

# STFC Astronomy Grants Panel (Small Awards) Community Report 2023

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Dear Colleagues,

2023 was the first round of the Astronomy Grants Panel Small Awards scheme, and at the end of the round I am writing to the community with some summary information, including applications received and support awarded, some statistical and procedural information, and issues arising. I hope that you will find this useful.

## Overview of the 2023 Round

The STFC Astronomy Grants Panel (AGP) assesses responsive research grant proposals in astronomy and space science covering basic research, exploitation, theory and modelling and the development of basic technology related to the programme. The previous Consolidated Grants scheme which ran for 12 years has been replaced by two schemes: a Small Awards scheme which ran for the first time this year, and a Large Awards scheme which will receive its first full applications in 2024. The Small Awards scheme receives applications for 3-year projects supporting, typically, a PDRA and up to 20% staff FTE, plus technical, travel, equipment, and other support costs as necessary.

## Applications Received

The Small Awards scheme is being phased in over three years, and 2023 applicants were primarily from the group who last applied for a Consolidated Grant in 2020. There was a marked reduction in the number of applicants compared to 2020, possibly because some eligible applicants chose to apply in later years, taking advantage of the flexibility of the scheme. Table 1 summarises applications received this year and in 2020. 124 proposals were reviewed in the Astronomy Observations and Theory areas (AO/AT) and 50 in the Solar Studies and Planetary areas (SS/PL). Small variations in success rate for projects within the individual sub-panels (e.g., AO versus AT) are dominated by small-number statistics, with any differences in success rates being due to 1-2 projects falling below or above the cut-off.

Application Information	2023	2020
Number of individual applicants (PI & Co-I)	237	288
Number of projects*	174	249
Requested PDRA staff years	513.7	713
Requested technician staff years	25.5	27
Consortium applications	16	5

Table 1: Statistical information on the current round and 2020 when this group of applicants last submitted.

\*180 projects were submitted. 1 was subsequently withdrawn and 5 were rejected before peer review.

## Applications Supported

The AGP recommended support for the 84 highest-ranked projects, representing 48.3% of those reviewed. This is slightly higher than the 2022 round (45.7%). Averaged over the 3 years of the grants these awards total 83.7 FTE of PDRA effort, 3.4 FTE of technical effort, and 15.7 FTE of applicant effort. This is comparable in numerical terms to the recommendations for the 2022 round but is a substantial increase on the 2020 round when this group of applicants last applied, due to the cash uplift to the AGP that started in 2022. The total award is £12.7M per annum. The ratio of recommended PDRA posts in AO/AT to that of SS/PL is the same as the ratio of the projects proposed to the two calls, i.e. 0.71:0.29. Despite the very welcome cash uplift, the AGP was nonetheless unable to support many projects that were assessed by the panel as “likely to lead to substantial impact on the field” and “internationally competitive”.

124 applicants (PIs and Co-Is) are recommended for funding, with 15.7 years of applicant FTE corresponding to 12.6% FTE per funded applicant. The AGP seeks to preserve the number of projects supported by limiting applicant FTE, and in 2023 the Small Awards scheme had a limit of 20% FTE per project, awarded for project management (10%) and for clear and well-justified additional PI and Co-I roles. 2023 award recommendations compared to previous years are given in Table 2.

Recommended for support	2023	2022	2021	2020
Number of projects	84	85	70	75
Total applicant FTE	15.7	14.9	12.7	14.2
Total PDRA FTE	83.7	81.3	70.0	71.0
Total Technical FTE	3.4	2.2	3.1	5.6

Table 2: funding recommendations for the 2023 Small Awards round, and for the last 3 years of the Consolidated Grant scheme

### Assessment criteria

To provide a quantitative basis for grading projects, applications were assessed by the panel against a standard set of evaluation categories, based on the [UKRI review and assessment criteria](#), as linked from the Astronomy Small Awards Guidelines for Applicants. These categories and their weightings in the 2023 round were as follows (with weighting in parenthesis):

- Importance of the proposed research (5)
- International competitiveness of the project and of the team given career stage (5)
- Feasibility of the proposed work (5)
- Justification of resources (3)
- Project management (3)
- Societal and economic impact (2)
- Strategic value to STFC/UKSA (2)

It should be noted that in the 2024 round these criteria will change slightly to align better with the UKRI criteria of vision; approach; applicant and team capability to deliver; resources and cost justification; risk management; ethics and responsible research and innovation. Information about what is required under these headings will be in the call guidance and UKRI Funding Finder web pages.

