

Astro2010 NWNH Midterm Assessment

Report to the Astronomy and Astrophysics Advisory Committee

Jacqueline N. Hewitt, Chair

Presented by Angela V. Olinto, member

12 November 2015

Statement of Task

In the context of funding circumstances that are substantially below those assumed in NWNH, the committee's review will include the following tasks:

1. Describe the most significant scientific discoveries, technical advances, and relevant programmatic changes in astronomy and astrophysics over the years since the publication of the decadal survey;
2. Assess how well the Agencies' programs address the strategies, goals, and priorities outlined in the 2010 decadal survey and other relevant NRC reports;
3. Assess the progress toward realizing these strategies, goals, and priorities; and
4. In the context of strategic advice provided for the Agencies' programs by Federal Advisory Committees, and in the context of mid-decade contingencies described in the decadal survey, recommend any actions that could be taken to maximize the science return of the Agencies' programs.

The review should not revisit or alter the scientific priorities or mission recommendations provided in the decadal survey and related NRC reports but may provide guidance on implementation of the recommended science and activities portfolio and on other potential activities in preparation for the next decadal survey.

Committee Membership

Jacqueline N. Hewitt, Massachusetts Institute of Technology (Chair)

Adam S. Burrows, Princeton University

Neil J. Cornish, Montana State University

Andrew W. Howard, University Hawaii-Manoa

Bruce Macintosh, Stanford University

Richard F. Mushotzky, University of Maryland

Angela V. Olinto, University of Chicago

Steven M. Ritz, University of California, Santa Cruz

Alexey Vikhlinin, Harvard-Smithsonian CfA

David H. Weinberg, Ohio State University

Rainer Weiss, Massachusetts Institute of Technology

Eric M. Wilcots, University of Wisconsin

Edward L. Wright, University of California, Los Angeles

A. Thomas Young, Lockheed Martin, retired

Midterm Assessment Timeline

8-10 October 2015	First meeting, Washington, DC
12-14 December 2015	Second meeting, Irvine, CA (Science symposium on December 12)
5 January 2016	AAS session, Kissimmee, FL
11-13 January 2016	Third meeting, Washington, DC
1 March 2016	Report delivered to NRC for review
May 2016	Report released
June 2016	AAS presentation

First Meeting - Summary

- Presentations from agencies
 - NASA/Astrophysics – Paul Hertz
 - NSF/AST – Jim Ulvestad
 - DOE/HEP – Kathy Turner
- OSTP – Meredith Drosback
- JAXA – Kazuhisa Mitsuda
- ESA – Fabio Favata
- Presentations from activities and projects
 - WFIRST/AFTA – Neil Gehrels
 - MSIP – Vern Pankonin
 - U.S. LISA – Tuck Stebbins
 - U.S. Athena – Rob Petre

Second Meeting - Plans

- Roger Blandford keynote presentation
- Science symposium - organized around NWNH Science Frontier Panel areas
- Discussion with OMB
- Continued project presentations
 - TMT, GMT, LSST, CTA have been invited
 - Others we would like to hear from – invite or later telecon/web meeting
- Committee deliberations

Connecting with A&A Community

- The three Committee meetings – registration is now active for the second meeting (link can be found on BPA website)

http://sites.nationalacademies.org/SSB/CurrentProjects/SSB_161177

- Committee meetings have time set aside for public comment
- AAS splinter session – scheduled, will publicize very soon
- Open letter to community inviting input – will distribute via AAS – posted on AAS web page this morning!
- Email input via astromidterm2015@nas.edu - will be publicly available as per federal law

Need to strike a good balance between inclusiveness and scope; keep focus on NWNH *implementation*

(We are not doing another survey/prioritization!)

- *Not asking for white papers*
- *Not asking for contributed talks*

Some Observations...

- The current reality is **very** different from what NWNH assumed
 - Budgets available for NWNH activities much lower, NSF facilities inflexible
 - ESA has made mission decisions
 - Science has progressed (eg, exoplanets, CMB precision, (GW rumor?))
- NASA first 2010 decadal new start occurring later in decade than anticipated
- NWNH explicitly deferred some decisions to mid-decade
- Contributions of big AFTA mirrors to NASA changes WFIRST cost model
- WFIRST scope and risk have increased, and some capabilities have been lost
- Even mid-decade is different (eg., LISA Pathfinder not yet launched)
- NWNH advised DSIAC to deal with many issues – did not happen

- *The landscape is complicated*
- *There are many unresolved issues, some requiring detailed study, some now in 2020's*
- *Committee will have to select scope carefully, recommend further study for some topics*

Thank you!