



The need to recognize and reward academic service

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Service activities are critical in the pursuit of a more equitable and inclusive academic environment. We must ensure that the efforts required by these activities are properly recognized through rebalancing the academic workload, such that service is not provided at the expense of career progression.

When it comes to research success, academics can be rewarded with public acclaim, prestigious (and often monetary) prizes and rapid career promotions. However, most academics do more than research, also engaging in administrative, teaching and service roles. Importantly, many service activities are viewed as having short-term payoffs or as requirements to access funding opportunities. For example, the [US National Science Foundation's Broader Impacts](#) requires that service, in the form of outreach and engagement, is undertaken to access funding, despite the fact that additional funding for those activities is not provided. In a similar manner, until mid-2020 certain UK funding providers required participation in the [UK's Athena SWAN Charter](#). When performed in a thoughtful and sustained manner, academic service can increase the attractiveness of STEM degrees to a diverse student population, improve student satisfaction and ultimately improve the reputation (and financial well-being) of an institution. Whereas research and teaching have well-defined (if somewhat problematic) metrics for 'excellence'¹, establishing equivalent analytical metrics for service presents a challenge. Therefore, we urgently need to understand the varied types of academic service and establish a means to meaningfully recognize the value these activities bring to institutions.

The first step in developing any evaluation criteria is to define the type and scope of the related activities. This is problematic, as academics are unable to agree on which activities are considered 'service'. For example, serving as a department chair or a member of a thesis committee is clearly service. However, chairing a Diversity, Equity and Inclusion (DEI) committee and leading a Student Wellness Initiative are often viewed as 'passion projects', instead of official service. As a result, the service load is not shared equally by all members of the academic community, and, increasingly, members of historically excluded communities shoulder a larger burden. Notably, researchers from historically excluded communities are often early in their careers, when the increase in service can impact their academic trajectory,

resulting in a negative perception of their dedication to and quality of their scientific research². Furthermore, the service load tends to increase throughout their careers, as they become eligible to participate in leadership roles and to contribute to a larger number of volunteer committees, both inside and outside of their primary institution.

Without ways to quantitatively evaluate service within the context of an academic portfolio, academics heavily involved in service activities are placed at a disadvantage relative to their peers. To start a conversation, we are taking a step back and evaluating the service ecosystem, including assignments, valuation, perception and reality.

Identification of issues

Although teaching requirements and research expectations vary between institutions and depend on the position type, they can be quantitatively defined in terms of course units (such as total amount of teaching) or research outcomes (such as number of papers written, amount of research funding raised). Whilst the evaluation metrics for both research and teaching are not ideal, they at least exist, and are actively discussed¹. By contrast, academic service is poorly defined and adopts many forms.

For example, service can be allocated at an institutional level, but it is more common for an academic to be invited to join a service activity, most often by those in positions of power. Academics can also initiate their own service activities. Unlike teaching, which has a fixed quantity, there is no absolute limit to service. The volunteer nature of most service can give the perception that academics engage because they are passionate about the related activities. However, because any member of the community can solicit service from any other, there can be excess requests to those from historically excluded groups. As a result of this power imbalance, these communities feel pressured to take on more service than others at the same stage in their career, often at the cost of research productivity.

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It is also important to recognize that not all service is created equal. Many public-facing service positions, like editor positions for flagship journals and leadership roles in technical societies, are viewed by institutions as prestigious and research-oriented. By contrast, many ‘hidden’ and time-consuming service roles that can have a substantial, positive impact on academic culture (for example, serving on tenure review committees and funding advisory boards and organizing community-building events) are not similarly valued. This two-tier hierarchy creates a system in which researchers from historically excluded groups (often early-career researchers, ECRs) are working ‘behind the scenes’, whilst more senior faculty members are lauded for their public-facing, figure-head positions.

Transforming the academic environment to be more welcoming of diverse populations is a well-acknowledged challenge, and there are many service activities focused on making cultural changes within STEM. However, the impact and value of these activities can only be determined retrospectively, by performing longitudinal analysis over several years. This evaluation timeline does not align with the conventional faculty review schedule, which expects an academic to demonstrate impact every year. As a result, there is a disconnect between the community’s goals and the evaluation and reward structure.

