



Directorate for Mathematical and Physical Sciences (MPS) Advisory Committee Meeting
National Science Foundation
June 15-16, 2017 (all times EST)
Stafford II, Room 555

Thursday, June 15th, 2017

12:30 – 12:45 PM Meeting opening, FACA briefing, and approval of April meeting minutes
Juan de Pablo, MPS Advisory Committee Chair
James Ulvestad, Acting Assistant Director, MPS
John Gillaspay, Staff Associate, MPS Office of the Assistant Director

The meeting was opened by Juan de Pablo, which was followed by a reminder from John Gillaspay that this is an open FACA meeting, meaning members of the public may be present. AC members were reminded that they are special government employees for two days. Roundtable introductions were made, and the minutes from the January meeting were approved by vote.

12:45 – 1:30 PM MPS updates
James Ulvestad

The agenda was laid out by James Ulvestad. AC Members were reminded that some of them have individual contracts that are subject to renewal in September 2017. The next in person meeting will be in November or December of 2017. Staffing changes within OAD and senior staff were announced. Dr. Ulvestad then reminded AC members of the incoming move to Alexandria this fall. Dr. Ulvestad went on to give science highlights, facilities updates, and program updates, which includes the third detection of gravitational waves, DKIST and LSST construction updates, and a sampling of FY17-18 activities.

1:30 – 2:15 PM Budget
James Ulvestad
Michael Sieverts, Budget Division Director

Michael Sieverts began by highlighting the administration's proposal to reduce the NSF budget by 11%. Sieverts then outlined funding priorities in the current administration. Next, Dr. Ulvestad spoke on actions NSF and MPS are taking in the new budgetary landscape. How MPS will contribute to the NSF-wide "Big Ideas" was discussed, including funding individual research awards that move towards the big ideas. Questions were then opened to the AC members. Questions asked included NSF-private sector partnerships in light of the reduced budget, plans for addressing increased workloads, and questions on interdisciplinary research.



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2:15 – 2:30 PM Break

2:30 – 3:15 PM Discussion of workload issues and possibility for addressing them
Deborah Lockhart, Deputy Assistant Director, MPS

Deborah Lockhart opened by discussing the rotating nature of program officers and the need to train recent hires. Dr. Lockhart also highlighted that staff numbers have not grown significantly, but the number of proposals have increased over time. In addition to this, the complexity of submitted proposals has increased. The question of how to manage workload was then posed to AC members. Dr. Lockhart outlined ideas various groups within the NSF were trying, including eliminating deadlines for solicitations, promoting virtual panels, and limiting proposal submission. AC members then gave input such as reducing student programs and having fewer COVs. It was questioned if the quality of science would decrease if these measures were enacted.

3:15 – 4:00 PM Update on transitions of AST and DMR Facilities
Edward Ajhar, Acting Deputy Division Director, Division of Astronomical Sciences
Lind Sapochak, Division Director, Division of Materials Research

Edward Ajhar opened by outlining the current AST divestment process which included their overall goals, the budget, the environmental review process and alternatives, and a review of the last decadal survey. Linda Sapochak presented on the transition of the Cornell High Energy Synchrotron Source (CHESS), which included CHESS background, the current joint stewardship and management, and CHESS-U. Questions was then opened to AC members, who asked about the prescription of synchrotrons, and the uniqueness of CHESS

4:00 – 5:00 PM Prep for meeting with NSF Director
Juan de Pablo

AC members brainstormed questions to ask the Director during the following day's session. These questions included why there is a reluctance for divestment, why there is an apparent lack of emphasis on biochemistry, how to relieve workload issues, the nature of interdisciplinary activities in a reduced budget, the difficulty in filling leadership positions at NSF, whether the directorates or the whole NSF should take actions in a limited budget, and what are the "new" models being considered.

5:00 PM Adjourn



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Friday, June 16th, 2017

8:30 – 8:45 AM Meeting opening
Juan de Pablo, MPSAC Chair
James Ulvestad, MPS
John Gillaspay, MPS

The day opened with a reminder that this is a FACA open meeting, meaning that all remarks are open to the public, and AC members are considered temporary federal employees today.

