

## **MPS Advisory Committee Meeting**

***November 3, 2014***

The meeting began at 12:30 PM. NSF representatives, Chairman Juan de Pablo, the MPS Advisory Committee (MPSAC) members and other guests were present in the room (1235 Stafford I). Other members participated remotely. See appendix for details. All presentations are available at [http://www.nsf.gov/events/event\\_summ.jsp?cntn\\_id=131150&org=MPS](http://www.nsf.gov/events/event_summ.jsp?cntn_id=131150&org=MPS) under “Briefing Book.”

### **12:30 PM: Welcome and Approval of Minutes –Juan de Pablo, Eduardo Misawa**

Dr. de Pablo welcomed all to the MPS Advisory Committee Meeting with around-the-room introductions. Dr. Misawa provided a briefing explaining that the MPSAC meeting follows the FACA policy. Dr. Misawa also noted that federal employee government rules and ethics apply to committee members during their time serving the MPSAC.

Dr. de Pablo requested approval of July 2014 MPSAC meeting minutes, and they were unanimously approved.

### **12:45 PM: State of the Directorate – Fleming Crim**

Dr. Crim presented the state of the MPS Directorate, including a science hors d’oeuvre, new personnel, MPS Leadership Retreat Activities, status of the FY 2015 and FY 2016 budgets, update on AST facilities under construction, program updates, and agenda. Discussion centered on fostering connections within NSF and between NSF and other agencies.

### **1:45 PM: Interim report from the Subcommittee on the NSF Response to the P5 Report on Particle Physics –Young-Kee Kim**

Dr. Kim presented the status on the Subcommittee on the NSF Response to the P5 Report on Particle Physics, which is due at the end of January 2015. Discussion ensued on the future of particle physics, NSF and the US’s role in international efforts, technological vs. financial participation, and the role of young scientists in international collaboration efforts.

### **3:00 PM: Data Reproducibility, Reliability, and Robustness – Fleming Crim**

Dr. Crim presented on the state of data reproducibility, reliability and robustness as an issue both at MPS and across science in general, detailing that this topic is explicitly stated as a priority in The Science and Technology Priorities Memo from OSTP and OMB and has been recently mentioned in various publications. Discussion was lengthy and touched on a variety of issues including open access to data and the variations in the approach to data reproducibility, reliability and robustness in computational, theoretical and experimental research and in different fields represented in MPS.

### **3:30 PM: Response and discussion on Optics and Photonics report – Clark Cooper**

Dr. Cooper discussed work from the interagency Fast Track Action Committee on Optics and Photonics (FTAC-OP) and the MPS Subcommittee on Optics and Photonics. Discussion included prioritization of recommendations, benefits of further investment, and the various opportunities for MPS participation in this field.

**3:50 PM: Response and discussion on Food Systems report – Steven Bernasek**

Dr. Bernasek reported on the Food Systems Report of the MPS-AC Subcommittee for Studying the Role of NSF/MPS in Food Systems. Discussion included potential for integration across other NSF and outside agencies, the role of fundamental science in this area, and effectiveness of planning workshops.

**4:10 PM: Public/Private Partnerships –Jennifer Pearl**

Dr. Pearl presented information regarding NSF’s past public/private partnerships, ideas about moving forward, and where more information would be useful. Lengthy discussion ensued, bringing to light many areas meriting further thought/planning including determining who “drives” the partnership, the role of for-profit organizations, intellectual property ownership, and the desire for “brand recognition”. It was clarified that this study focus on partnership with non-profit organizations and that further information will be provided in January MPSAC meeting.

**4:30 PM: AST Divestment and New Partnerships—Patricia Knezek**

Dr. Knezek discussed divestment and new partnerships in the Astronomical Sciences Division (AST) including “New Worlds, New Horizons” recommendations, the reality of working within a stagnant budget, Astronomy and Astrophysics Advisory Committee recommendations, and divestment status and the impact on the future of facilities and individual awards and mid-scale programs. Discussion focused on how the transition from government to private control of facilities can benefit NSF.

**4:50 PM: Mathematical Sciences Innovation Incubator—Michael Vogelius**

Dr. Vogelius gave a brief overview of the new MSII program in DMS, which now serves as the vehicle for DMS to provide co-funding with other disciplines. After discussing the difficulties of connecting mathematicians to projects, a suggestion was made to create a website to assist scientists and mathematicians in finding collaborations. Additionally, there were questions about the longevity and assessment of the program.

**5:10 PM: Preparation for Meeting with NSF Director –Juan de Pablo**

The Committee formulated potential questions to ask Dr. Cordova during her session tomorrow. Potential discussion topics include reproducibility and availability of data, the ACI Report, Public-Private Partnerships, STEM education, and her impression and potential concerns after a few months on the job.

**5:45 PM: Adjourn**

**November 4, 2014**

**8:30 AM: Opening and Recap of Day 1 – Juan de Pablo**

Dr. de Pablo welcomed the room to Day 2 and invited the committee to go over any questions they have prepared for NSF Director France Córdoba.

**8:45 AM: Response and Discussion on Materials Instrumentation Report – Mary Galvin**

Dr. Galvin gave a brief presentation on the Materials Research Division’s response to the MPSAC Subcommittee Report on Materials Instrumentation. Discussion expanded upon the Division’s agreement

with the suggestions to only fund large-scale facilities if they are performing cutting edge science with unique equipment and expansion of mid-scale facilities.

**9:05 AM: MPS Midscale programs –Patricia Knezek, Denise Caldwell**

Dr. Knezek and Dr. Caldwell discussed how AST and PHY, respectively, handle Midscale Programs. Discussion followed, involving questions and issues that concerned AST, PHY, and DMR including budget considerations, cost-sharing rules, and development of healthy public/private partnerships engaged in these programs.

**10:00 AM: Report on future directions in Advanced Computing Infrastructure to Support U.S. Science and Engineering –Emily Carter, Juan Meza**

Drs. Meza and Carter presented on the future directions of advanced computing infrastructure based on a recently written report ([Future Directions for NSF Advanced Computing Infrastructure to Support U.S. Science and Engineering in 2017-2020: Interim Report, 2014.](#)) Discussion was lengthy and focused largely on ensuring that science questions drive the cyberinfrastructure, matching the resources to the demand, and on how best to provide the resources.

**11:00 AM: Perspective from the NSF Director – France Córdova**

Dr. Córdova, the Director of NSF, met with the Advisory Committee. Among the topics of discussion were how MPS fits into the overall structure of NSF, concerns for the Office of the Director, the issue of reproducibility/replicability, basic versus applied research, advanced computing, the role of public-private partnerships, and recruitment of a new scientific community.

**12:00 PM: Closing Remarks –Juan de Pablo, Fleming Crim**

Drs. de Pablo and Crim thanked the committee and discussed issues the committee should consider going forward. The recommendations for the MPS AC and MPS resulting from this meeting are as follows: 1.) Solicit responses from MPSAC members to contribute to a high-level response to the NRC report on advanced computing issues; 2.) Have the issue of public/private partnerships be one of the important items at the January meeting; 3.) Examine modalities of funding internally in MPS.

The next virtual meeting will be January 23, 2015.

**12:30 PM: Adjourn**

**Appendix 1:**

**Attendees of November 4-5, 2014 MPS Advisory Committee meeting:**

\* indicates remote participant by videoconference

MEMBERS

Phil Bucksbaum

Robert Bryant

Emily Carter\*

George Crabtree

Bruce Elmegreen

Juan de Pablo, Chair

Juan Meza

Catherine Pilachowski

Melanie Sanford

William Zajc