



# Early-career researchers shaping publishing strategy

Helina Marshall <sup>1\*</sup> and Maria Fernandes <sup>2</sup>



Helina Marshall



Maria Fernandes

<sup>1</sup>School of Biological Sciences, Queen's University Belfast, Belfast, BT9 5DL, UK

<sup>2</sup>Microbiology Society, 14–16 Meredith Street, London, EC1R 0AB, UK

ORCID:

H. Marshall: 0000-0001-5054-7301

M. Fernandes: 0000-0001-8961-8285

\*Corresponding author: Helina Marshall, School of Biological Sciences, Queen's University Belfast, Belfast BT9 5DL, UK.

E-mail: h.marshall@qub.ac.uk

## Key points

- If society publishers listen to and work with their early-career members, we have an opportunity to reclaim our place as trusted, valued players in the research communication space.
- Early-career researchers can provide fresh insights into publishing strategy, creating opportunities for publishers to learn about what the next generation of our customers truly value.
- Pairing early-career researchers with experienced mentors has proven a successful strategy for building an innovative, engaged Editorial Board.

## BACKGROUND

### Early-career researchers in the Microbiology Society

The Microbiology Society is a membership charity for scientists interested in microbes, their effects, and their practical uses. It is one of the largest microbiology societies in Europe with a worldwide membership based in universities, industry, hospitals, research institutes, and schools. The Early Career Microbiologists' (ECM) Forum was established in 2016 to give early-career members of the Society a way to influence the Society's work and access dedicated career development opportunities. The Forum consists of members of the Society who self-identify as early-career members and who choose to join the group. Typically, this ranges from undergraduate students to postdoctoral researchers. It is steered by an Executive Committee elected by the Forum

Some of the material in the Background section was previously presented by MF at the Vitae Researcher Development International Conference 2018.

itself and comprised of representatives with positions on each of the Society's other committees, bringing the early-career viewpoint to decision-making at every level of the Society. The Chair of the Executive Committee is a full trustee of the organization, demonstrating the Society's commitment to taking early-career views into account and providing opportunities to develop. This trust in early-career members has paid off, with their input shaping several key decisions across the organization, including changes to grant schemes, the direction of policy work, and involving early-career microbiologists at the forefront of the Society's flagship Annual Conference by introducing early-career co-Chairs for many sessions. Chairs of other committees have commented that having an early-career representative has helped them ensure that their activities and strategic direction are relevant to a vast majority of the membership, and Society staff have noted a high level of engagement with early-career members. We have noticed an increase in self-confidence among members of the ECM Forum Executive Committee during their 2-year terms. They have also self-reported benefits to their careers, including exposure to the wider community, real experience and transferable skill acquisition, expanding their networks, and feeling

empowered by members of the committees on which they represent the ECM Forum. This feeling stems from the Society's openness to ideas coming from the ECM Forum and the tangible involvement of ECM Forum members in activities and strategy.

## Society journals

The Society's mission and membership are driving forces behind the development of our journal portfolio. In 1947, we created the *Journal of General Microbiology*, now known simply as *Microbiology*, followed by the *Journal of General Virology* in 1967. Two additional subscription journals joined the portfolio over the following decades: *Journal of Medical Microbiology* and *International Journal of Systematic and Evolutionary Microbiology*, the latter in partnership with the International Committee on the Systematics of Prokaryotes. The year 2015 saw the first new journal launch from the Society for decades, and its first full stride into open-access (OA) publishing, with the launch of *Microbial Genomics*. It is our most recent OA launch, *Access Microbiology*, which is the subject of this case study as its scope and remit were driven by the needs of early-career members.

## DEVELOPING A BUSINESS CASE FOR ACCESS MICROBIOLOGY

### Scope

In the latter half of 2017, Society staff were tasked with developing implementation plans to complement the new Society strategy for 2018 to 2022 (Microbiology Society, n.d.). It is estimated that 85% of health research is wasted due to lack of reporting or publication (Chalmers & Glasziou, 2009), and as all publishers know, articles which are rejected incur costs without generating any revenue, so like many publishers, we reviewed the eventual publication status of articles rejected by the Society's existing portfolio of journals to determine whether there was potential for a cascade journal. This revealed that 34% of articles rejected in 2016 were eventually published elsewhere, of which 58% were published in OA journals. Following review of a preliminary business case by the Publishing Committee and Council, we were given approval to proceed with market research to determine the appetite for a new Society journal based on the now-familiar 'sound science' concept (PLOS, n.d.; Royal Society, n.d.; Springer Nature, n.d.).

