National Science Foundation & Smithsonian Institution
2016 Large Facilities Office Workshop
Washington, DC
Tuesday, May 24 – Thursday, May 26, 2016

Agenda

Tuesday, May 24

8:00 – 9:15 AM	**Registration, Light Refreshments** Foyer 3111A, Room 3112
9:15 – 9:45 AM	**Welcome, Opening Remarks** Speakers: Matt Hawkins (Head, Large Facilities Office (LFO), NSF), Nancy Bechtol (Director, Facilities, Smithsonian Institution) Description: Welcome by NSF and Smithsonian, overview of the workshop, NSF and Smithsonian large facilities portfolios, and outcomes from 2015 Workshop. Room 3111
9:45 – 10:45 AM	**Laser Interferometer Gravitational Wave Observatory (LIGO): The Inside Story** Speaker: Mike Landry (Detection Lead Scientist, California Institute of Technology, LIGO Hanford Observatory) Description: LIGO began operations in 2015 with spectacular results, detecting gravitational waves in the first month! Highlights from transitioning into operations and lessons learned from their path to discovery. Room 3111
10:45 – 11:00 AM	**Break**
11:00 – 12:00 PM	**Transforming Concepts Into Reality: Project Management Insights from NASA's Goddard Space Flight Center** Speaker: Dave Mitchell (Director, Flight Projects Directorate, NASA Goddard Space Flight Center) Description: Personal experience and perspective on project management from NASA science mission projects. Highlights include reflections on the development of the MAVEN mission to Mars which launched in November 2013 and arrived at the Red Planet in September 2014. Room 3111
12:00 – 1:00 PM	**Working Lunch** Room 3111
1:00 – 2:00 PM	**Breakout Session #1**
2:00 – 2:15 PM	**Break**
2:15 – 3:15 PM	**Breakout Session #2**
3:15 – 3:30 PM	**Break**

3:30 – 4:30 PM	**Breakout Session #3**
5:00 PM	**Shuttle Buses Depart Ripley Center for Renaissance Washington, DC Downtown Hotel**
6:00 – 8:00 PM	**Reception, Renaissance Washington, DC Downtown Hotel**

Breakout Session #1 (Choose 1 of 2)

1. "Lightning Talks" from Large Facilities

Speakers: Demian Bailey (Project Manager, Regional Class Research Vessel, Oregon State University), Andy Adamson and Scott Kleinman (Associate Director Operations and Associate Director Development, Gemini Observatory), Mike Carrancho (Deputy Director, Engineering and Design Division, Office of Planning, Design and Construction, Smithsonian Facilities), Joel Brock (Director, Cornell High Energy Synchrotron Source), Jamie Allan (Program Director, Integrated Ocean Drilling Program, GEO, NSF), Rick Farnsworth (Senior Program Manager, National Ecological Observatory Network), John Kelly (Program Director, Arecibo Observatory), Murray Stein (Director of Marine Operations / Marine Superintendent, University of Alaska Fairbanks)
Description: Speakers highlighting recent large facility accomplishments and challenges.
Room 3111

2. Business Practices Roundtable Part I: Making Sense of Audits and Reviews

Facilitators: Florence Rabanal (Large Facilities Advisor, LFO, NSF), Anna-Lee Misiano (Grants and Agreements Officer, DACS/CSB, NSF), Charlie Zeigler (Cost Analyst, DIAS, NSF)
Description: Overview of the common types of audits and reviews and discuss how they fit together. Participants will share strategies for being responsive in an audit and identify areas where NSF clarification or assistance is needed.
Room 3035

Breakout Session #2 (Choose 1 of 2)

1. GAO – Schedule Assessment Guide & Cost Estimating and Assessment Guide

Speaker: Jason Lee (Assistant Director, Applied Research and Methods, US Government Accountability Office)
Description: An overview of GAO schedule and cost estimating guides, focusing on best practices and updates, to facilitate integrated project planning and management.
Room 3111

2. Smithsonian Institution – Building Information Modeling & Asset Management

Speaker: Mike Carrancho (Deputy Director, Engineering and Design Division, Office of Planning, Design and Construction, Smithsonian Facilities)
Description: Overview of SI's recent initiative to use data rich Building Information Modeling technology for design, construction, and lifecycle management of capital assets.
Room 3035

Breakout Session #3 (Choose 1 of 2)

1. Organizational Climate Studies – Experience from NSF's Advanced Cyberinfrastructure Projects

Speaker: Lizanne DeStefano (Georgia Tech Center for Education, Integrating Science, Mathematics, and Computing)

Description: Methods for assessing organizational climate and benefits to other large facilities projects based on experience within the Extreme Science and Engineering Discovery Environment (XSEDE) and Blue Waters supercomputing projects.

