President's Column – Debra Meloy Elmegreen – Jan.-Feb 2011

By the time you read this article, the Seattle meeting will be history, and the path forward on the implementation of Astro2010 Decadal Survey recommendations may be more clear. But as I'm writing it, we're just in the midst of trying to understand how the new Congress will respond to scientific research needs in general and to astronomical priorities in particular, especially in light of the recently released Casani report on the James Webb Space Telescope cost overruns. Congress needs to be reminded that basic research is important for the country. The benefits to society are broad, ranging from discoveries and innovative technologies that improve our lives, to a more technically competent workforce, the creation of new industries, and a scientifically literate society. At the present, though, the outlook for increased support in astronomy, whether space-based or ground-based, appears bleak. This is a challenge for the astronomical community, as we look forward to implementing the *New Worlds, New Horizons* recommendations.

A lot is at stake. Astro2010 took JWST as a given in building its integrated program of activities, since our task was to consider only those projects that were not yet underway. The top-ranked large space mission, WFIRST, is a relatively modest investment compared with JWST and HST. Its carefully assessed cost and risk resulted in a realistic budget that should not be subject to the huge increases that befell the others. During the past few months, we've heard, through agency reports to the NASA Astrophysics Committee, the inter-agency Astronomy and Astrophysics Advisory Committee, and the NRC Board of Physics and Astronomy, about the likely delay of WFIRST following the further delay of JWST. The NWNH report recommended the formation of a Decadal Survey implementation advisory committee to address possible mid-course adjustments if circumstances changed a lot. It appears we will need that committee sooner rather than later.

I think NASA is taking a positive step in moving JWST from the Astrophysics Division and making it a NASA-wide responsibility. That gives me hope that JWST, which is critical to our community, will still launch; indeed it cannot be allowed to fail. Much of the science of the next decade will use the data gathered by JWST, which will also serve as a springboard and as a complement to other endeavors. In addition, the leadership of the U.S. in astronomy depends on our development and execution of large projects like JWST.

This move of JWST also means that there should still be NASA Astrophysics funds to accomplish some of the exciting activities in the Decadal report. It's important to remember that the recommendations called for an integrated plan, giving equal weight to small, medium, and large priorities. Even if WFIRST is delayed, the smaller missions and activities should still be done. Indeed, our community depends on these. They include more frequent Explorer and suborbital launches that provide rapid data turnaround and training for the next generation of instrumentalists, and technology development, especially targeting exoplanet and CMB polarization research. These are also stepping stones to the large missions of the future.

Regarding ground-based astronomy, increases in NSF Astronomy Division funding are also in jeopardy. My hope is that LSST and eventually a GSMT can move forward into the NSF-wide MREFC funding lines for large projects, but these may still require an Astronomy Division commitment to subsequent operating funds. The next NSF Senior Review (i.e., the prioritization of ongoing projects to consider possible closures) will be critical for opening the way towards new starts. We look forward to CCAT as a complement to ALMA. In addition, the recommended NSF mid-scale innovations program of competitive funding would go a long way towards advancing a variety of subfields by supporting projects such as advanced adaptive optics, pathfinders towards SKA such as HERA, high energy, and solar research. At the same time, support and augmentation to the core programs, including funding for our national observatories and for analysis, theory and theory networks, computation, archiving, and laboratory astrophysics, is vital for carrying out the astronomical enterprise.

The way forward partly depends on Congress and funding agencies getting our message of why astronomy is important to the nation, even during times of great fiscal stress. Decadal Survey leaders have been actively engaging Washington staffers in discussions. Kevin Marvel and Bahcall fellow Bethany Johns, along with the AAS officers and the AAS Committee on Astronomy and Public Policy, will be particularly active this spring after the unveiling of President Obama's FY2012 budget request. I'd like to acknowledge the generosity of Jack Burns, previous CAPP chair, and Craig Wheeler, our previous past-president, in agreeing to serve in those roles once again, following our untimely and tragic loss of John Huchra. Be sure to volunteer for Congressional Visit Day taking place in April if you'd like to be involved too, and take time to write to your Congressmen and let them know astronomy is important to you. We must not be complacent and assume that *New Worlds, New Horizons* will convince Congress to fund our work; we must make our collective voice heard.