Institutional recognition for preprints; policies and practices

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Background

Preprints, manuscripts freely uploaded to online platforms prior to journal-organised peer review, have been routinely used by the physics community since the 1990s. However, the origins of preprinting dates back even earlier, with efforts in the 1940s and 1950s. In the biosciences, despite early efforts in the 1960s, preprinting only became an accepted practice recently with the launch of bioRxiv in 2013 (1,2). Since then, Research Square (owned by Springer-Nature) has become the largest biomedical preprint platform by volume of preprints.

A year before the launch of bioRxiv, the Declaration on Research Assessment (DORA) was developed in San Francisco during the Annual Meeting of the American Society for Cell Biology (3). Its mission is to “advance practical and robust approaches to research assessment globally and across all scholarly disciplines.” The declaration calls for a move away from Journal Impact Factors towards a more merit-based approach to scientific output. With the growing momentum of the Open Science movement over the past two decades, preprints have emerged as a highly effective tool for knowledge dissemination.

For the individual researcher, preprints offer enormous benefits, including increased citations and attention, faster sharing of results, and evidence of productivity for grants and fellowships (4). Preprints also benefit the broader scientific community by enabling the faster dissemination of findings, allowing scientific knowledge to advance at a pace that surpasses traditional publishing models.

Current preprint landscape in the biosciences

Since 2013, preprint adoption has been increasing in the life sciences (Fig. 1A), growing to 12% of the published biomedical literature in 2023 (Fig. 1B) (5). As of 2024, there are over 50 preprint servers with a bioscience focus (6). Preprints had central roles during the COVID-19 pandemic, where in the first few months, 40% of COVID-19-related literature was first shared as a preprint. During this period, preprints underwent a cultural shift, being discussed by news organisations, used in policy documents and accessed at unprecedented levels (7). Approximately 70% of preprints are eventually published in a journal (4).

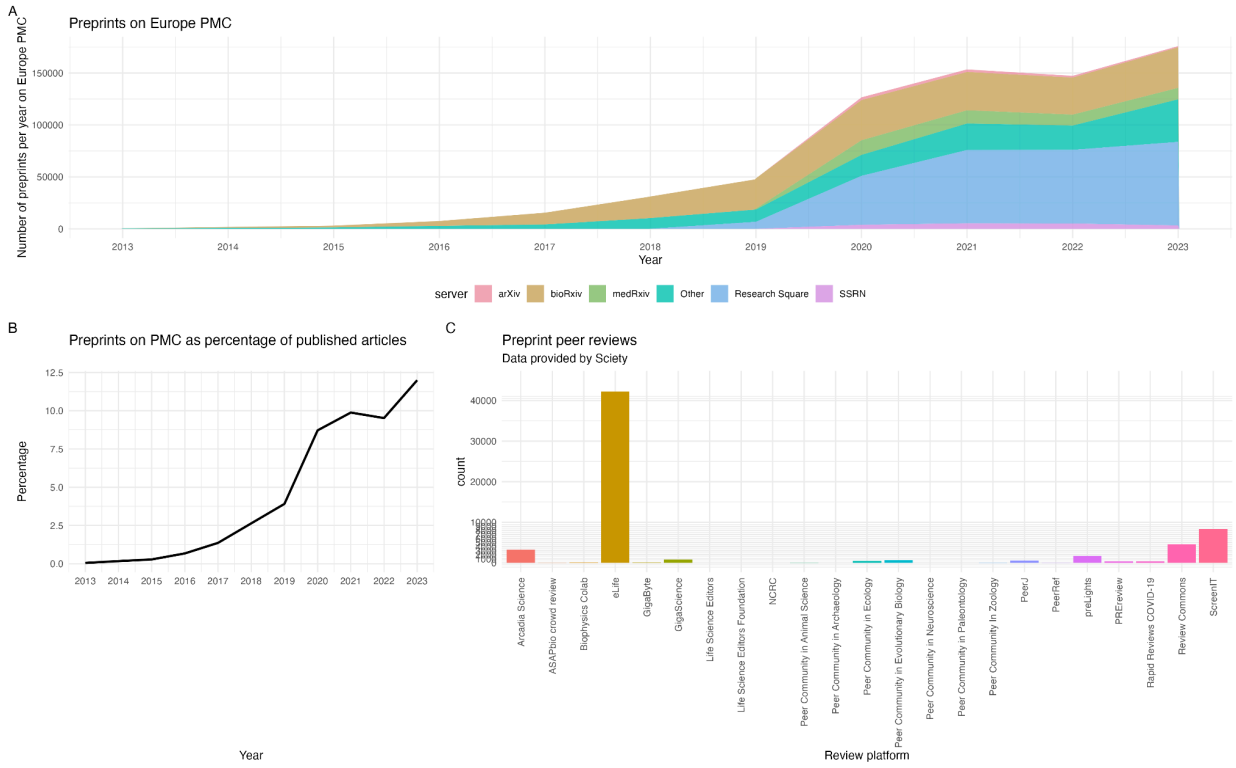

Figure 1. Current trends in preprints. *A) Preprints indexed in Europe PMC, B) Preprints as a percentage of published articles on Europe PMC and C) Number of preprint peer reviews for life science preprints. Data for panel C provided by Sciety.*

The adoption of preprints varies significantly by field, with neuroscientists being early and enthusiastic adopters. In contrast, fields such as pathology, plant science and biotechnology, zoology, and environmental biology have been slower to adopt. Furthermore, adoption varies by geography (8,9), with the Global North depositing more preprints than the Global South. Various surveys have been conducted to understand researchers' perceptions towards adopting preprints (2,9–12).

