society/Franklin Institute Workshop on University/Science Center Collaborations.
- Participants included forty leaders from:
  - science centers
  - universities
  - federal funding agencies

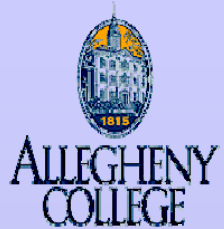
## The goal: to explore

- the outreach motivations of academic institutions
- the characteristics and needs of small vs. large science centers
- the goals for and outcomes expected from reaching out to the general public from the perspectives of universities and science centers.

## The result:

- a convergence of viewpoints on how a good collaboration is established, built upon, sustained, and evaluated.

# *Participant Teams:*



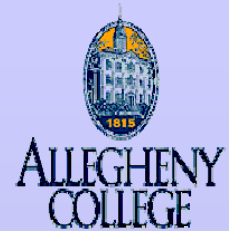
**Israel National Museum of Science & Technion: Ronen Mir & Tal Berman – Mada Tech; Igor Verner – Technion**

**Adler Planetarium & U. Chicago: Randy Landsberg – U.Chicago; Mark SubbaRao – Adler Planetarium**

**Louisville Science Center & U. Kentucky: Jody Clasey – U. Kentucky; Molly Carpenter – Louisville Science Center**

**Exploratorium & U. Chicago: Charles Sowers – The Exploratorium; Sidney Nagel – U. Chicago**

# *Participant Teams:*



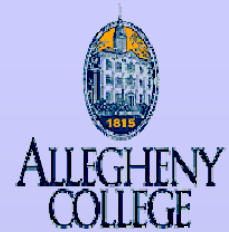
**MSCOPE: Brenda Lopez-Silva – U. Illinois; Chicago, Panos Oikonomou – U. Chicago; Leo Kadanoff – U. Chicago; Jim Sweitzer – Science Communications Consultants**

**Maryland Science Center & U. Maryland: Roberta Cooks – Maryland Science Center; Mimi Blitzer, U. Maryland**

**Museum of Science & Harvard U: Carol Lynn Alpert - Museum of Science; Robert M. Westervelt, Harvard U.**

**The Franklin & Penn State U: Ron Redwind – Penn State U.; Jayatri Das – The Franklin**

# *Participant Teams:*



**MRSEC – U. Wisconsin, Madison : Kimberly Duncan**

**NY Hall of Science: Eric Marshall**

**Pacific Science Center & U. Washington: Dennis Schatz & Lauren Russell – Pacific Science Center; Harry Stern – University of WA, Seattle**

**Sciencenter: Kathy Krafft**

**Science Museum of Minnesota: Karen Pollard – Science Museum of Minnesota, Phil Egen – UMN; Andrew Johnson – U. Ill, Chicago**



## *Other participants:*

**Al DeSena & Uma Venkateswaran – NSF**

**Tony Beck – NIH**

**David Statman, Melissa Statman, Barbara Dunlap, and  
Matthew Kerr – Allegheny College**

**Karen Corbin – The Franklin Institute**

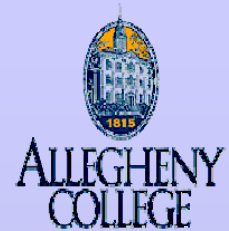
**Jessica Clark and Becky Thompson-Flagg - APS**

## *Organizers:*

**Philip (Bo) Hammer & Steve Snyder – The Franklin**

**Leo Kadanoff – U. Chicago**

# *Breakout Topics of Discussion:*



- **Characteristics of a good collaboration.**
- **Matching the needs & expectations of universities and science centers.**
- **NSF broader impacts and NIH education initiatives.**
- **Advice to scientists who want to get involved with their local science centers, and to science centers who want to build more productive ties to the science community.**



# *Lessons Learned*



- **Initiating a collaboration**
- **Building and establishing a collaboration**
- **Sustaining a collaboration**
- **Funder issues: NSF broader impacts and NIH expectations**
- **Evaluating collaborations**

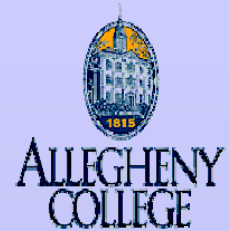
# *Initiating a Collaboration*



## **A successful collaboration**

- **Seeks areas of overlapping interest.**
- **Recognizes and respects the different requirements of Science Centers and Universities (informal versus formal education).**
- **Builds relationships.**
- **Maintains mutual respect from both sides!**

