**Minutes for July 15, 2014 (P. Cushman)**

Attending: Prisca Cushman, Jim Buckley, James Lowenthal, Tod Hoeksema, Jim Ulvestad, Dan Evans, Maria Womack

Absent: Angela Olinto, Michael Mahoney, David Lang

We agreed that we should have a mission statement, and improved the existing draft version by emphasizing science and health of the field first and the funding wedge, leaving reviewer load to the end. Other ideas that were included as a result of our discussion: balance between labs and universities, future projections if nothing changes (as well as proposed changes), different funding models for different agencies. We decided that our trends should be tracked over 10 years. The latest version (still very much a draft) is:

**Purpose and Scope**
Over the last decade, the amount of funding available for individual researchers and smaller projects has declined relative to the total funding profile. The decreasing success rate of such proposals in the fields of astronomy and astrophysics has been a topic of concern within the community. Consequently, a working group has been formed under the auspices of AAAC, including representatives from CAS, CAA, AAS, NAS \*\*fill in the rest of the alphabet soup\*\*), in consultation with representatives from the relevant divisions of NSF, DOE nd NASA. Its purpose is to evaluate the effect of this changing environment on the health of the field, specifically addressing whether this will result in an unacceptable restrictions in the range of new scientific initiatives and negatively impact career choices of the most promising researchers. It already is creating an unsustainable load on reviewers and has led the agencies to consider solutions to the problem (such as reducing the frequency of solicitations or restricting the number of proposals per year).

This working group will gather relevant demographic data in order to understand how the last 10 years of declining relative funding for individual research grants
(\*\* do we have a better name for this?\*\*) has affected researchers and projects, as well as the balance between National Labs and Universities. We will compare funding models across agencies and determine appropriate metrics for evaluating success. This will allow us to provide data-driven projections of the impact of such trends in the future, as well as that of any proposed solutions.

The specific tasks are

a. Identify the questions that can inform this decision.

b. Data collection required to answer these questions .

 A. What already exists at the agencies?
 B. What trending plots are the most informative?
 C. What other data must be collected and from where and how?

c. Collect data and determine optimal format for presentation

d. Disseminate results – either publically or to the agencies.

**Other discussion**

We should invite all relevant agencies to our teleconferences, if they want to attend, but in any case send minutes. Identify the people we should include, and especially determine those people in each agency who can directly help us with data collection. Prisca will talk to DOE CF and NSF PA. Todd will talk to Paul Hertz about possible involvement of solar and planetary divisions, as well as who should be included in our list under astrophysics.

It would be helpful to contact other divisions not necessarily under our purview, in order to find out how they are approaching similar problems and what results are from any proposal restrictions have already been put in place. Jim U will identify or contact other NSF divisions/fields with relevant information (see below for results of his query)

Jim Ulvestad and Dan Evans described the type of data available from NSF Astronomy. Due to its extensive nature and the fact that it is already in a SQL relational database, we will probably use their data categories and organization as a model and determine how data from other agency divisions map onto this. A large part of our work will be in determining the queries required to extract the information that can reliably answer our questions.

In order to understand what the questions are and what data is require to answer them, a list of questions/data are being compiled. The list is started below. Prisca will create a wiki and will input all this information, so we can collaborate on defining the required questions.

The next teleconference will be called sometime in mid-August.

**Questions:**

What is the effect of reduced funding for individual research grants (relative to the overall funding profile)?

 What do we expect to happen if the current trend continues unchecked?
 Does it represent healthy competition and improve proposal quality?
 Does it unfairly target younger researchers?
 Does it reduce the number of scientists in the field?
 Does it favor large projects over small projects? Is that good or bad?

Solution 1:

Would one proposal per year per PI be **good for the science**? Or would it reduce the diversity of ideas and stifle risky, but imaginative proposals?

Would one proposal per year per PI **improve success rates**? Or would the funding requested per proposal go up?

Would one proposal per year per PI **reduce reviewer load**? Or would it create more PIs (proposals) from otherwise collaborating senior researchers? Or increase difficulties in deciding between few but very excellent must fund proposals?

Solution 2:

Would RFPs every other year be good for the science? Or create funding gaps for tenure-seeking researchers and thus unfairly target a demographic we want to encourage? Or create uneven funding levels, loss of resources, lack of continuity in the off years?

Would RFPs every other year improve success rate? Or create a multitude of poor proposals in the “on” year?

Would RFPs every other year reduce reviewer load? Or create many more proposals in the “on” year?

Solution #:

Consider other models that have been tried and evaluate for our field.

**Data we need:**Most of this already exists for NSF Astronomy.

Who is writing the proposals?
PI position: e.g. postdoc, assist. Prof, assoc. Prof, tenured faculty, research faculty
Gender, race/ethnicity, geographical location, size of institution
How many proposals submitted by same PI (broken down by PI category)
Number of senior researchers on proposal
 per year, per category of PI, per funding requested
Compare success rates of different sorts of proposals
 per PI category, per number of senior researchers, per number of proposals
 submitted in the last 5 years, per funding requested
Years between proposals
 cross correlate to success rate, PI category, # of senior researcher
Can we get at whether younger researchers rise through the ranks (are researcher on proposal and then become PI later)? Number of years between first appearance as senior researcher on a proposal to PI?

**Other NSF Division policy wrt proposal restrictions**

       ***From Physics Division, Program Solicitation 14-576:***

**Limit on Number of Proposals per PI or Co-PI:**

None. However, the Physics Division strongly encourages single proposal submission for possible co-review rather than multiple submissions of proposals with slight differences to several programs.

         ***From Division of Materials Research, top level web page***:

**DMR discourages the submission across DMR's program of more than one proposal from the same Principal Investigator during the DMR Annual proposal-submission window each fall.**

         ***From Division of Chemistry, top level web page:***

**CHE discourages the submission of more than one proposal from the same Principal Investigator during the proposal-submission window.** Note that proposalsthat are a duplicate of, or substantially similar to, a proposal already under consideration by NSF from the same submitter are subject to return without review. This also applies to proposals that were previously reviewed and declined and have not been substantially revised as well as to duplicates of other proposals that were already awarded.

         Math also claims to discourage multiple proposals, but I couldn’t find it in an obvious place on their web site this morning.