A key barrier frequently identified in surveys is a need for more institutional recognition for preprints. Whilst publications in peer-reviewed journals have formed the bedrock of hiring and promotion in academia, preprints still need to be recognised in these contexts. This lack of recognition limits the potential of preprints as standalone research outputs and their wider uptake. However, preprints are increasingly being recognised as credible materials for fellowship applications, making them highly valuable to early career researchers (ECRs).

In addition to preprint depositing, preprint peer reviewing has also been expanding. Currently, approximately 3% of preprints have associated peer reviews that were not organised by a journal or conducted via alternative publishing models (Fig 2C). For example, the majority of these reviews originate from eLife, who in 2024 switched their publishing model to focus on preprint peer review (Fig. 1C). The acceptance of preprint peer reviews by journals and the community currently depends on the reviewing service, with some services, such as Review

Commons, integrating with journals whilst others, such as PREreview, are community-based efforts. These community-based efforts and activities (such as ASAPbio's crowd preprint review) are more innovative in their approaches to peer review but currently represent a minority of total preprint peer reviews. Indeed, community approaches are still largely unrecognised activities.

More recently, several organisations have begun to adopt policies towards preprints via variations of Plan U (13), with a policy brief urging UK Research and Innovation (UKRI) to adopt this approach in 2024 (14). Funding bodies such as the Chan-Zuckerberg Initiative (CZI) (15) and Bill & Melinda Gates Foundation (BMGF) (16) actively mandate preprint deposition by their grantees, with much more encouraging preprint use. However, preprint-related policies are broadly lacking and opaque. This is particularly true for institutional graduation, hiring, and promotion policies. Despite these policies often being vague or non-existent, there are numerous benefits of adopting preprint-focused policies in these settings, as outlined in Table 1.

Benefits of preprint adoption

Early career researchers (ECRs) currently benefit most from preprints. In fellowship applications and grants, preprints enable applicants to demonstrate productivity without needing to wait 5+ months for the traditional publication cycle to occur (17). This enables funding bodies to award grants based on public work rather than relying on applicants stating that manuscripts are "in progress" or "under review." Thus, free access enables hiring and grant committees to have greater confidence in their candidates.

Recommendation or adoption of preprints for graduation enhances the visibility and accessibility of students' research and allows students to receive feedback from the global research community. For institutions that require journal publications for degree completion, preprint adoption likely has the most significant impact on time-to-degree. Flexibility in fulfilling publication requirements via preprinting reduces barriers to graduation that may arise from delays in the peer review and publication process.

By eliminating the wait for peer-reviewed publications, preprints allow hiring committees to identify excellent candidates sooner. Often, hiring committees rely on simple metrics, such as the number of published articles, to narrow their candidate pool, potentially overlooking individuals who are already making significant contributions but are delayed by journal timelines—factors beyond the authors' control. By formally recognising preprints, hiring committees can identify promising candidates before they are validated by traditional metrics or recruited by other institutions after publication.

Candidates applying for promotion, whether they are early career researchers or more seasoned scholars, can strengthen their CVs by including preprints. Preprints allow these researchers to widely disseminate their work and get feedback from their peers in less time than publishing in a traditional journal. Researchers also have more room for growth in that they can correct any errors from their preprints and resubmit them. As the promotion process is very competitive, preprints can give researchers an extra edge.

Table 1. Benefits of preprints across different contexts					
	Individual Lab/PI (Principal Investigator)	Graduation	Hiring	Promotion	Funders
Increases discoverability	X	X	X	X	X
Feedback from a wider audience	X	X	X	X	
Establishes priority of work	X				
Demonstrates productivity	X	X	X	X	X
Evidence of academic service work (e.g. open peer review)	X		X	X	X
Identify promising candidates	X		X	X	X
Gauge community reaction & “impact” of work	X			X	X
Decreases “wasted” time	X	X	X	X	X
Reduces pressure to publish	X	X	X	X	X
Identifies individuals as “forward-thinking ” and value-aligned with the organisation	X		X		X

Actionable steps that stakeholders can take

The current academic system still relies on poor proxies and metrics. However, the system is beginning to change with philanthropic funding organisations, in particular, mandating preprint use and shifting their expectations and recognition structures. However, lack of recognition remains one of the primary barriers to the broader adoption of preprints. The various stakeholders in academia can take a range of actions to increase recognition of preprints and, therefore, preprint adoption.

Funding agencies

- **Accept preprints in fellowship and grant applications**: When assessing applicants, funding organisations should accept preprints in place of/alongside peer-reviewed publications. For example, EMBO's policy for its postdoctoral fellowships states that “reviewed preprints fulfil the peer-reviewed publication eligibility criteria” (18).
- **Have transparent public policies on preprint use:** Several prominent funding organisations, including the Chan-Zuckerberg Initiative and the Bill & Melinda Gates Foundation, have established clear policies that mandate publishing funded research as preprints (15,16). However, despite growing acceptance of preprints among some funders, this practice has yet to achieve universal adoption across all funding agencies, with many others currently only recommending the posting of preprints.
- **Clear guidelines on how to cite and report preprints** - Funding bodies should require researchers to cite preprints similarly to peer-reviewed publications. For example, the National Institutes of Health (NIH) has established clear guidelines for citing preprints in grant applications and reports. As per NIH Notice NOT-OD-17-050, preprints must be cited as peer-reviewed publications using the title, author(s), preprint server name, and DOI (19). The notice also requires researchers to develop metrics and measurements of how many people view, download, and cite their preprints as a component of their grant progress.
- **Provide grantees with training on scholarly publishing and the importance of open science:** Funding bodies should provide the grantees with training and guidance on open scholarly publishing to encourage best scholarly communication practices. Such training should address the benefits of open access, such as choosing preprint servers, uploading preprint manuscripts, and participating in open peer review. The training would also promote the benefits of using preprints for publishing to accelerate the dissemination of research, reach broader audiences, and strengthen collaborations among the worldwide research community.
- **Incorporate preprints and preprint-related practices into researcher and grant assessment:** Funding bodies should officially consider preprints and preprint-reviewing in appraising researchers. Grant applications, progress reports, and final assessments should recognise that preprints are equivalent research outputs to peer-reviewed publications. Credit should be given to researchers involved in preprint peer review, public commentary, or other preprint-related activities for their contributions to open science. The assessment should also consider traditional metrics alongside alternative metrics such as downloads, views, citations, and public engagement with preprints. For