Room 3111

2. Business Systems Reviews (BSR) Hot Topics

Speaker: Florence Rabanal (Large Facilities Advisor, LFO, NSF)

Description: Overview of recurring BSR observations on property and equipment management. Opportunity for information sharing, asking outstanding questions, understanding what to avoid. Attendees will be encouraged to share their challenges and solutions to aligning with NSF expectations. As time permits, highlights of new BSR process initiatives will be presented, such as the oversight tracking system and annual planning.

Room 3035

8:00 – 9:15 AM	**Registration, Light Refreshments** Foyer 3111A, Room 3112
9:15 – 10:45 AM	**NSF Future Investments, NAPA Report, and Evolving Oversight** Speaker: Matt Hawkins (Head, LFO, NSF) Description: The presentation will begin with a summary of Dr. Cordova's "NSF Ideas for Future Investments" presented to the National Science Board in May. It will then segway into an overview of the National Academy of Public Administration (NAPA) Panel Report on NSF Use of Cooperative Agreements to Support Large Scale Investment in Research. The NAPA recommendations support NSF use of cooperative agreements with recommendations are intended to improve NSF's oversight and project management practices for large facility construction projects. Key recommendations include (1) developing a community of practice for documenting, sharing, and implementing lessons learned, and (2) implementing requirements for project management experience, certification, and training. Community input is requested to facilitate implementation of recommendations and inform forthcoming guidance within our Large Facilities Manual. Room 3111
10:45 – 11:00 AM	**Break**
11:00 – 12:00 PM	**Breakout Session #1**
12:00 – 1:00 PM	**Working Lunch** Room 3111
1:00 – 2:30 PM	**Breakout Session #2**
2:30 – 4:00 PM	**Smithsonian Tours** Major Exhibit Renovations at the National Air and Space Museum Construction and Exhibit Design at the National Museum of African American History and Culture Major renovations and historic preservation of the Arts and Industries Building

Breakout Session #1 (Choose 1 of 3)

1. Smithsonian Institution – Lessons Learned Database and Implementation
Speaker: Jim Yuengert (Smithsonian Institution (SI), Office of Planning, Design and Construction)
Description: Highlights from SI's recent development of an electronic database and process for collecting and implementing lessons learned throughout a community. SI will share examples from Mathias Lab Construction and Cooper Hewitt Smithsonian Design Museum Renovation.
Room 3111

2. Cyberinfrastructure (CI) Scoping Roundtable (Bill Miller)
Facilitator: Bill Miller (Division of Advanced Cyberinfrastructure, CISE, NSF)
Description: This follow-up to the December 2015 NSF-sponsored workshop on "Cyberinfrastructure for NSF Large Facilities" will review outcomes from that workshop, and invite additional input, in areas such as

anticipated future needs, ways of increasing innovative collaboration between the CI and facilities communities, and leveraging of existing shared CI resources. The roundtable will provide helpful input to NSF in its efforts to plan future opportunities.
Room 3037

3. Integrated Cost-Schedule Risk Analysis

Speaker: David Hulett (Principal, Hulett & Associates)
Description: Expert overview of integrated cost and schedule risk analysis and contingency calculation methods which form the basis of the risk management chapters in the Guide to the Project Management Body of Knowledge (PMBOK© Guide) and the Large Facilities Manual.
Room 3035

Working Lunch

1. The NSF Cybersecurity Center of Excellence: Large Facilities Cybersecurity Resources

Speaker: James Marsteller (Information Security Officer, Pittsburgh Supercomputing Center)
Description: Brief overview of the Center of Trustworthy Scientific Cyberinfrastructure (CTSC), including CTSC mission, past work with large facilities, key resources and events of interest to large facilities. Details on a CTSC effort to improve situational awareness for larger facilities will be highlighted.
Room 3111

Breakout Session #2 (Choose 1 of 3)

1. DOE Project Management Career Development Program

Speaker: Linda Ott (DOE Office of Project Management Oversight & Assessments)
Description: Highlights from DOE's Project Management Career Development Program (PMCDP). Includes discussion of the value proposition of investing in project management skillset development, DOE's reason for establishing PMCDP, lessons learned, the value of tracking and measuring Federal Project Directors (FPDs), and the status of PMCDP and FPD certification a decade later.
Room 3111