To bring awareness to the underrepresentation of certain groups in academia, many institutions and technical societies have recently launched DEI initiatives. But the leadership and organization activities of these initiatives tend to fall primarily on the discipline’s most marginalized members³. For example, the percent of women and Black or Latinx members in the US National Academy of Engineering is 11% and 3%, respectively, but its [Racial Justice and Equity Committee](#) has more than 60% women and members from historically excluded groups (combined). In the wake of the Black Lives Matter movement last year, Black scientists and engineers united to expose and fight systemic repression within academia. The initiatives, known collectively as Black in X, highlighted racism within the academic system and called on institutions and funding bodies to provide more support and funding⁴. Akin to other movements to dismantle discrimination and oppression within academia, the leadership of Black in X movements are mainly Black scholars. Black physicists make up the entire leadership team of [#BlackInPhysics](#), but only ~2% of [physics faculty members](#) in the USA⁵. Similarly, whilst only 1% of neuroscience faculty in the USA are reported to be Black, 73% of the organizers of [#BlackinNeuro](#) are Black researchers⁶. Not only is the service load higher for these researchers, which reduces the amount of time they can dedicate to research⁷, but, unfortunately, these important roles are not widely respected.

When service demands start and loads increase, ECRs are often forced to choose between family, friends and research-based career progression. For primary caregivers this decision makes achieving a sustainable work–life balance a challenge, with the ongoing pandemic compounding these difficulties. This issue can reinforce the negativity experienced by those who are

already underrepresented, and researchers from historically excluded groups with unmanageable service loads are becoming increasingly disillusioned by the scientific establishment at multiple career stages^{7–9}. ECRs taking on impactful service roles can be seen as not serious about their science and may fail to secure prestigious fellowships or faculty positions, either owing to negative perceptions of panel members or because of time spent away from the lab bench. Many mid-career faculty are faced with overwhelming service responsibilities, which are largely ignored in promotion criteria and result in an unsustainable and are potentially physically and mentally damaging to work–life balance. This unrecognized and unrewarded burden contributes to a high attrition rate of faculty from historically excluded groups¹⁰.

Solutions

Given the multi-faceted nature of service and its complex dynamic with research and teaching, there is no single solution. However, it is clear that each of these elements should not be evaluated in isolation. By developing more holistic rubrics, workload models that explicitly recognize the time commitment and the impact of service can be designed and implemented. For example, teaching credit could be awarded for education-related service, like creating training modules for pre-undergraduate students, establishing mentoring schemes for scientists from historically excluded groups or leading workshops on service relevant topics.

As we highlighted, many of the new DEI initiatives have resulted in increased inequality due to imbalances in the way that these activities are distributed amongst the academic community. While well intentioned, these efforts can exacerbate the precise challenges they are trying to address. To overcome this hurdle, we must provide subsidies (financial or timetable credit) to significant contributors, which would allow them to hire additional technical and administrative support staff, and we must motivate researchers who are not from historically excluded groups to contribute to these efforts.

Lastly, we must change the fundamental perception of the role of service in creating a sustainable scientific community. Service should not be viewed as simply the ‘remaining 20%’ of an academics’ position. For example, we should encourage technical societies and national academies to follow the leadership of the US National Academy of Inventors in modifying the membership criteria to place a stronger emphasis on service to the community and mentoring the next generation of research leaders. Additionally, institutions and societies should consider hidden service roles when awarding medals and prizes.

Conclusion

Goals 5 (gender equality) and 10 (reduced inequalities) of the [United Nations Sustainable Development Goals](#) emphasize that a sustainable global society requires the empowered involvement of all members into the workforce. The current imbalance of service responsibilities is limiting academia’s ability to achieve this goal, both in terms of career advancement of individuals and in terms of creating role models for future engineers and

scientists. Actions taken today will resonate for decades to come. While we have proposed a few possible solutions that could be taken at the local, regional and international level, our intention was to start a conversation. The scientific community is like a living organism, and only if all parts are working in harmony can it flourish.

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Competing interests

The authors declare no competing interests.

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~2% of physics faculty members: <https://www.aip.org/diversity-initiatives/team-up-task-force>

Racial Justice and Equity Committee: <https://www.nae.edu/239051/>

NAE-Announces-Committee-on-Racial-Justice-and-Equity-

UK's Athena SWAN Charter: [https://www.advance-he.ac.uk/](https://www.advance-he.ac.uk/equality-charters/athena-swan-charter)

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United Nations Sustainable Development Goals: <https://sdgs.un.org/goals>

US National Science Foundation's Broader Impacts: <https://www.nsf.gov/pubs/2002/nsf022/bicexamples.pdf>