example, the BMGF and NIH encourage preprint peer review activities in their grantees (16,19).

- **Have clear compliance guidelines:** Similar to preprint policies, funding agencies should set clear compliance guidance that specifies expectations for preprint deposition (e.g., the time after completion that a preprint must be submitted and approved server(s)). The guidelines should also clearly state the consequences of non-compliance, such as delayed funding distribution.

Institutions

Research institutions have multiple roles and responsibilities in promoting preprint adoption and improving research culture. They also serve a wider range of stakeholders, from students to the institutions themselves.

- **Clear and transparent publication policy:** Policies should be transparent and public-facing. Their wording should be clear so that there is no ambiguity. Ideally, staff should be required to preprint all of their research.
- **Guidance on adhering to preprint policies:** Communication should clearly state the importance of preprints and include guidance on how to comply with the policy. A specific example would be preprint licence choice, which often confuses academics. Institutional libraries have a particular role in this step.
- **Create incentives for preprint peer review:** Institutions should create incentives to encourage preprint peer review, such as funding preprint review clubs or providing the necessary infrastructure to complete such activities.
- **Training in open science practices:** Research culture and library teams should provide training on the advantages of preprints and help their own researchers see the ‘clear picture’ of how preprints benefit the scholarly ecosystem.
- **Incorporate preprints and preprint-related practices into researcher assessment and promotion:** Additional activities such as preprint peer review, public commentary, detailed deposition and provision of data and methods, and science communication and outreach should all be encouraged and valued in hiring and promoting all researchers.
- **Sign declarations that support open science and assessment reform**: Institutions should sign and work towards full compliance with declarations that support an improved assessment and publishing culture. For example, DORA aims to eliminate the use of impact factors and focus assessment on the merits of the research rather than the journal it is published in (3,20). Additionally, Plan S aims to make all publicly funded research outputs openly available as soon as they are published (21).
- **Improving visibility**: University portals should attach preprints to a researcher’s institutional profile and recognize them as valuable outputs alongside journal-published articles. Additionally, any metrics (traditional or not) and integrity signals should be provided alongside the preprints to enhance trust in their findings.

Graduation

Graduation requirements vary across geographies, fields, and also within institutions. Writing a thesis is the most common route to graduation in the life sciences. However, there is also a graduation-by-publication route whereby students can incorporate 2-3 published papers into a report. This route has been growing in the UK as an optional alternative to the traditional thesis. In some countries, publications are a requirement for graduation, with some programs requiring at least one first-author paper from a student. Such a requirement unnecessarily delays graduation and risks encouraging poor research and publication practices. Moreover, it is not viewed positively by the students themselves (22).

- **Replace peer-reviewed publications with preprints**: An ASAPbio survey of graduation requirements revealed that most respondents would prefer no formal publication requirements (22). Institutions with publishing-based graduation requirements should replace these with posting a preprint. Preprinting speeds up the process for graduates who may be running out of funding and can reduce the stress associated with the final stages of a PhD. For example, 30 European graduate institutions support preprints reviewed and recommended by a Peer Community In (PCI) (23).
- **Have transparent guidelines for preprint use**: Graduate programs should offer clear guidance on students' engagement with preprints, outlining details such as appropriate platforms for posting, the process for submitting preprints, and the correct way to cite them in academic work. Additionally, recruitment materials should explicitly reference the program's policies on preprints, including whether they are recognised as part of the graduation requirements.

Hiring

Preprints demonstrate a candidate's ability to perform research and engage in the world of scholarly communication. Additionally, candidates who have engaged as preprint peer reviewers demonstrate a commitment to professional development. For hiring committees, preprints enable the identification of promising candidates before publishing in a journal, giving a competitive advantage to those institutions that actively adopt and encourage preprints over those that rely on traditional publication and metrics.

- **Include statements in job adverts that overtly support preprints**: Statements such as "we encourage listing of publications on preprint servers with a DOI", as used by UCSF, encourage applicants to highlight their preprints when applying for positions.
- **Ensure that hiring committees reward preprinting and preprint reviewing:** Committees should include activities such as preprint peer reviewing as "service" type activities and reward such behaviors over less-transparent activities. Rockefeller University's practice of encouraging applicants to submit preprints to demonstrate their research capabilities alongside other relevant materials is an exemplary case. Additionally, where writing samples are required, institutions should prioritise preprints. To achieve this, hiring committee members should be given clear guidance on the policy in place and adhere to the guidance, regardless of any personally held beliefs.

- **Accept preprints on CVs and resumes:** Preprints should be included on CVs and application materials and accepted as valid research outputs. Depending on the level of adoption, this policy could state that preprints are considered as comparable to journal articles.

