DETAILS OF THE STFC STUDENT-ALLOCATION ALGORITHM

This document sets out the details of the STFC student-allocation algorithm to be implemented in autumn 2020.

OVERVIEW OF THE PROPOSED ALGORITHM

Departments eligible for an STFC studentship quota will continue to be those with core research activity in the areas of astronomy, solar and planetary science, particle physics, particle astrophysics, cosmology, nuclear physics and accelerator science.

The departmental studentship quota, N, will be proportional to the product of research volume V and quality Q within each department, with an adjustment for previous submission rates.

The volume V is, broadly, the number of academics (including Fellows) active in the areas of astronomy, solar and planetary science, particle physics, particle astrophysics, cosmology, nuclear physics and accelerator science. The definition is described in more detail below. The quality Q is proportional to the number of STFC-funded PDRAs (P) awarded per academic (i.e. P/V), since this measures the success of the academic staff in securing STFC funding for PDRAs through peer-review.

More precisely we define quality per academic as $Q = [1 +(0.33P/V)]$. Consequently:

$$N \propto V * Q$$

$$\text{where } Q = [1 + (0.33P/V)]$$

And so N is proportional to:

$$V[1+(0.33P/V)] = V+0.33P$$

The constant of proportionality is chosen such that the total number of studentships equals the number available for allocation.

Allocation of studentships will continue to be carried out through the provision of doctoral training grants to departments. Allocations will be based on integer numbers of 3.5-year studentships, rounded within each subject area. To smooth out, over time, the perturbations caused by rounding (which, at least in the case of small groups, may have a significant effect), the residuals in each subject area left over after rounding will be carried forward to the next exercise. So, if the algorithm generates 12.7 in astronomy for a department, it gets an allocation of 13 in that area, with -0.3 carried over to the next exercise.

DETAILS OF THE PROPOSED ALGORITHM

Definition of volume

- The number of principal and co-applicants requested on STFC consolidated grant proposals in each science area, current on 15/07/20 weighted at 0.2, plus

- The number of STFC Ernest Rutherford Fellows current at 15 July 2020, weighted at 0.2;

- The number of UKRI Future Leader Fellows in the STFC remit at 15 July 2020, weighted at 0.2.

In addition, for departments that qualify with a non-zero volume measure against any of the two previous criteria, the following will also be taken into account:

- Royal Society University Research Fellows[1] working on STFC science (as defined above), current at 15 July 2020, weighted at 0.2.

- Holders of Dorothy Hodgkin Fellowships working on STFC science (as defined above), current at 15 July 2020, weighted at 0.2;

- Holders of European Research Council Starting and Consolidator Grants (current at 15 July 2020) who are working in STFC science (as defined above) but are not themselves captured by any of the previous measures (that is, they are not funded on any current STFC grant, were not an applicant on a current consolidated grant proposal and are not an STFC or Royal Society Fellow), weighted at 0.2.

- Academic-equivalent STFC staff associated with the Department working on STFC science (as defined above), weighted at 0.2.

Details

Researcher coinvestigators[2] do not count.

We will include all STFC and UK Space Agency grant schemes apart from public engagement awards and IPS awards.

Definition of quality

- The number (FTE) of RA posts awarded on STFC and UK Space Agency grants (located in the department receiving the quota) current on 15/07/20. The weighting for all these posts in the algorithm will be 0.33.

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[1] Other non-STFC fellows will not be counted in the volume measure.
[2] For information about researcher coinvestigators see: https://stfc.ukri.org/research-grants-handbook/2-eligibility/2-3-eligibility-of-applicants/

We will exclude:

- Public Engagement awards

- IPS awards

- Any RAs listed as principal or coinvestigators, but we will include any listed as Researcher-Coinvestigators.

Submission rates

PhD submission rates data will be used, as a success measure of studentship training, as part of the allocation method. Small reductions may be applied to a department's allocation if the percentage of students submitting in four years, measured over the previous four-year period, falls below 70%. The reduction, to the unrounded allocation, would be 10% for submission rates between 50% and 70%, and 20% for submission rates under 50%. However, the reduction will not be applied if it equates to less than 0.5 of a student – instead, the fractional reduction would be carried forward to future years and added to any further reductions until this threshold is reached.

Long-term sickness or other mitigating circumstances such as maternity leave, shared parental leave or other personal circumstances that have caused a delay in submission will be taken into account. Project delays will not be classed as mitigating circumstances.

Separate treatment of the main programme areas

The algorithm will be run separately within each area, defined by grants panel (i.e. particle physics theory, particle physics experiment, nuclear physics, astronomy). Overall allocations will be normalised to achieve the same average number of students per investigator within each area.

Departments will be asked to attribute grants falling outside the main grants panel areas (including knowledge exchange grants, project grants and fellowships) to one of the four subject areas on the basis of the projects they support. Investigators that span more than one area will be allocated to one area only, based on their majority interest.

Departmental allocations will be rounded within each subject area with subject-specific residuals carried forward to the next allocation. However, as in previous years, these subject-based allocations are notional and departments retain the flexibility to allocate studentships to projects within any of the four areas as they wish.