# *Initiating a Collaboration*



## **Advice to Scientists who want to get involved with their local science center:**

- **Take time to learn about the mission of the Science Center and how the Science Center operates. Learn about its culture. Visit the Science Center, take a tour!**
- **Be open to a wide range of opportunities and an exchange of intellectual content.**
- **Realize that goals will need to be adapted and aligned.**

# *Initiating a Collaboration*



**Advice to Scientists who want to get involved with their local science center:**

- **If you writing a proposal, please don't call at the last minute requesting support for a funding proposal.**

# *Initiating a Collaboration*

## **Advice to Museums who want to build more productive ties to the scientific community :**

- **Assign a staff person to be the liaison to local colleges and universities.**
- **Keep a data base of university contacts to ensure continuity.**
- **Establish internal communication and structures for initiating partnerships.**
- **Have site visits to campus – give colloquia.**
- **Start small.**

# *Initiating a Collaboration*



## **Needs and expectations of universities:**

- **The mission of the university is education and research.**
- **Science centers can assist in that mission through informal education and public outreach.**

# *Initiating a Collaboration*



## Needs and expectations of science centers:

- The mission of the science center is *informal education* and public outreach.
- Universities can assist in that mission by making its resources easily available to the science center.  
Science centers need correct knowledge of the science.  
Science centers want scientists who can be role models for the public.

# *Building and establishing a Collaboration*

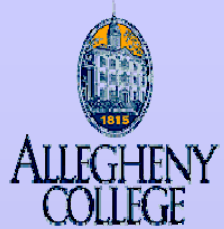
- **Collaborations don't just happen.**
- **They need to grow and develop over time.**



# *Building and establishing a Collaboration*

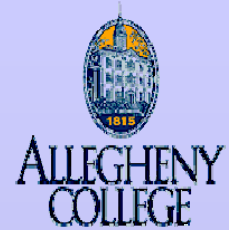
- **Allow time for relationship to develop.**
- **Both partners must exercise patience, as each environment has its own time scale for progress, hours of operation, when staff work, etc.**
- **Allow for experimentation and creativity.**
- **Establish long-term relationships.**

# *Sustaining a Collaboration*



- **Clear and consistent communication is essential to maintaining a successful partnership.**

# *Sustaining a Collaboration*



- ❖ Each partner needs to understand the different culture and evolving circumstances of the other.
- ❖ Both partners must continue to exercise patience.
- ❖ Standards must be established for evaluating partnerships.
- ❖ Goals, sustainability, and funding should be discussed regularly.
- ❖ Partnerships should be sustained through multiple projects.

# *Funder Issues*

- **Broader impacts can include Science Center – University partnerships.**

# *Funder Issues*

- ❖ ***Broader Impacts:*** The concept of broader impacts can extend beyond benefits to graduate or undergraduate students, to outreach to the general public.
- ❖ ***Administrative:*** Institution administrations must be aware of the broader impact responsibilities of its research facilities. Broader Impacts = Education and Outreach (NSF).

# *Funder Issues*

- ❖ **Jr. faculty need to learn about broader impacts.**
- ❖ **Expose all university faculty to informal science education (ISE) opportunities.**
- ❖ **Get faculty to internalize their broader impacts obligation.**

# *Funder Issues*

- ❖ Outreach needs to be top notch visible.
- ❖ Collaborations must have science expertise (NIH).
- ❖ ISE's can help with time constraints.
- ❖ Schedule events for underrepresented groups.

# *Evaluating Collaborations*

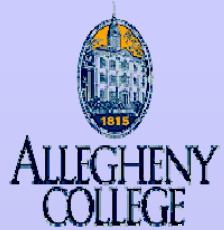
- **A clear assessment plan must be established.**



# *Evaluating Collaborations*

- ❖ Standards must be established for evaluating partnerships.
- ❖ Accountability is BIG for NSF.
- ❖ Consider formative versus summative evaluations.
- ❖ Find out what visitors enjoyed and learned.
- ❖ Establish follow-up on training of university volunteers.

# *Summary:*



- **Seeks areas of overlapping interest.**
- **Learn about your partner institution.**
- **Allow for experimentation and creativity.**
- **Exercise patience.**
- **Establish a clear assessment plan.**
- **Maintain mutual respect.**