Tenure & Promotion

Adopting preprints for promotion is a lower barrier than hiring, as those on promotion and tenure committees are more familiar with the candidate. Accepting preprints in tenure and promotion dossiers encourages a diverse range of scholarship and recognises behaviour that better supports science, the academy, and society. Moreover, accepting preprints directly recognises and rewards such activities.

- **Ensure that tenure committees reward preprinting and preprint reviewing:** When assessing tenure packets, institutions should actively reward open science practices. For example, institutions could require all research outputs to be preprints and for any journal publications to have an associated preprint. Activities that benefit the wider community, such as transparent preprint peer review and advocacy, should count as ‘service'-type activities.
- **Transparently communicate tenure and promotion criteria:** All criteria relating to promotion and tenure requirements should be clearly and transparently communicated with all staff. These should include explicit examples of behaviors and outputs, such as engagement with preprint peer review and posting preprints.

Individual research groups

Although significant change in the recognition and reward structures of academia must come from university management and other high-power stakeholders, individual labs are run as small businesses. PIs have enormous power over the people and culture in their research groups. A recent survey has highlighted that individual PIs often have their own unofficial policies regarding open science practices and publishing (22). As those who most directly mentor and advise future researchers, PIs should adopt clear and transparent group policies. These enable potential applicants to better understand the culture and environment of a particular research group and highlight the expectations.

- **Have a public lab handbook:** Several research groups have a public handbook available on their websites that encompasses a range of group-specific workflows, policies, and values. These handbooks should include statements on the approach to and importance of open science and preprinting. For example, the Avasthi lab and Panda lab handbooks (Supplemental Table 1) both contain clear statements on expectations around preprints.
- **Be transparent in hiring and interviews**: Lab heads should communicate their position on preprints and open science practices in job adverts, communications, and interviews. As preprints help promote an open and collaborative culture in science, this transparent behaviour could result in higher quality or better-value aligned applicants.

- **Normalise preprints and open science practices:** These behaviours can be normalised by regularly discussing preprints and open science practices. For example, research group heads should celebrate the posting of a preprint just as they would the publication in a journal. Preprints should be discussed when discussing publishing with students and trainees. Lab journal clubs should discuss preprints, and they should be actively shared when relevant research is preprinted.
- **Collectively review preprints as a group**: Most research groups hold regular journal clubs, which are ideal training opportunities for critically evaluating and reading the literature and academic publishing works. Refocusing these journal clubs into preprint journal clubs allows the discussionsRefocusing to be summarised and made public. This enhances the CVs of trainees by providing authentic, documented peer review experience and activity and aids the scientific process by providing public feedback to preprint authors, who can then modify and improve their work.

Components of preprint-related policies

One of the most effective ways to increase preprint adoption and promote desired behaviours whilst simultaneously providing recognition for researchers is to adapt policy-level changes. Various stakeholders hold distinct responsibilities in improving existing policies, with a particular focus on utilising preprints as tools to assess research quality and the competency of researchers. Candidates, on the other hand, can explore practical ways to translate their skill set and expertise into tangible outputs, such as preprints. This not only showcases their preparedness and adaptability to ongoing reforms but also offers significant long-term advantages when applying for positions, seeking promotions, or securing funding (Figure 2).

In this section, we provide recommendations for policy content specific to each stakeholder, focusing on the varying levels of adoption outlined in the tables. (An example policy statement, developed from the tables, is included in Appendix 1.)

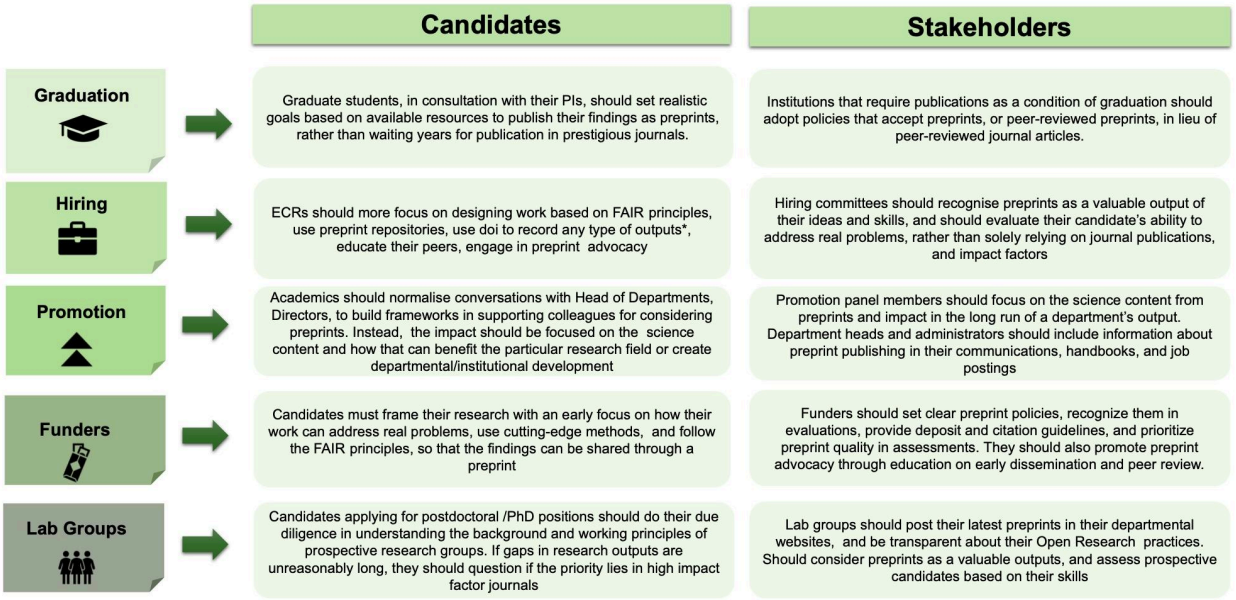

Figure 2. Key steps that different stakeholders can take to increase preprint adoption. *Preprints, journal articles, protocols and white papers. Abbreviations: OR - open research, FAIR - Findable, accessible, interoperable, reusable.

