

January 26th, 2012

Committee on the Status of Women in Astronomy Response to NSF Career-Life Balance Initiative

The American Astronomical Society Committee on the Status of Women in Astronomy is committed to encouraging the implementation of practical measures to improve the status of women and underrepresented minorities in astronomy (and all CS/STEM disciplines) and encourage their entry into astronomy (and all CS/STEM fields). This includes developing and supporting the implementation of forward-looking policies and practices to balance career and family demands.

In the following, we highlight a few key issues and practical policy changes addressing them.

I. Family leave policies

Policy change:

If the NSF is interested in supporting excellence in CS/STEM fields through recruitment and retention of high-quality scientists, the career-life initiative cannot be restricted to impacting policies only for PIs (typically faculty). We applaud the updated parental leave policies for PIs and the updated paid family leave policies for NSF Astronomy and Astrophysics postdoctoral fellows and for NSF Earth Science postdoctoral fellows. However, these policies do not address the retention and recruitment of the work-horse population of early-career scientists – graduate students and postdocs supported by faculty PI NSF grants.

In the interest of fully supporting the intellectual efforts of graduate students and postdoctoral researchers, we encourage the NSF to consider these early-career scientists more directly in the new career-life initiative. *Specifically, graduate students and postdocs paid by individual faculty PI NSF grants should have the option of requesting paid family leave.*

Under current policies, NSF PIs are placed in a very difficult position when their graduate student or postdoc gives birth or adopts a child or needs to care for a partner or elder parent. The PIs have been awarded an NSF grant to complete X, Y, and Z within the time allotted. Allowing family leave time to their employees is in non-compliance with their ‘effort reporting’. The PI and the graduate student/postdoc have no recourse. If instead the NSF had a clear and supportive paid family leave policy stipulation within the grant process, the PI would no longer have his/her hands tied and these early career scientists could take family leave and feel supported in this career path.

Any family leave policy for graduate students or postdocs must provide continued health insurance support during the leave time.

Furthermore, similar to the new policy for PI parental leave, there should be stipends available to the PIs to pay equivalent staff to maintain progress on the grant while the graduate student or postdoc is on leave.

Alternative:

While there is widespread community support (see below), departments do not have a clear route for funding family leave policies for graduate students and postdocs. One method for doing so would be to allow and encourage faculty to pool a percentage of overhead costs from their NSF grants for supporting a family leave policy for all graduate student and postdocs in their department.

Paid versus unpaid leave:

Because these highly skilled graduate students and postdocs are in positions of relative transiency (2-6 years) and have relatively low salaries, unpaid leave is an unacceptable option. Unpaid leave directly conflicts with retention and recruitment of a broad range of scientists to the CS/STEM disciplines. We recommend 12 weeks of paid family leave for the birth or adoption of a child or for the care of a partner or elder parent.

Gender neutral:

It is very important that family leave policies be gender neutral, reinforcing the message that shared parenting is valued and respected within our CS/STEM community. Gender neutral policies also reflect the reality of our community in which most early-career couples are dual career couples and child rearing is shared by both parents.

Community support:

Within the astronomical community, there is widespread support for the establishment of paid family leave policies for graduate students and postdocs. Our online petition¹ already has over 1000 signatures (for context, the total membership to the American Astronomical Society is only ~7000). A few astronomy departments have taken the lead, providing 12 weeks paid family leave policies for both male and female graduate students².

II. Use of grant funds for childcare

In addition to family leave, provisions for childcare are important for supporting the careers of graduate students and postdocs. After all, raising children is a long-term endeavor and takes more than 12 weeks. If grantees had the flexibility to use their funding to pay for child care, particularly to allow for travel to conferences and meetings, this would not come as any additional cost to NSF and yet still allow parents of young children to pursue their research

¹ <http://faculty.wcas.northwestern.edu/aaron-geller/petition/index.php>

² See <http://www.astro.wisc.edu/grad-students/policies-procedures/medical-and-family-leave-policy> for UW-Madison's new policy. Also see <http://www.astrobetter.com/wiki/tiki-index.php?page=Leave+Policies> for a listing of current family leave policies at U.S. institutions and national postdoctoral fellowships. We are also conducting a formal survey filled out by the chairs of individual astronomy departments to identify current policies and practices. The results of these surveys will be posted within the next few months.

and collaborations. The NIH already has this policy in place, and could serve as a model for NSF to follow.³

III. Provisions for 4-5 year postdoc positions

At our recent January 2012 American Astronomical Society meeting, the Employment Committee hosted a panel discussion with the goal of hearing community concerns and ideas for improving the postdoc situation in our field. *It is now typical for astronomers to do two or three 3-year postdocs before obtaining a long-term position or leaving the field.* As it takes 5-6 years to complete the Ph.D., the postdoc years occur at a time when many are getting married and starting their families. The expectation that an early-career astronomer will move two or three times during this period means that there is higher attrition (loss of high-quality scientists) particularly for those in dual-career couples and/or those with children.