2. Transition to Operations – Panel

Panel: Carol Wilkinson (Large Facilities Advisor, LFO, NSF), Mike Landry (Detection Lead Scientist, California Institute of Technology, LIGO Hanford Observatory), Derek Ross (Deputy Director, Construction Division, Office of Planning, Design and Construction, Smithsonian Facilities), Steve Ellis (Program Director, BIO, NSF)
Description: A panel led discussion of lessons learned during transition to operations, with focus on recent projects.
Room 3037

3. Business Practices Roundtable Part II: New Initiatives

Facilitators: Jeff Lupis (Division Director, DACS, NSF)
Description: Additional background and context for recent initiatives to further review recipient financial information, cost information (award budgets and incurred costs), management fee, and to explain the "how, what and when" of new incurred cost audits. Community input is requested on business practices and oversight. Links to NAPA recommendations.
Room 3035

8:00 – 9:15 AM	**Registration, Light Refreshments** Foyer 3111A, Room 3112
9:15 – 10:45 AM	**NASA Evolvable Mars Campaign Development** Speakers: Stephen Hoffman (SAIC), Larry Toups (Johnson Space Center, NASA) Description: Developing a concept of operations, requirements, and project management structure for an evolving and flexible phased construction and start-up project to pioneer an extended human presence on Mars. Room 3111
10:45 – 11:00 AM	**Break**
11:00 – 12:00 PM	**Breakout Session #1**
12:00 – 1:00 PM	**Working Lunch** Room 3111
1:00 – 2:00 PM	**Breakout Session #2**
2:00 – 2:15 PM	**Break**
2:15 – 3:45 PM	**Breakout Session #3**
3:45 – 5:00 PM	**Workshop Feedback to NSF** Facilitator: Kevin Porter (Large Facilities Advisor, LFO, NSF) Description: Informal opportunity to provide direct feedback to LFO immediately after the workshop. Room 3031

Breakout Session #1 (Choose 1 of 3)

1. Large Facilities: Environmental Compliance and Permitting and Lessons Learned

Speaker: Caroline Blanco (Assistant General Counsel - Environment, OD/OGC, NSF)
Description: Large facility awardees must often obtain permits. NSF must also meet its environmental compliance responsibilities. Occasionally, NSF and its awardees encounter challenges in meeting their respective obligations, which can result in schedule delays and increased costs. Discussion will highlight recent challenges from DKIST and NEON and present strategies for effective and efficient risk mitigation.
Room 3111

2. Smithsonian Institution – Science Exhibit Highlights

Speaker: Elizabeth Musteen (Chief of Exhibit Production, Office of Exhibits, National Museum of Natural History, Smithsonian Institution (SI))
Description: Highlights and lessons learned from the design and construction of some of the newest and most exciting Smithsonian science exhibits, including the Sant Ocean Hall, Kenneth E. Behring Family Hall of Mammals, Butterflies and Plants: Partners in Evolution, the Behring Family Rotunda, and the Annenberg Hooker Hall of Geology, Gems and Minerals.
Room 3031

3. **Earned Value Management – Certification or Verification? – Roundtable Review**

Facilitator: Carol Wilkinson (Large Facilities Advisor, LFO, NSF)

Description: NSF is establishing guidelines and requirements for Earned Value Management Systems (EVMS) used for evaluating construction project status and management. Other federal agencies have established EVMS requirements, with varying ranges of rigor, depth of inspection, and involvement by external EVM professionals, based on the 32 guidelines from EIA Standard 748. Participants will provide thoughts and experiences on the impacts and benefits of EVMS evaluation to inform development of NSF EVM guidance and requirements for the 2017 revision to the LFM. Links to NAPA recommendations.

Room 3035

Working Lunch

1. **Evaluating Facilities-based Education and Public Outreach Activities**

Speaker: John Taber (Director of Education and Public Outreach, Incorporate Research Institutions for Seismology (IRIS))

Description: Brief overview of the IRIS education and public outreach activities, highlighting recent evaluation methods.