Funding agencies

Funding agencies have been the most progressive in terms of policies relating to preprints (24,25), with the most significant advances being made by philanthropic funding organisations (for example, CZI and BMGF (15,16)). These organisations have encouraged and, in some cases, mandated the posting of preprints by their grantees. Some, such as the Bill & Melinda Gates Foundation, have gone further and removed funding for article processing charges (APCs). In the UK, a recent policy briefing has directly called on UKRI to adopt Plan U and follow the lead of these philanthropic funders (14). In addition to the recommendations below, there is a complete preprint toolkit that outlines ways to incorporate preprints into the policies of funding agencies (26).

Policy components

Funding agencies are uniquely positioned to direct positive change in researcher practices and the associated reward structures. Therefore, the policies should consider several elements.

Dissemination of outputs	**Citation**	**Reuse**	**Application assessment**	**Compliance**
Grantees are **required** to deposit preprints upon submission to a journal or	Citation of preprints is encouraged in grant applications and	Preprints resulting from funding must be available under a CC-BY or CC0	Reviewers are provided guidance requesting they take into	The funder collects proof of compliance with preprint deposition

sooner.	reports, as well as anywhere research outputs are cited.	licence, which permits broad reuse of the materia.	account preprints as valid outputs	mandates, with grant disbursement contingent upon conformity.
Grantees are **encouraged** to deposit preprints upon journal submission or sooner.	Preprints can be cited in grant applications and reports.	Preprints resulting from funding must be available under a Creative Commons licence such as CC-BY, CC0, CC-BY-SA, CC-BY-NC, or CC-BY-ND.	Reviewers are notified that preprints may be included and may be provided with associated reviewer guidance.	The funder asks grantees to provide proof of compliance with the preprint policy, which is informally considered in future applications.
Grantees are **allowed** to deposit preprints.	Preprints can be cited in grant applications and reports.	Preprints resulting from funding may be available under different licences, no guidance is provided.	Reviewers may be notified that preprints may be included.	Funder spot checks for inclusion of preprints.
No specification on whether preprints are allowed.	Preprints cannot be cited in grant applications or reports.	No licence requirements for preprints.	No reviewer guidance is provided regarding preprints.	No mechanism to check for the inclusion of preprints.

N.b. Dark red = no or worst implementation, red = suggested/accepted actions, yellow = encouraged actions, green = required action.

Research Institutions

Research institutions have numerous roles in relation to preprints and academic publishing. A key case study of how entire organisations can adapt to preprint usage is the Howard Hughes Medical Institute (HHMI). HHMI has a range of policies towards preprints and open science practices in addition to supporting relevant organizations (27,28). Institutions can opt for fewer activities than HHMI displays, but in all cases, institutions should adopt clear policies for graduation, hiring, and promotion. Each of these aspects is individually discussed below, with a focus on preprinting.

Graduation

Comprehensive guidelines are needed to effectively implement the recommended or required adoption of preprints for graduation. These should detail how and where preprints are posted and the extent to which the scientific community should review them.

Policy components

Dissemination of outputs	**Timing***	**Reuse**	**Review**	**Hosting**
Students are **not required to post a preprint or have a journal article** published for graduation. Traditional theses are acceptable.	Requirements should be met prior to graduation.	All preprints must be available under a CC-BY or CC0 license to permit reuse.	Students are **not required to have a peer review** associated with their preprint(s)	Preprints are hosted on a recognised **public server** such as bioRxiv.
Students are **recommended** to post a preprint to a preprint server	Requirements should be met prior to viva voce or final defence	Preprints must be available under a Creative Commons licence such as CC-BY, CC0, CC-BY-SA, CC-BY-NC, CC-BY-ND	Students **should have a peer review** associated with their preprint(s)	Preprints are hosted on the student's **institutional repository**.
Students are **required** to post a preprint to a preprint server	Requirements must be met prior to viva voce	No specific guidance on licensing	Students **must have a peer review** associated with their preprint(s)	Preprints are hosted on the student's **departmental or unit archive**.
Students are required to have a peer-reviewed article published in a journal	No specific policy on timing	No license requirements on preprints	No particular policy on review	No particular policy on availability/hosting

*Terminology for final oral defences may differ by institution and geography. N.b. Dark red = no or worst implementation, red = suggested/accepted actions, yellow = encouraged actions, green = required action.

Hiring

In addition to graduation, institutions should adopt preprint-friendly policies for hiring and promoting staff. Hiring based on preprint outputs enables institutions to effectively identify exceptional candidates without waiting for lengthy publication processes or hiring without seeing evidence of productivity.

