
National Aeronautics and
Space Administration
NASA
EXPLORE SCIENCE
Dual-Anonymous Peer Review
APAC Meeting | October 29, 2019
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Dual-Anonymous Reviews in Astrophysics

The Astrophysics Division (APD) of NASA's Science Mission Directorate is strongly committed to ensuring that the review of proposals is performed in an equitable and fair manner that reduces or eliminates unconscious bias. To this end, and motivated by a successful pilot program conducted for the Hubble Space Telescope, APD is directing that all Astrophysics General Observer / General Investigator (GO/GI) proposals be evaluated using dual-anonymous peer review.

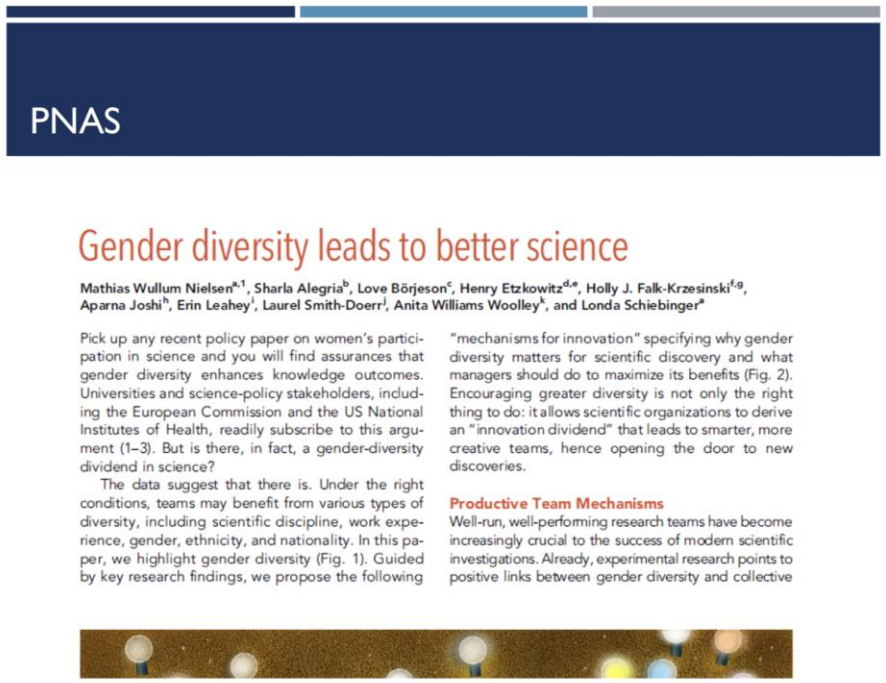
Financial Management

FMA

Do Pro-Diversity Policies Improve Corporate Innovation?

Roger C. Mayer, Richard S. Warr, and Jing Zhao*

Using new product announcements, patents, and patent citations as measures of corporate innovation, we find that corporate policies that promote more pro-diversity cultures, specifically treatment of women and minorities, enhance future innovative efficiency. This positive effect is stronger during economic downturns and in firms that are more innovative, value intangibles and human capital more highly, have greater growth options, have higher cash flow, and have stronger governance. Pro-diversity policies also increase firm value via this stimulating effect on innovative efficiency. Our results suggest a channel through which workforce diversity may enhance firm value.



PNAS

Gender diversity leads to better science

Mathias Wullum Nielsen[a,1], Sharla Alegria[b], Love Börjeson[c], Henry Etzkowitz[d,e], Holly J. Falk-Krzesinski[f,g], Aparna Joshi[h], Erin Leahey[i], Laurel Smith-Doerr[j], Anita Williams Woolley[k], and Londa Schiebinger[a]

Pick up any recent policy paper on women's participation in science and you will find assurances that gender diversity enhances knowledge outcomes. Universities and science-policy stakeholders, including the European Commission and the US National Institutes of Health, readily subscribe to this argument (1–3). But is there, in fact, a gender-diversity dividend in science?

The data suggest that there is. Under the right conditions, teams may benefit from various types of diversity, including scientific discipline, work experience, gender, ethnicity, and nationality. In this paper, we highlight gender diversity (Fig. 1). Guided by key research findings, we propose the following "mechanisms for innovation" specifying why gender diversity matters for scientific discovery and what managers should do to maximize its benefits (Fig. 2). Encouraging greater diversity is not only the right thing to do: it allows scientific organizations to derive an "innovation dividend" that leads to smarter, more creative teams, hence opening the door to new discoveries.

Productive Team Mechanisms

Well-run, well-performing research teams have become increasingly crucial to the success of modern scientific investigations. Already, experimental research points to positive links between gender diversity and collective

Please see Dr. Stefanie Johnson's excellent talk at: https://outerspace.stsci.edu/display/DRW/Schedule?preview=/46629762/52330568/BreakingBias-Johnson.pdf

Implementation of Dual-Anonymous Reviews in Astrophysics GO/GI Programs

National Aeronautics and
Space Administration

Headquarters
Washington, DC 20546-0001

June 7, 2019

To: Distribution (Astrophysics GO Leads)
From: SMD/Director of Astrophysics
Re: Dual Anonymous Peer Reviews for Astrophysics GO Programs

In June 2018, the Space Telescope Science Institute (STScI) conducted a dual anonymous peer review for Cycle 26 of the Hubble General Observer (GO) program[1]. The dual anonymous peer review addresses many issues of implicit bias. STScI's implementation of dual anonymous peer review was successful in Cycle 26. During June 2019, STScI will be conducting the Hubble Cycle 27 peer review, again using the dual anonymous process. STScI and NASA will review the Cycle 27 experience and outcomes to assess the dual anonymous practice.