In addition to conducting 30 in-person interviews with authors who have contributed to Society journals, we circulated a survey to members of the Society's committees, including the ECM Forum Executive Committee. Quantitative responses confirmed the demand for a journal with a scope covering the full breadth of microbiology, without a requirement for novelty but instead publishing methodologically sound work. However, the qualitative feedback from ECMs demanded that we reassess our goals for the proposed new journal. Comments included:

- [The journal] 'will provide a platform for young and early career researchers to start publishing research as not all research can go to high impact journals. It could also be the obvious choice of methodology papers'.
- 'If students wish to get papers from their research but they did not have enough time or results to publish a high impact paper, an *Access Microbiology* paper would be good for their CV'.
- 'Valuable for negative or repeat results, and it would really help PhD students and early postdocs to get published with data that is not high impact'.
- 'I believe this would be a great platform for up and coming graduates'.
- 'Too much useful (but seen as potentially unpublishable data) is left behind in lab books'.

Early-career researchers (ECRs) are considered to be the 'new (and biggest) wave of researchers' (Nicholas et al., 2017) and are under perpetual pressure to 'publish or perish'. Recommendations from O'Brien et al. (2019) based on discussions with ECRs aiming to identify the primary problems faced with regard to publishing, included making access to journals easier and celebrating publications from ECRs but also nurturing the talents of ECRs within journal teams.

### Editorial board

The initial business case seen by the Publishing Committee and Council included a recommended Editorial Board structure familiar to most publishers: an engaged and enthusiastic Editor-in-Chief, a selection of Senior Editors with specific responsibility for either a geographic or subject area, and Editors who would be responsible for peer review on allocated manuscripts. Conversations between the Director of Publishing for the Microbiology Society and one of the authors of this paper (HM) raised the possibility of an alternative model that would deepen the engagement between Early-career microbiologists (ECMs) and the Society's publishing activities. In this model, we would partner ECMs who had some publishing experience, but not enough to be considered for a traditional editorial role, with more senior microbiologists who have a wealth of experience but who possibly could not commit to taking on another active editorial role. Following up on this conversation with both ECMs and retired Editors of other Society titles revealed real enthusiasm for the idea and resulted in multiple volunteers as both Editor Mentees and Editor Mentors, even before the journal was approved for launch.

### Recommendation

Armed with this information, we returned to the Publishing Committee and Council with a recommendation to launch the new journal with an amended scope that not only covered cascaded articles from our established portfolio but which actively sought to tackle research waste in microbiology by publishing replication

studies, negative results, additions to established methods, case studies, and so on. At the same time, we recommended that the Society look to create a novel Editorial Board structure of Editor Mentees, drawn from the ECM Forum, and Editor Mentors. Both recommendations were accepted, and launch preparations began in April 2018.

## EXPERIENCE SINCE LAUNCH

We opened *Access Microbiology* for submissions in September 2018 with three Editor Mentees (including HM), three Editor Mentors, and three Editors who had opted to transfer from other Society titles to cover aspects of the scope which were not within the expertise of our Editor Mentees. We anticipated receiving a maximum of eight submissions per month during 2018 and 2019, which would be enough to permit us to publish small issues of four to six articles per month from April 2019, a launch date chosen to coincide with the Society's Annual Conference.

The journal's official launch at the Conference in April 2019 gave us the opportunity to engage with more ECMs and discover what they needed from our publishing activities.

- In advance of the Conference, we offered to publish the posters and oral abstracts accepted for presentation, an offer accepted by several hundred ECMs [(see Volume 1, issue 1a of the journal: [www.microbiologyresearch.org/content/journal/acmi/1/1A](http://www.microbiologyresearch.org/content/journal/acmi/1/1A)). This was the first time in several decades that the Society had published Conference Proceedings as part of its journal portfolio and the first time that we were able to preserve posters in this format.
- Attendees at the 'Teaching in Higher Education' Symposium, held the day before the Conference started, had made it clear they needed a place to publish microbiological pedagogy papers. We spoke with an early-career lecturer—Dr. Nicola Crewe of the University of Lincoln—who agreed to work with us to extend the scope of *Access Microbiology* to cover such research and to come on board as Editor Mentee responsible for those articles.