Policy components

Dissemination of outputs	**Review**	**Reuse**	**Committee**	**Service**
Applicants are **required** to have previously posted preprints, some of which may be recent and not yet associated with journal publications	Posted preprints **do not require associated peer review reports** to be considered.	All preprints must be available under a CC-BY or CC0 license to permit reuse	Hiring committees are provided guidance requiring that they take into account any preprints as valid outputs	Posting of transparent preprint peer reviews and engagement in open science practices are **expected** to be included in application materials
Applicants are **encouraged** to post preprints, which may or may not be associated with journal publications	**Peer-reviewed preprints are of equivalent merit and status** as peer-reviewed publications	Preprints must be available under a Creative Commons licence such as CC-BY, CC0, CC-BY-SA, CC-BY-NC, CC-BY-ND	Hiring committees are notified that preprints should be accepted as valid outputs and may be provided with associated guidance	Posting of transparent preprint peer reviews and engagement in open science practices are **encouraged** to be included in application materials
Applicants are **allowed** to include preprints in their application	Preprints **should have an associated peer-review**	Preprints may be available under different licences but no specific guidance is given	Hiring committees may notified that preprints should be accepted as valid outputs	Engagement in open science practices are valued service activities and **can be** included in application materials
No specification on whether preprints are valid	No peer review policy	No license requirements on preprints	No guidance provided regarding preprints	No specific policy on what constitutes valued service

				activities

N.b. Dark red = no or worst implementation, red = suggested/accepted actions, yellow = encouraged actions, green = required action.

Promotion

An argument against using preprints when hiring staff is the large number of applications that can be received for individual positions. Therefore, as an initial step, institutions could adopt preprint policies for staff promotion. This is a significantly lower barrier for institutions that results in improved conditions for staff applying for promotion.

Policy components

Dissemination of outputs	**Review**	**Reuse**	**Committee**	**Service**
It is **required** that tenure packets will include posted preprints with or without associated journal articles	Posted preprints **do not require associated peer review reports** to be considered	All preprints must be available under a CC-BY or CC0 license to permit reuse	Tenure committees are provided guidance requiring that they take into account any preprints as valid outputs	Posting of transparent preprint peer reviews and engagement in open science practices are highly valued service activities and are expected to be included in tenure packages
Articles **are expected to have** an associated preprint posted or be available as an open-access version to be considered in tenure packets	**Peer-reviewed preprints are of equivalent merit and status** as peer-reviewed publications.	Preprints must be available under a Creative Commons licence such as CC-BY, CC0, CC-BY-SA, CC-BY-NC, or CC-BY-ND.	Tenure committees are notified that preprints should be accepted as valid outputs and may be provided with associated guidance	Posting of transparent preprint peer reviews and engagement in open science practices are highly valued service activities and are encouraged to be included in tenure packages
Published articles **may be** associated with	Preprints **should have an associated**	Preprints may be available under different	Tenure committees may notified that	Engagement in open science practices are

preprints	**peer-review**	licences but no specific guidance is given	preprints should be accepted as valid outputs	valued service activities and can be included in tenure packages
No specification on the use of preprints	No peer review policy	No license requirements on preprints	No guidance provided regarding preprints	No specific policy on what constitutes valued service activities

N.b. Dark red = no or worst implementation, red = suggested/accepted actions, yellow = encouraged actions, green = required action.

Individual research groups

Although institutions and departments set overarching policies, it is often left to individual PIs to enforce and adhere to such policies outside of PhD and student programs. Given the high degree of freedom that PIs are awarded, it is therefore also important that they adopt clear and transparent guidance on the use of preprints and the expectations in their own groups.

Policy components

Dissemination of outputs	**Lab journal clubs**	**Reuse**	**Peer Review**	**Hiring**
All articles will first be posted as preprints **prior to submission to a journal**	All lab journal clubs will discuss preprints and post public reviews	All preprints must be available under a CC-BY or CC0 licence to permit reuse	All preprints will be **publicly and transparently peer-reviewed**	All **lab hires must support preprint posting** and associated activities. These will additionally be **strongly encouraged for applications to** join the group.
All articles will be posted as preprints **at the time of submission to a journal**	Lab journal clubs will commonly discuss preprints	Preprints must be available under a Creative Commons licence such as CC-BY, CC0, CC-BY-SA, CC-BY-NC, CC-BY-ND	Transparent peer review is **encouraged**	Preprints and open science practices will be **encouraged when applying** to open positions

Some lab outputs may be preprinted on a **case-by-case basis**	Lab journal clubs may sometimes feature preprints	Preprints may be available under different licences, but no specific guidance is given	Transparent peer review **may occur on some** preprints on a case-by-case basis	Preprints and open science practices will be **accepted when applying** to open positions
No specification on the use of preprints	**No policy** on the use of preprints in journal clubs	**No licence requirements** for preprints	No peer review guidance given	No communication in job adverts or interviews

N.b. Dark red = no or worst implementation, red = suggested/accepted actions, yellow = encouraged actions, green = required action.

Example policy statements

To aid stakeholders in adopting preprint-friendly policies, we have designed text that can be easily adapted for various uses. Each text has been written as an ideal version and a lower-barrier version. The ideal version contains stronger language, *mandates* preprints (without peer review), and includes statements on license choices. The lower-barrier version contains softer language, such as *encouraging* preprints and preprint peer review. These statements are compiled from elements contained in the tables above.

Funding agencies

Ideal adoption

Where applicable and as soon as possible, [Funding Organisation Name] mandates that all research outputs resulting from our funding be deposited on a recognised or pre-approved preprint server prior to publication in a peer-reviewed journal. Authors retain copyright, and preprints must be licensed under a CC-BY license with no embargo. Moreover, the data and methods behind it need to be both accessible and actionable right when a preprint goes live. Compliance with these requirements is mandatory for continued funding, and preprints must be included in grant applications as valid indicators of productivity and research engagement.

Low barrier adoption

[Funding Body Name] recognises the value of peer-reviewed preprints in accelerating research dissemination and enhancing the visibility of funded work. While preprint submission is not mandatory, we strongly encourage all funded researchers to deposit their manuscripts as preprints on appropriate platforms when possible. Peer-reviewed preprints can also be cited in funding applications as evidence of the applicant's productivity and engagement with ongoing research efforts. They will be fully recognised in the evaluation process.