A recommendation that arose from this panel discussion (and other conversations on this topic) is that the NSF lengthen the typical grant period from 3 years to 4-5 years. We recognize that there are a number of reasons that typical grants are 3 years and that changing this culture would take time. Instead, we recommend providing an additional route (the career-life initiative route) for obtaining a 2-year extension to an awarded grant for continued funding of a given postdoc in a given location. This would relieve the burden of uprooting a family, finding new jobs for the partner, and a new support network and daycare/school for the children. It would also relieve the serious problem for our field in terms of the loss of productivity that occurs on such a wide scale during job application season (October through December) every year.

Another route for minimizing uprooting of families is to provide early-career grants to an institution to support the creation of new CS/STEM faculty lines. The solar physics division provided this a few years ago, which the University of Colorado-Boulder took advantage of to create a new faculty line. If we understood correctly, the NSF grant provided the first few years of salary, which was enough incentive for the university to continue funding the tenure track faculty through the remainder of his/her career. The newly created NASA Roman fellowship⁴ provides another example of this type of initiative – supporting early-career instrument builders in the transition to long-term faculty positions.

IV. Double-blind review of NSF proposals

At the CIERA postdoctoral fellow conference (in which Northwestern University invited the top postdoctoral fellows in astrophysics for a 3-day conference in August 2011), we held a discussion on policy improvement for postdocs. In addition to the themes addressed above, there was a strong call for instituting double-blind review policies for grant proposals and telescope time allocation committees. We recommend the following:

- 1st round: Block out the names of PIs. Reviewers create an initial ranking.

³ http://grants.nih.gov/training/faq_childcare.htm

⁴ <http://science.nasa.gov/researchers/sara/student-programs/nancy-grace-roman-technology-fellowships-astrophysics-early-career-researchers/>

- 2nd round: Unblock the names of PIs so that the reviewers can assess their qualifications, track record, and likelihood of success.
- Justify the final ranking, with reflection on causes for changes in ranking between the first and second round. With this step, we hope to instill self-reflection on the influence of gender and race on ranking.

Numerous studies have shown the negative effect of unconscious bias on the evaluation of underrepresented minorities when applying for positions of many kinds. For example, when given two identical applications for an assistant professor position in a psychology department, both female and male evaluators preferred the “Brian” file to the “Karen” file by 2:1⁵. Setting up a “blind” evaluation can mitigate this effect however: auditions for major US symphony orchestras show that the probability that woman will advance from the preliminary rounds will increase by 50% when a screen is used, thus creating a “blind” audition⁶. Simple steps can have dramatic impact.

V. Elimination of Age-Bias

With age restrictions on fellowships, grants, or awards such as imposed in the Alan T. Waterman Award, for example, NSF restricts the pool of candidates by not considering women and men who take time off to rear children and then return to the workforce. With many STEM Ph.D.’s awarded at an age of late-twenties coupled with the time duration of two postdoc positions in a number of STEM fields, women and men who choose to take time off for family concerns are subject to halted careers, or slowed careers, with more limited paths for success. By eliminating age restrictions and instead focusing on whether the candidate is an early-, mid-, or late- career, NSF paves a path for career progress.

VI. Publication of Gender Submission and Recipient Percentages for NSF Grants

Women who earn a STEM PhD and continue in academia are more likely to obtain a non-permanent, non-tenure track position rather than tenure track⁷. The problem is particularly severe in physics. Of the STEM fields, the fewest women graduate in physics. Of the men and women who do graduate with a physics PhD, more than half continue in fields other than physics after graduation⁸.

In order to address these problems, there is a pressing need for data. One useful step would be for the NSF to disclose the percentages of women and men who apply for NSF CS/STEM grants and the percentages of women and men who receive NSF CS/STEM grants. This information would be used to better understand the choices women are making resulting in such high percentages in non-permanent positions and/or leaving the career path.

⁵ Steinpreis, Anders, & Ritzke (1999), *Sex Roles*, 41, 509

⁶ Goldin & Rouse (2000), *The American Economic Review*, 90 4, 715-741

⁷ APT Global Report, 2011

⁸ AIP Statistical Research Center, PhD Initial Employment Survey, June 2011

Please do not hesitate to contact us if you have any questions or if we can further support NSF's efforts in this important initiative.

Sincerely,

A handwritten signature in black ink, appearing to read "Laura Trouille". The signature is written in a cursive, flowing style with a prominent initial "L".

Laura Trouille, Hannah Jang-Condell, Michelle Montgomery, Caroline Simpson, and
the Committee on the Status of Women in Astronomy