

Dear Colleagues,

As the year draws to a close, I'd like to take this opportunity to informally report to the UK astronomy community on the 2017 STFC astronomy grants round.

Summary of the round

I'm sure it will come as no surprise that this has been another incredibly competitive round. The Astronomy Grants Panel (AGP) has been operating in an essentially flat-cash environment for several years now, while the community of applicants continues to grow each year.

The procedure followed by the AGP has remained largely unchanged from previous rounds, albeit with minor adjustments to deal with the increasing volume and diversity of the applications received. Specifically, these include small changes to the allocation of project introducers and readers (to slightly reduce the volume of projects that each panellist must read) and the formation of a sub-panel of technical experts to assist in the proper evaluation of technical projects and their tensioning against science exploitation projects.

In the 2017 round, the panel received 44 applications, comprising 31 Consolidated Grants (CGs), 6 Consortium Grant applications, and 7 applications to be considered under New Applicant guidelines. These 44 applications included 255 individual projects, a marked increase compared to 2014 (i.e. the same round in the previous 3-year cycle) when AGP received 40 applications containing 234 individual projects.

Following review, the AGP arrived at a ranked list of all 255 projects submitted and was able to recommend funding for 85 projects (33% of the 255 submitted). Not all of those received the entirety of the funding requested. Overall this comprised 71.1 FTE and 6.6 FTE of PDRA and Technician time, respectively, and support for 109 individual applicants (39% of the 280 individuals who were either PIs or Co-Is on the applications received). As in the past three rounds, although the average amount of academic time awarded per successful applicant has remained roughly the same (approximately 15% FTE), the overall level of applicant time that AGP was able to recommend remained disappointingly low due to the limited budget. The mean level of recommended applicant time (often referred to as "FEC") per recommended PDRA was approximately 22% FTE.

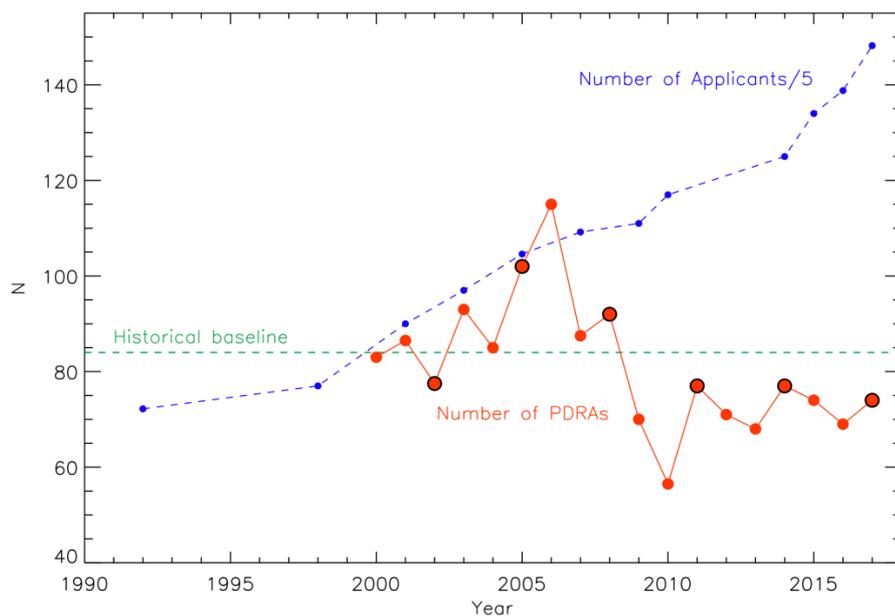
The median size of a recommended consolidated grant award is 2.0 PDRAs with 0.4 FTE of applicant FTE supported. Unfortunately, the distribution of projects within the final AGP ranking meant that some CG applications received no support (i.e. no projects were funded), with the applicants now locked out for three years. Excluding New Applicant proposals, which naturally tend to be small in scope, in this round six institutes/consortia received no support, while twelve institutes/consortia are expected to be awarded a single PDRA. Together these groups make up 49% of the consolidated/consortium applications submitted.

AGP has continued to monitor the success rates of applicants according to gender. In the 2017 round, 19% of the applicants requesting support were female. At the completion of the round, 18% of the applicants receiving support were female and 19% of the projects recommend for funding were led by a female applicant. As such, there is no evidence of a systematic gender bias in the success rates.