### Gender Balance and Other Diversity Information

Applicants (PIs and Co-Is) are invited to disclose their gender<sup>1</sup> in their Je-S user profile, which we use to monitor PI numbers and success rates (i.e. the fraction of projects supported compared to requested) led/co-led by males and females. These are given in Table 3. The difference in success rates corresponds to one or two projects.

	Female	Male	F success rate	M success rate
Total* PIs	39	130	51%	48%
Total* Investigators	52	180	50%	53%

Table 3. Number of applicants and success rates for applicants indicating male or female in Je-S. Five applicants did not disclose their gender.

Of the 232 applicants who disclosed their gender, 22.4% were female, as were 21.3% of the funded applicants. Looking at PIs only, 23.1% of the submitted projects were female-led, and 24.1% of the funded projects were female-led. The fraction of female applicants receiving funding is thus consistent

<sup>1</sup> The Je-S user profile records gender as “Male / Female / Not disclosed”.

with the fraction applying. We see no evidence for M/F bias in this year's statistics, but they are kept under review.

The Je-S system recorded diversity information other than gender, but this was not mandatory and not filled out so systematically by applicants. Je-S is no longer in operation, but all potential applicants are encouraged to record their diversity information in its successor so that other diversity strands can be similarly monitored. No personal information on applicants is visible to any panel member, including the Chairs, at any point in the process, including after the round has concluded.

This year the panel's composition was 42% women, with all of the sub-panels (AO, AT, SS and PL) and the 3-person Technology panel including at least one woman. One of the four sub-panel chairs, and the AGP Chair, are also women. Our pre-meeting panel presentation includes discussion of unconscious bias, and the conditions in which it can occur.

### **Panel Process**

The 2023 AGP panel peer review meetings were held in person from 5-8 September and 19-20 September. The pairs of sub-panels for the two separate calls met together: first the AO and AT sub-panels, followed by the SS and PL sub-panels. To ensure consistency, the AGP Chair and deputy Chair attended all meetings to observe, ensure consistency, steer the discussion if needed, and offer policy advice. All the meetings were also open to attendance by programme managers from both STFC and UKSA, in line with the dual-key system.

Prior to the start of the review process, all panel members had declared any major and minor conflicts with projects in the round. Before the panel meetings, project 'sifting' was carried out to reduce the number of projects to be discussed during the meetings. This allows more time to be dedicated to discussion of projects in the 'middle ground' where the order is crucial, and also assists with cognitive load on panel members in what is a high-intensity meeting. Sifting is carried out by means of an algorithm which uses anonymised panel scores to generate an initial ranked list. This year the upper 80% of projects in this list were discussed. Also discussed were all projects where there was a broad range of panel scores, all projects that had been flagged as a potential reject, and projects 'recalled' by panel members from the list of projects that had been sifted out.

During the meetings, conflicted panel members, including Chairs, left the room as needed. Each project had an Introducer – a panel member who summarised the project including reviewer comments and PI responses, and then proposed initial scores against the assessment criteria listed above. A 'round-table' discussion followed involving, primarily, the Introducer and 6 further panel members who had read the project and associated material in detail. Each assessment criterion was discussed in turn, and final scores agreed by the panel. This produced a final ranked list of projects for each of the two calls. When all projects had been scored, the sub-panel members reflected on the ranked list, and resolved any tied projects in the ranking. Following the sub-panel meetings the two ranked lists were merged in a further meeting involving a subset of panel members, using an algorithm that assumes that the same distribution of project quality is submitted to each sub-panel pair.

Following the merging meeting, reports were made to UKSA, and to STFC Science Board (PPAN) in October with the request for approval to commit. Outcomes and feedback were then communicated to applicants.

Two further points regarding the operation of peer review should be made here:

- (i) The AGP ranks projects across the whole observational, theoretical and technology programme, and each project is judged by a sub-panel drawn from across this range of expertise. Reviews obtained from external experts are a core aspect of this process. The panel will see many hundreds of reviewer reports each round, many of which are very positive, but is required to tension every project against all the other projects. This can lead on occasion to a project not being funded despite receiving strong support from reviewers.