8:45 – 9:30 AM NAS and other surveys or decadal reports and the role of AC subcommittees, part I
James Ulvestad
Juan de Pablo

The discussion opened with what the role of the Advisory Committee should be in regards to decadal reports and other surveys. It was mentioned that often the community loses track of these reports, and it may be useful to have brief reports. It was also suggested that the AC should formally approve reports from NSF subcommittees, discuss the decadal surveys as they come out in AC meetings, and have the AC involved in forming the reports. The discussion then shifted to the role of the AC in general, and it was questioned how valuable the informal advice from the AC is. It was mentioned that the AC brings the divisions together, and their advice is used to defend MPS positions on issues. It was recommended to possibly increase the size of the AC to 4-5 individuals from each division, and the topic of subcommittees was discussed.

9:30 – 10:15 AM Communications with Congress and the Scientific Community
Amanda Greenwell, Head of Office, Office of Legislative and Public Affairs

Amanda Greenwell presented on OLPA and the current affairs of Congress. It was noted that the NSF has great relationships on the hill, and that science is supported on both sides of the aisle. She then presented what the NSF is currently doing to engage with the public including overhauling the NSF homepage, partnering with publications, and presenting at events. It is a focus of OLPA to continue the expansion of outreach to different audiences. After the presentation, the floor was open for questions. AC members asked about the state of congressional support in regards to the presidential budget, and how OLPA assesses what is effective communication and what's not.



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10:15 – 10:30 AM Break

10:30 – 11:00 AM Science Hors D’oeuvre: Update on LIGO and the detection of gravitational waves
Denise Caldwell, Division Director, Division of Physics

A presentation was given on LIGO and the detection of gravitational waves which included: what gravitational waves are, what they look like, how they are detected, and what LIGO has detected so far. The future of LIGO was then discussed, including upgraded equipment and the development of LIGO India.

11:00 – 11:30 AM TBD, re-cap and discussion of earlier agenda items

The INCLUDES program was discussed including its aims and purpose. The AC then recapped what would be discussed when the director visited.

11:30 – 12:30 PM Lunch

12:30 – 12:45 PM Reconvene
Juan de Pablo

A series of updates were given including internal MPS changes, facilities updates centered on the construction of DKIST and LSST, and program updates with sample activities such as the BIO Math Institutes.

12:45 – 1:45 PM Presentation from Director and Chief Operating Officer, and feedback from the Advisory Committee

The Director and AC members discussed issues important to the NSF and the community. First, the Big Ideas was brought up. AC members asked how the directorate would fund the Big Ideas with diminished budgets. It was outlined how current programs were already funding projects in the Big Ideas areas, that Congress has expressed support of the NSF, and that the Big Ideas are being seeded with workshops and pilots. Next, facilities were discussed, centering around funding of facilities and the difficulty with divestment. It was mentioned how important it is for MPS to find partners for these facilities. After that, the topic of leadership and recruitment was brought up, centering on the process of finding good candidates. Next, workload issues were discussed, including how best to relieve the workload balance. Lastly, the role of NAS surveys and the role of the AC was discussed centering on how the AC could be better utilized.

1:45 – 2:00 PM Break



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2:00 – 2:45 PM Cyberinfrastructure Request for Information update
Bill Miller, Office of Advanced Cyberinfrastructure
Irene Qualters, Office of Advanced Cyberinfrastructure

Bill Miller gave a presentation on CIF21, an NSF-wide activity supporting cyberinfrastructure, and the future of cyberinfrastructure. As new technologies and resources have emerged, the NSF has refreshed its vision through the CI2030 program. The role of MPS in this project was discussed, including fostering a holistic, internationalized CI community, increasing access to diverse computing resources, workforce training, and further collaboration. The next steps for CI2030 were discussed.

2:45 – 3:15 PM NAS and other surveys or decadal reports and the role of AC subcommittees, part II
Juan de Pablo

Jim Ulvestad started the discussion by questioning what role the AC would have in response to academy reports. It was suggested that the heavy lifting could be done in subcommittees, which would require the careful consideration of membership. There was a discussion on the feasibility of the AC to fulfill this role due to the scope of the reports. It was stressed that the AC in general is underutilized, and would be willing to do more in regards to surveys and decadal reports. It was suggested that the AC be expanded to 12-15 members to allow 3 experts in each discipline,

3:15 – 4:00 PM Future role and activities of AC
Juan de Pablo

The process of selecting AC meeting was discussed. It was then stressed that the input of the AC is taken very seriously and is valued.

4:00 – 4:15 PM Wrap up and opportunity for public Q&A/Comments
Juan de Pablo

4:15 PM Adjourn