

ASTRONOMY

US grants trapped in vicious circle

Astronomers' resubmissions drive plunge in success rates.

BY CHRIS CESARE

Astronomers and astrophysicists in the United States are seeing their grant applications rejected at increasing rates because of stagnant budgets and an uptick in the number of resubmitted proposals, according to a draft report written for an advisory committee to the US National Science Foundation (NSF). The document, posted on the arXiv preprint server on 4 October, comes ahead of a November meeting set to discuss the issue (P. Cushman *et al.* Preprint at <http://arxiv.org/abs/1510.01647>; 2015).

The report highlights more than a decade of falling success rates for astronomical-science grants at the NSF and NASA as the number of proposals has increased faster than agency budgets. One key NSF programme in astronomy and astrophysics, for instance, funded fewer than 20% of proposals in 2014 — down from nearly 40% in 2002. And some NASA programmes saw rates fall from around 30% to 18% between 2004 and 2015.

The report rules out many explanations that scientists have suggested for the drop, such as a decrease in the quality of proposals; data from NASA show that, among the astrophysics grant proposals submitted to the agency, the fraction receiving scores from 'very good' to 'excellent' remained roughly constant from 2007 to 2012.

Instead, the report concludes, the main problem is that whereas funding has stayed flat, the total number of astronomers has continued to grow — and so the rate of resubmitted proposals has risen even faster because investigators who fail to secure funding in one year often try again the next. These resubmissions now account for a disproportionate number of grant applications, compounding the problem and leading to the dramatic drop in success rates.

The report enumerates the "knobs" that agencies can adjust to improve success rates, such as reducing the size of the average grant or shifting money from facilities to investigators — an idea that deserves a closer look, says Keivan Stassun, an astronomer at Vanderbilt University in Nashville, Tennessee, and a co-author of the analysis.

Other fixes, such as capping the number of proposals from investigators who have submitted too many unsuccessful applications, only "disguise the problem", the report argues. ■



Life Study aimed to find associations between factors early in life and outcomes later on.

EPIDEMIOLOGY

Massive UK baby study cancelled

After demise of similar US project, decision prompts rethink about design of future cradle-to-grave efforts.

BY HELEN PEARSON

An ambitious study that planned to collect information on 80,000 British babies throughout their lives has ended just 8 months after its official launch because not enough prospective parents signed up. The closure comes less than a year after the US National Institutes of Health (NIH) cancelled a similar effort to trace 100,000 children from birth, prompting fears that researchers will now shy away from proposing similar studies.

"I am afraid that the scientific community may not dare to embark on similarly ambitious cohort studies in the near future," says Camilla Stoltenberg, who heads the Norwegian Institute of Public Health in Oslo. She is responsible for a major birth-cohort study in Norway and chaired the international scientific-advisory committee to the UK project, called Life Study.

Prized by both medical researchers and social scientists, birth-cohort studies reveal associations between factors early in life, such as poverty or a mother's diet in pregnancy, and outcomes later on, ranging from diseases to cognition and earnings. Various efforts already exist around the world, but Life Study was to be one of the biggest and most ambitious yet. It got the green light in 2011 when government funding bodies, including the Economic and Social Research Council (ESRC) and the Medical Research Council, agreed to support the study with £38.4 million (US\$58.9 million) until 2019.

In January 2015, a team led by Carol Dezateaux, a paediatric epidemiologist at University College London's Institute of Child Health, opened the study's first dedicated recruitment centre, on the outskirts of London. The researchers hoped to sign up as many as 16,000 prospective mothers — of a total target of 60,000 — by July 2016. Another

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