Room 3111

Breakout Session #2 (Choose 1 of 3)

1. **Smithsonian Institution – Astrophysical Observatory Projects**

Speaker: Steve Groh (Program Manager, Office of Planning, Design and Construction, Smithsonian Facilities), Marc Tartaro (Design Manager, Office of Planning, Design and Construction, Smithsonian Facilities)

Description: Overview of telescope planning, design, construction, and maintenance from Smithsonian Astrophysical Observatory work in Hawaii, Arizona, Greenland, and Chile with a focus on the impacts of remote and austere environments.

Room 3111

2. **Community of Practice Roundtable**

Facilitator: Ivan Graff (Large Facilities Advisor, LFO, NSF)

Description: Discussion to help develop a community of practice for sharing, documenting, and implementing lessons learned. Etienne Wenger, who coined the term in 1991, defines communities of practice as "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly." Discussion will focus on how recipients and others have formed their own communities of practice and the best features of these communities. Links to NAPA recommendations.

Room 3031

3. **Large Facilities Manual (LFM) – New Guidance on Cost Estimating and Analysis**

Speaker: Kevin Porter (Large Facilities Advisor, LFO, NSF)

Description: Overview of draft LFM guidance for cost estimating and analysis. Participants may provide input. The draft is also available for public comment. Links to NAPA recommendations.

Room 3035

Breakout Session #3 (Choose 1 of 3)

1. **Broadening and Improving Science User Communities: The Roles of National User Facility Organization (NUFO) & NSF**

Panel: Susan White-DePace (Executive Administrator, NUFO), Dave Morrissey (Associate Director of Operations, National Superconducting Cyclotron Laboratory), Carol Wilkinson (Large Facilities Advisor, LFO, NSF)

Description: The panel will share their experiences forming and managing science user communities with multiple agency and international partners. Includes an overview of the NUFO mission, activities, and facilities and benefits of involvement to users and facilities. NSF large facilities community is invited to provide insights during community discussion. Links to NAPA recommendations.

Room 3111

2. **Project Management Personnel Development & Certification Roundtable**

Facilitator: Ivan Graff (Large Facilities Advisor, LFO, NSF)

Description: Discussion to help develop and implement requirements for project management training, experience, and certification. Discussion will consider the benefits and applicability of different types of certifications available to the public and review options for implementation. Links to NAPA recommendations.

Room 3031

3. **Business Practices Roundtable Part III: New Initiatives**

Facilitators: Jeff Lupis (Division Director, DACS, NSF), Jemal Williams (Grants and Agreements Officer, DACS/CSB, NSF)

Description: Continuation of "Business Practices Roundtable Part II: New Initiatives" with focus on community input. Links to NAPA recommendations.

Room 3035

TUESDAY - 5/24

Time	Room 3111	Room 3035
8:00	Registration, Light Refreshments	
9:15	Opening Remarks	
9:45	Opening Plenary - LIGO	
	Break	
11:00	Opening Plenary - NASA	
12:00	Working Lunch Speaker TBD	
1:00	Lightning Talks	Business Roundtable I - Audits & Reviews
2:00	Break	Smithsonian - BIM & Asset Management
3:00	Break	BSR Hot Topics
4:00	Organization Climate Studies	
5:00		Hotel Shuttle
6:00		Reception - Rennaisance Hotel
7:00		
8:00		

WEDNESDAY - 5/25

Time	Room 3111	Room 3037	Room 3035
8:00	Registration, Light Refreshments		
9:15	NSF Future Investments, NAPA Report, and Evolving Oversight		
	Break		
11:00	Smithsonian Lessons Learned Database	CI Scoping Roundtable	Integrated Cost-Schedule Risk Analysis
12:00	Working Lunch Cybersecurity & CTSC		
1:00	DOE Project Management Career Development	Transition to Operations Panel	Business Roundtable II - New Initiatives
2:00			
3:00		Smithsonian Tours	
4:00			

THURSDAY - 5/26

Time	Room 3111	Room 3031	Room 3035
8:00	Registration, Light Refreshments		
9:15	NASA Evolvable Mars Campaign Development		
	Break		
11:00	Environmental Compliance and Permitting	Smithsonian Science Exhibits	EVM Roundtable
12:00	Working Lunch Education and Public Outreach & IRIS		
1:00	Smithsonian - Astrophysical Observatory Projects	Community of Practice Roundtable	LFM Cost Estimating & Analysis Guidance
2:00	Sciences Communities: The Role of NUFO	PM Personnel Certification Roundtable	Business Roundtable III - New Initiatives
	Break		
3:00			
4:00		Workshop Feedback to NSF	
5:00			
6:00			
7:00			