TOWN HALL MEETING

University of Michigan and University of Toledo

Ann Arbor Michigan
April 7, 2009

Over 30 members of the local community were present including representatives from the Dept. of Astronomy and Dept. of Physics at the University of Michigan. Several attendees were also present from the Dept. of Physics and Astronomy at the University of Toledo. Over half the audience was comprised of students and postdoctoral fellows. These notes were taken by Edwin Bergin (ebergin@umich.edu). Present at the meeting to aid in the discussion where Lynne Hillenbrand (Executive Officer) and Lee Hartmann (chair of Planetary Systems and Star Formation science frontier panel).

The meeting began with Lynne Hillenbrand providing a brief overview of the survey, its structure and goals, along with some discussion of how this survey is different from previous efforts. Lee Hartmann then followed with a brief discussion of the activities of the science frontier panels, how they are operating and how they will interface within the survey. Initial questions focused on the survey itself followed by some discussion on the actual goals. The following notes are provided without attribution but italics provide comments or questions from the audience and normal text are responses.

How did the organization chart get developed? Designed by the executive committee with NRC staff input.

Are submitted papers available? In general most are available, others will be organized and released (some may need to be requested). It was also noted that many of the white papers are on astro-ph.

Are funding agencies bound to follow these instructions? They are not bound but reports have stature and provide guidance. For instance other fields have begun to follow this model due to its success.

How will outcome of this report be different from previous reports (for instance the previous survey had 4 priority projects and some were not completed), what will be done differently to make sure this does not happen again? The previous survey underestimated the funding level as the report was geared towards a maximum funding level which did not materialize. In addition the cost of missions/projects was underestimated. The survey is trying to improve by having independent estimates of costs of big ticket items and have more of a decision tree based on available funding.

Is the level of communication good (to audience)? *General consensus is that it is fine.*

Is there a little bit of a selection effect for big projects, after all they are more organized and ready to go? Given the number of white papers, some from post-docs (so young individuals are involved), there are numerous ways for this report to be used to justify big and small missions (at least in terms of science). *In some sense it might have been better to have more time to handle white paper submission as the ongoing projects are ready to go. It was also noted that HST is a good example of big science going to small projects.*

How is the funding for the big telescopes going to be resolved? From the perspective of the average astronomer and the entire community are we better served with an ALMA model for big optical telescopes (one where the funds are mostly at the national level with costs shared amongst countries instead of private institutions)? It would be good for this to be part of the discussion.

Given the cost overruns with major missions and telescopes the need for independent cost estimates are clearly needed.

How will the need for broad scope science be addressed, particularly in terms of facilities focused on more than one type of science? This will be treated at the program panel level. *In this regard it would be good to make it a point to ensure access to as much of the electromagnetic spectrum as possible.*

An additional need is for outreach programs beyond planetarium shows. We need to offer more of the astrophysics of the physics (solar power, nuclear power). This is not sold to public at all. We need to motivate furthering the technological needs of the country.

Many things that rank highly are not US only ideas, but rather are funded internationally. How does the internationalization of big projects fit into the survey? This is recognized by panel and dealt with through meetings with some individuals from Europe and looking at other reports.

What about greying of the field laboratory astrophysics? There is a critical need for this data to interpret our observations but many of the individuals working in this are poorly supported and many are nearing retirement. Is this recognized as an issue? Is there a way to associate more mission funding with work in laboratory astrophysics. Herschel has done this.

The lab experiments should include dark matter experiments. Guideline is that anything that is cosmic origin (from an astrophysical source) belongs, anything that is a focused experiment goes elsewhere.

What about maintaining access to the IR? Is there any initiative from the astronomical community to keep technologies active and provide a diversity of vendors for sophisticated arrays.

It would be good to prioritize making all data public (both space and ground-based) on short timescales (~1 year). In this regard it should be noted that the rate of papers based on archival data is increasing. Funding should follow this trend.

What sort of thought is happening regarding the role of small telescopes in a time when large surveys such as Pan-STARRS and LSST are operating? In general the panel is paying careful attention to this issue as these large surveys will play a major role in the future of the field.

There is a strong community need for software support that often falls through the cracks. For example, support for IRAF. It would be good for the panel to explore and acknowledge this issue.

What aspect of state of profession is part of survey? There are several white papers that track the progression of young astronomers exploring the fraction on soft money, associated with large projects (e.g. NASA missions, telescopes), or at Universities. *What about jobs that are still related to astronomy that are not in academia, what are job options beyond post-doc and the nominal path? Are there alternate ways to educate to make sure that other viable options - our trained individuals do go into other fields, but how can we facilitate this issue? In this regard, it was noted that*

unemployment rate of young astronomers is very low, but that the cross-pollination of astronomers to other fields is a motivation for funding.

Job prospects would greatly improve if universities would double faculty, but we have little influence. One suggestion is the question of the length of the average post-doc, perhaps make it 5 years instead of 3 so as to have slightly more stability. In addition perhaps the AAS job register can have a section for private sector jobs that require individuals with technical training. There is some precedent from Europe in terms of national centers doing research, perhaps there are ways to harness the mood of the country for technical areas.

Is there a mechanism for self-assessment? The NRC pays attention to this.