Hiring

Ideal adoption

Candidates are expected to include preprints posted with open CC-BY or CC0 licences as part of their application. These preprints do not require associated peer review reports to be considered, although peer-reviewed preprints will be considered of equivalent merit and status as peer-reviewed journal articles. Engagement in open science practices such as transparent preprint peer review will be considered valuable ‘service’ contributions. These collaborative and open behaviours are qualities that we highly value in our colleagues and teammates.

Low barrier adoption

We encourage candidates to include preprint publications, along with other open-access works, in their applications. Where preprints are included, they should have a Creative Commons licence and an associated peer review. Posting of transparent peer reviews, preprint reviews and engagement in open science practices will count towards ‘service’ and are encouraged to be included in application materials. [Name of institution] prides itself on supporting researchers who contribute to openly accessible works.

Promotion

Ideal adoption

Evidence of a commitment to open scholarship will be accepted in tenure and promotion packets. Tenure packets are expected to include preprints, and published articles should have an associated preprint posted or be available as an open-access version. In particular, the citing and use of preprints is strongly encouraged. Preprints will be accepted without any peer review if recently posted. It is strongly encouraged that preprints and published work will have transparent peer review reports available. All preprints and research articles must be available under a CC-BY or CC0 licence to permit reuse. Scholars who make their work openly available uphold [name of institution]’s mission by contributing to the broader research community.

Low barrier adoption

Promotion and tenure dossiers that include open-access publications, including preprints, will count towards the required publication amount. Published articles may be associated with preprints, and preprints alone can be cited in tenure packets. To enable reuse, preprints and published articles must be available under a Creative Commons licence, such as CC-BY, CC0, CC-BY-SA, CC-BY-NC, or CC-BY-ND. Where preprints are used, peer-reviewed preprints will be considered of equivalent merit and status as peer-reviewed publications published in good journals. Work that is made openly available increases discoverability and promotes [name of institution]’s departments.

Graduation

For graduation, we strongly discourage the requirement of publications as a condition of graduation. Further, we urge institutions to adopt preprints instead of peer-reviewed journal publications where a publishing requirement cannot be removed.

Ideal adoption

A detailed policy is available in Appendix 1.

- **Submission of Research Manuscripts as Preprints:** This policy encourages all master's and doctoral students to submit their research manuscripts to a reputable preprint server prior to or concurrent with submission to peer-reviewed journals. The submission of preprints is intended to accelerate the dissemination of research findings, increase the visibility of student research, and foster a culture of open science. By explicitly encouraging the posting of preprints, institutions and graduate programs will help to promote norms around their usage.
- **Acceptance of Preprints in Fulfillment of Graduate Degree Requirements**: This policy allows master's and doctoral students to submit preprints in lieu of peer-reviewed journal articles to fulfil publication requirements for graduation. Accepting preprints aims to recognise the evolving nature of scholarly communication while reducing barriers to graduation by eliminating delays associated with the traditional publication process.
- **Acceptance of Peer-Reviewed Preprints in Fulfillment of Graduate Degree Requirements:** This policy permits master's and doctoral students to submit preprints that have undergone journal-independent peer review in lieu of peer-reviewed journal articles to meet graduation requirements. By recognising the validity of these peer-reviewed preprints, the institution supports innovation in scholarly communication while effectively reducing barriers to graduation. This approach leverages the larger community of reviewers available for preprints, resulting in quicker turnaround times and a broader feedback scope than traditional peer-reviewed journal articles.

Individual research groups

Ideal adoption

All research articles produced within the lab will be posted as preprints at least 1-month prior to journal submission. This policy aims to foster open science practices by ensuring early and widespread dissemination of research findings, facilitating feedback and collaboration, and accelerating scientific progress. Additionally, preprints will be made available under a Creative Commons license, such as CC-BY or CC0, to permit reuse and adaptation. Preprints shared by the lab will undergo a public and transparent peer-review process. By participating in open peer review, lab members contribute to making the review process more accessible and accountable. Constructive feedback will be provided in the spirit of improving research quality, and reviewers' comments will be available for public view, supporting the growth of open science practices. As an extension of this, preprints will be a regular topic of discussion during lab journal clubs. These discussions will not only focus on the scientific merit of the research but will also

encourage public reviews of preprints, fostering a culture of openness and transparency. Lab members are encouraged to contribute to post-public peer reviews of preprints discussed, providing valuable critique and insights that may benefit both the authors and the wider community.

Low barrier adoption

All research articles produced within the lab will be posted as preprints at the time of journal submission and will be available under a Creative Commons licence (such as CC-BY, CC0, CC-BY-SA, CC-BY-NC, CC-BY-ND). Preprints and publications shared by the lab are encouraged to undergo transparent peer review, and the lab will commonly discuss preprints in journal clubs. When applying to open positions with the lab, preprints and open science practices will be accepted in all application materials.

Conclusion

Open science practices are vital for improving the reliability of scientific research, public trust in science, and research culture. However, positive change requires action and collaboration from all stakeholders, from individual researchers at the grassroots level to large institutions at the policy level. This whitepaper provides specific action steps and advice on creating and using policies to promote and recognise preprint use.