Community growth

Since their introduction in 2011, the community has gone through 2 complete 3-year cycles of consolidated grant applications and 2017 represents the first round of the third cycle. It was originally envisaged that after one cycle, in which the whole community of applicants was spread across three years, the community would broadly remain in the steady-state. However, the community has continued to grow year-on-year.

The figure below illustrates this evolution of grant volume and community size. Between 1995 and 2006, posts awarded tracked community size. This was achievable because the overall science budget doubled after 1997. After 2006, community growth continued but the number of PDRA posts dropped dramatically. Over the past six years, grant funding has roughly stabilised, but at a low level, with the numbers of PDRA involved in science exploitation increasing from a low point in 2010, but still below the historic baseline. This figure suggests a level of ~85 PDRA posts for this baseline, compared to 74 posts (equal to 71.1 FTE) recommended in the current round, with a growing indication that we may be seeing a plateau in the level of support which AGP can offer. Meanwhile the size of the academic research community is continuing to grow by ~5-8% per annum. This means that the ratio of PDRA to applicants is declining. Moreover, in the face of a flat-cash budget the recovery in PDRA numbers in 2011 came in part at the cost of significant pressure on applicant time awarded, which has once again been exacerbated by the growing number of applicants.



The evolution of PDRA support provided by STFC/PPARC astronomy grants compared to the growth of the UK's academic research community. The PDRA numbers represent the number of posts awarded in each round (so the average number of PDRA's in place is three times as large) and do not include Technician posts. The number of potential applicants before 2010 is based on returns made to the STFC Education and Training committee and then derived from the total number of grant applicants in the consolidated grant rounds since 2013. It includes academic-equivalent senior fellows as well as academic staff. Note that the Applicants line has been divided by 5, so that it can be compared with the PDRA awards, and roughly a third of applicants will apply in a given round. The previous submission years for the current round are identified by black circles.

Supply and demand

It goes without saying that the combination of a flat-cash funding environment and the steady growth of the community is placing the astronomy grants system under considerable strain. Competition for resources is intense. The statistics indicate that an academic working on astronomy research has access, on average, to a third of an STFC-funded PDRA at any one time, or equally that they can expect to be awarded three-years of PDRA support once every decade. Despite this, the majority of applications to AGP continue to follow a model in which each applicant leads one project (possibly with a number of co-applicants) and requests a dedicated PDRA. As a community, this results in the requested resource being roughly three times that available.

Looking across the individual grant applications, in 2017 the “overbid” – the ratio of resources requested compared to the pre-existing level of support – on applications from groups/consortia who already hold a grant awarded by AGP varied between 1 and 8. The AGP has discussed what, if any, measures might be put in place to manage this demand in future. No formal demand management measures are proposed for the 2018 round, but this will be kept under review and the views of the community are valued. Nevertheless, Principal Investigators should be mindful when managing their grant applications that requesting resources many multiples of their current level of support is not realistic in the current funding environment. I would encourage PIs to reflect on this, study the AGP Guidelines and consult with the Swindon office when developing their applications.

And finally...

As in previous rounds, we are very aware that many excellent scientists do not receive AGP support, because of the very strong competition for resource, and the need to assess projects based on the cases presented, with the wider contribution of individuals to their research fields being only one consideration. The fact that consolidated grants are assessed as a set of individual project cases that may stand or fall on their own merits can result in large changes of fortune from one round to the next that are a challenge to manage at the institutional level.

We therefore stress, as we have previously, that AGP’s recommendation to award or not award applicant time to an individual is not an indication of whether that person is “research active” or not.

AGP are unable to recommend support for a significant number of very high-quality proposals and researchers simply due to a lack of funds.

While disappointment and frustration in the community are inevitable and understandable, I hope that it goes without saying that the grants system would totally collapse without the very considerable effort of the STFC Astronomy team in Swindon, who deserved the wholehearted support of the community. Likewise, the dedication of the AGP panel members, who usually have the onerous role of reading more than 100 project proposals each and who are regularly required to make almost impossible decisions, is outstanding. Finally, we should not overlook the essential work of the community of reviewers who, in 2017, responded positively to 92% of the 748 requests to review. I wish to extend my sincere gratitude to all who have contributed.

Best regards,

Jim Wild, AGP Chair, December 2017.