In the absence of any contra-indications from the Hubble Cycle 27 peer review, I am directing all NASA Astrophysics GO programs to use dual anonymous peer reviews beginning in CY 2020.

In order to provide all NASA Astrophysics GO program leads with the benefit of STScI's experience, STScI will host a workshop in Fall 2019 to share their practices, lessons learned, and extant documentation with all other missions.

If you have any questions, please address them to your HQ Program Scientist or to me.

Paul Hertz
Director, Astrophysics Missions
Science Mission Directorate

Rollout of Dual-Anonymous Reviews

Format	Program	Proposal due date
Traditional	NICER Cycle 2	11/13/2019
Traditional	TESS Cycle 3	1/16/2020
Dual-Anonymous	NuSTAR Cycle 6	1/24/2020
Traditional	Fermi Cycle 13	2/19/2020
Dual-Anonymous	Hubble Cycle 28	3/4/2020
Traditional	Chandra Cycle 22	~3/2020
Dual-Anonymous	Swift Cycle 17	~9/2020
Dual-Anonymous	NICER Cycle 3	~11/2020
Dual-Anonymous	TESS Cycle 4	~1/2021
Dual-Anonymous	NuSTAR Cycle 7	~1/2021
Dual-Anonymous	Fermi Cycle 14	~2/2021
Dual-Anonymous	Hubble Cycle 29	TBD
Dual-Anonymous	Chandra Cycle 23	~3/2021

Pilot study

Implementation of Dual-Anonymous Peer Review

The Astrophysics Division is taking the following steps to ensure a smooth transition to dual-anonymous peer review:

- Create written guidance on how to write an anonymized proposal.
- Host a virtual Town Hall in Spring 2020 to discuss dual-anonymous peer review with the community.
- Run training sessions for panel levelers who provide guidance during dual-anonymous panel deliberations.
- Ensure that mission program staff are available to answer help desk questions about writing anonymized proposals during the run-up to proposal submission.

Guidance to Proposers

Proposers are required to write the Scientific/Technical/Management (i.e., science justification) section of the proposal in an anonymized format using these guidelines:

- *Do not include author names or affiliations anywhere in the Scientific/Technical/Management section. This includes but is not limited to, page headers, footers, diagrams, figures, or watermarks. This does not include references to past work, which should be included whenever relevant (see below).*
- *Referencing is an essential part of demonstrating knowledge of the field and progress. When citing references within the proposal, use third person neutral wording. This especially applies to self-referencing. For example, replace phrases like "as we have shown in our previous work (Doe et al. 2010)" with "as Doe et al. (2010) showed..."*
- *Do not refer to previous investigations with this or other observatories in an identifying fashion. For instance, rather than write "we observed another cluster under program #XXXXX." Instead, write "program #XXXXX has observed this target in the past."*
- *We encourage references to published work, including work citable by a Digital Object Identifier (DOI). It may be occasionally important to cite exclusive access datasets or non-public software that may reveal (or strongly imply) the investigators on the proposal. We suggest proposers use language like "obtained in private communication" or "from private consultation" when referring to such potentially revealing work.*
- *Do not include acknowledgements, or the source of any grant funding.*

Team Expertise Document

Proposers will also be required to upload a separate “Team Expertise” document, which is not anonymized. This document will be distributed to the review panel after all proposals have been reviewed and ranked. This is to allow the reviewers to assess the team capabilities required to execute a given proposed science investigation.

Institutional Access to Unique Facilities

Another common situation that occurs in proposals is when a team member has institutional access to unique facilities (e.g., an observatory or laboratory) that are required to accomplish the proposed work. An anonymized proposal does not prohibit stating this fact in the Scientific/Technical/Management section of the proposal; however, the proposal must be written in a way that does not identify the team member. Here is an example:

> *"The team has access to telescope time on the W. M. Keck Observatory, which will enable spectroscopic follow-up of the galaxies in the sample."*

Note: in this situation, NASA recommends that the team provide detailed supporting information to validate the claim in the "Team Expertise" document, which is not anonymized.

Return without Review for Unanonymized Proposals

NASA understands that dual-anonymous peer review represents a major shift in the evaluation of General Observer / General Investigator(GO/GI) proposals, and as such there may be occasional slips in writing anonymized proposals. However, NASA reserves the right to return without review proposals that are particularly egregious in terms of the identification of the proposing team.

NASA further acknowledges that some proposed work may be so specialized that, despite attempts to anonymize the proposal, the identities of the Principal Investigator and team members are readily discernable. As long as the guidelines are followed, NASA will not return these proposals without review.