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Author contributions

Conceptualization: J.A.C. **Investigation:** J.L.O., Q.S., and L.Y.M.E. **Methodology:** J.L.O., L.Y.M.E., Q.S., and J.A.C. **Project administration:** J.A.C. **Resources:** J.L.O. and J.A.C. **Supervision:** J.A.C. **Visualization:** Q.S. and J.A.C. **Writing - original draft:** J.L.O., L.Y.M.E., Q.S., M.C., and J.A.C. **Writing - review & editing:** J.L.O., L.Y.M.E., Q.S., M.C., and J.A.C.

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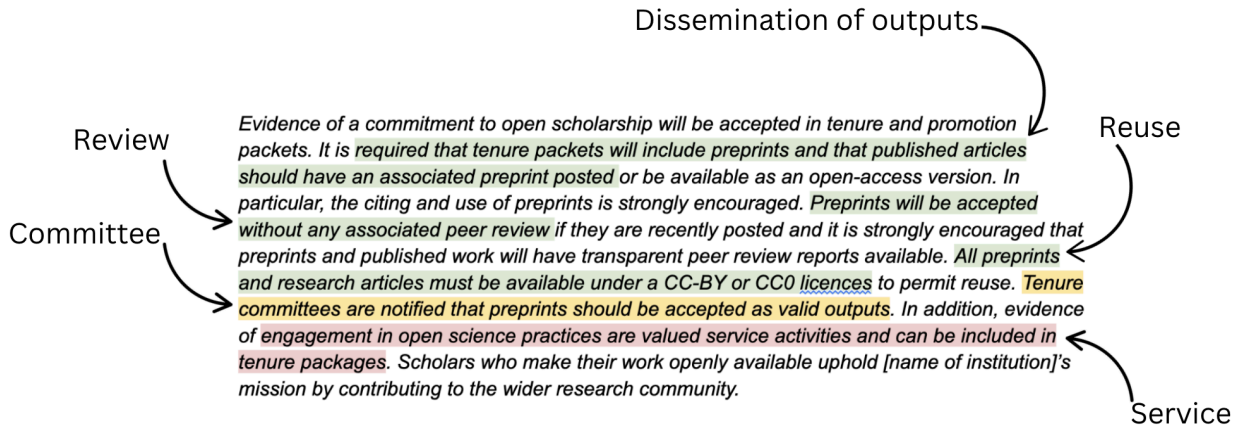
Appendix 1 - Creating policy statements from the tables

This appendix contains an example policy statement for using preprints in promotion. The sections that match the corresponding table are highlighted according to the level they relate to. This particular example is not an ideal implementation but is designed to highlight how the table can be used to craft individualised policies.



Appendix 2 - Example detailed preprint policy for graduation requirements

Acceptance of Preprints in Fulfillment of Graduate Degree Requirements

Policy Statement:

This policy allows master's and doctoral students to submit preprints in lieu of peer-reviewed journal articles to fulfil graduation publication requirements. Accepting preprints aims to recognise the evolving nature of scholarly communication and reduce barriers to graduation.

Purpose:

The purpose of this policy is to:

1. Provide flexibility in meeting publication requirements for graduation.
2. Encourage the dissemination of research findings in a timely and accessible manner.
3. Support the transition to open science by acknowledging preprints as valid scholarly contributions.
4. Reduce barriers to graduation that may arise from delays in the peer review and publication process.

Scope:

This policy applies to all master's and doctoral students at [Institution Name] whose graduate programs require the submission of peer-reviewed articles as a criterion for graduation.

Definitions:

- **Preprint:** Manuscripts are freely uploaded to online platforms prior to journal-organized peer review.
- **Preprint Server:** An online repository that allows authors to publicly disseminate their research manuscripts before they undergo peer review.

Policy Details:

1. **Eligibility for Preprint Submission:**
    - Students may submit a preprint in lieu of a peer-reviewed article to fulfil the publication requirement for graduation, provided that the preprint meets the following criteria:
        - It has been uploaded to a reputable preprint server relevant to the student's discipline.
        - It adheres to the standards of academic quality and rigour expected by the student's department or program.

        - It includes all necessary co-author approvals and follows ethical guidelines for research and publication.
2. **Approval Process:**
    - The preprint must be accompanied by a letter from the student's advisor or committee chair, attesting to the quality of the research and its suitability for fulfilling the graduation requirement.
    - The [Institution's Graduate School] will review the submission to ensure it meets all institutional and program-specific criteria.
3. **Authorship and Attribution:**
    - The preprint must clearly credit all contributors, following the conventions of the discipline.
    - Students should disclose any prior peer-reviewed preprint submissions and indicate if the manuscript is under review or has been rejected by a journal.
4. **Intellectual Property and Copyright:**
    - Students must ensure that the preprint does not violate any intellectual property agreements or copyright restrictions. If the research is subject to patent considerations or other intellectual property concerns, students should seek guidance from the [Institution's intellectual property office] prior to submission.
    - Preprints should be published with open licences, such as Creative Commons (CC-BY)
5. **Evaluation Criteria:**
    - The submitted preprint will be evaluated based on its scholarly merit, including the originality of the research, methodological rigour, and contribution to the field.
    - The preprint must meet the same academic standards as a peer-reviewed publication, as determined by the student's academic program.
6. **Submission to [Institution's Graduate School]:**
    - Students must submit a copy of the preprint along with the advisor's letter and any required supporting documentation to the [Institution's Graduate School] as part of their graduation packet.
    - The preprint will be archived in the institution's digital repository as part of the student's academic record.

Compliance:

Compliance with this policy is mandatory for students opting to submit a preprint in place of a peer-reviewed article. Failure to adhere to the guidelines outlined in this policy may result in the rejection of the preprint for fulfilling graduation requirements.

Contact Information:

For questions or further information about this policy, please contact:

[Institution's Graduate School]
[Email Address]