(ii) The AGP does not rule out applications from individuals who have been successful in securing funding from other sources, but it is the responsibility of applicants holding related awards to demonstrate clearly that the projects they are proposing to AGP lie **well outside** the remit of their other grants. Typically, this is most relevant to applicants who hold research fellowships or EU/ERC funding, which have a high degree of flexibility. Applicants often find this difficult to do as they must make the case that the proposed research is of the highest scientific priority, but also explain why they are not using the flexibility of their existing funding to undertake the work.

### The Applicant Community

In recent years, and because of the 3-year cycle of Consolidated Grant applications, it was possible to provide a good estimate of the total applicant community. Over the last few years the total applicant community had stabilised at around 750 (each applying once every 3 years). This round, applicants could break out of the three-year cycle, meaning numbers are no longer collected on the same basis. It is difficult to anticipate the effect that the additional flexibility of the Small Awards scheme will have on the applicant numbers each year, but modelling prior to the start of the scheme suggested that after 5 years this should stabilise at around 250 applications per year, albeit with some fairly large fluctuations as the scheme settles in. This estimate assumed that each year 15% of eligible applicants would choose not to apply, but this year that percentage was higher. It is impossible to say whether this will persist. The other unknown at this point is the effect that the Large Awards will have on these numbers. While the Large and Small Awards schemes are decoupled, it is possible that an individual applicant will choose to focus on one or the other, even if eligible to apply for both.

### In Conclusion

The first year of the Small Awards Scheme ran smoothly, and with considerable behind-the-scenes administrative and organisational benefits for our STFC colleagues and for the panel. The AGP received very high-quality proposals and was pleased to be able to recommend support for the most highly ranked of these. This year's further cash uplift enabled support for around 9 additional projects compared to the 2020 round, including some exploiting major UK investment in state-of-the-art facilities. We anticipate a further uplift in the next round, and are grateful to all who were involved over the years in arguing for and achieving this. Set against this is the still-high rate of inflation, which affects all aspects of research costs and University overheads (indirects).

There were two notable changes in applications submitted this year. First of all, the reduced number compared to the equivalent CG cycle was accompanied by a higher *average* quality as indicated by panel scores, possibly because applicants took advantage of the freedom to delay rather than submit proposals that they felt were not ready. Secondly, there was a marked increase in Consortium applications which were very successful and show the benefit of a well-thought-out, multi-institute collaboration. Consortia can now be formed on a small scale between individual investigators as required by a single project, rather than needing whole groups to join forces. This is a very positive step for UK Astronomy research.

Three further changes are on the near horizon: first of all the Large Awards scheme has started, and this will inevitably have an impact on the number of Small Awards that can be supported in the 2024 round. There is no explicit financial ringfence for either scheme, but the AGP is committed to maintaining Small Awards at a high level by restricting the number of large awards that will be supported each year. This Chair's view is that Small Awards should be the backbone of STFC's funding for astronomy research, and are particularly important for early-career staff to be able to develop as PIs and research leaders. Secondly, the Je-S system for grant submission and management is being replaced by the UKRI's Funding Service. We can probably anticipate teething problems, and applicants may find it to be less 'forgiving' than the past system using Je-S. I can only advise applicants to familiarise themselves with the new system as soon as possible. Thirdly, the 2025 round will be the last in the 3-year Small Award phase-in period. By the 2026 round the new, less restrictive demand management rules will have been extended to apply to all unsuccessful applicants, significantly increasing flexibility and opportunity.

At the end of the round, an enormous thank you is due as always to the AGP Panel members, who carry a substantial responsibility, are required to make difficult decisions, and work very hard and conscientiously on behalf of the UK community to ensure a fair and robust process. I am also very grateful to our over 550 reviewers this year for their vital input. The process cannot function without their help. This is my final year as AGP Chair, and Prof. Mark Sullivan will be taking the reins in 2024. Good luck! And thank you for your hard work, support and advice as Deputy Chair these last 3 years. Thanks also to the previous AGP Chairs who, in different ways, helped me understand how to do the job. Last but not least, we are all indebted to our extremely dedicated and efficient STFC office colleagues, Kim Burchell, Chloe Woodcock and Justyna Misior, who provide exemplary support to the Panel and the community, often under intense time pressure, and with unfailing professionalism and commitment. Thanks, team.

Lyndsay Fletcher

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