By July, 3 months after we launched, it was clear that we had significantly underestimated the appetite of ECMs and others for a journal of this nature; *Access Microbiology* had attracted an average of 16 submissions per month during the first 6 months of 2019 and 25 submissions in July alone. This meant we were able to consistently publish a reasonable number of articles per month without introducing artificial delays during production to avoid gaps in the publication record. The journal's Editorial Board has had to scale up and now consists of five Editor Mentees, four Editor Mentors, and four other Editors—and we are in the process of seeking more Editor Mentees from among the Society's membership.

The business case for the journal posited an initial period of support from the Society, and no APCs were levied from launch until January 2020. Article processing charges (APCs) were then

set at £700, which was the minimum required to cover the direct costs of running the journal. From January 2020, the journal also fell under the banner of the Society's Publish and Read model (P&R), meaning authors from participating institutions were able to make use of fee-free OA publishing. Access Microbiology's share of P&R revenue meant that the journal made a small surplus and is likely to be financially sustainable in the longer term. While financial sustainability is important, the key performance indicator for this journal is submissions; as our goal is to capture articles that would otherwise be sat on hard drives, the number of methodology papers, replication studies, case studies, and so forth are key success metrics.

## An Editor Mentee's view: Helina Marshall (author)

Publishing is a highly important part of research, and many ECRs, including ECMs, want to gain more experience. ECMs are trained in how to write scientific manuscripts and may, on occasion, aid their principal investigators in the peer review process, but we believe that it is important to, where possible, provide the opportunity for them to gain experience in the journal operation and peer review process as Editor Mentees. Prior to joining *Access Microbiology*, my publishing experience was limited primarily to being involved in publishing as an author. As an Editor Mentee, I have had the opportunity to truly take on the role of a scientific editor. Like any other Editor, I am responsible for managing the peer review process for submissions to *Access Microbiology* and ensuring that we publish in line with our editorial strategy, with the full support of my Editor Mentor when needed (Marshall, 2019). Journal editors could be considered the 'keepers of the keys' to the world of research publication. Although reviewers may have a larger sway on what gets published, it is Editors who are first in line when it comes to deciding what goes out for review, and they play a difficult but essential role in publishing reliable and authentic work. I do not believe that the ability to critically evaluate scientific research in the way that a journal editor must is a skill learned overnight and have found being an Editor Mentee an invaluable experience. It is well known that being a journal editor can require a significant amount of time, engagement, and commitment while also being very challenging. Becoming an Editor Mentee was, at first, a very steep learning curve that may have been overwhelming: to suddenly be responsible for the fate of someone else's hard work is, initially, a terrifying prospect. As a research scientist myself, I am well aware of the amount of blood, sweat, and tears that can go into the preparation of a research paper and the disappointment that comes with an unfavourable outcome. However, my Editor Mentor has been a huge font of knowledge and support while encouraging me to trust my own judgement and to not second guess myself when making difficult decisions. It is worth noting, from the Editor Mentee perspective, that it is not simply the support provided by our Editor Mentors that is important but the incredible support from our in-house Microbiology Society publishing team on a day-to-day basis. After 1 year as an Editor Mentee,

and handling almost 30 manuscripts in that time, I have now progressed from Editor Mentee to independent Editor.

## Next steps

In a short time, many of our Editor Mentees will have completed their first year, and we will be working with their Mentors and with them to decide whether they are ready to 'take off the training wheels' and be independent Editors. The Editor Mentees have been so successful that we are examining ways to introduce a similar Reviewer Mentee scheme that will allow ECMs to join the review boards for any of the Society's journals and gain the credit for their reviews via ORCID reviewer deposit, with the surety of a Mentor to provide guidance when they need it.

## CONCLUSION

Regardless of the *sturm und drang* about OA (especially with the release in 2018 of Plan S (cOAlition S, n.d.)), we believe that OA is not, in and of itself, the future of society publishing. What we see as far more significant, and far more exciting, is the strength of ECMs and their fellow ECRs in other fields. In many places, they are exerting enormous influence over the direction of travel, and their appetite for open scholarship, and particularly for a radical shift in research culture, is likely to have an enormous impact on publishers.

While initiatives such as the Declaration on Research Assessment (DORA, n.d.) have been developed by established researchers, publishers, funders, and others, our experience has been that they are more readily embraced by ECMs than by their more senior colleagues. Although this is in contrast to the findings of the Harbingers report (see Nicholas et al., 2017), this was an internal finding to the Microbiology Society, and we have outlined the influence the Microbiology Society's ECM Forum had over the scope of our latest journal, *Access Microbiology*. Similarly, it was HM as the ECM Forum Representative who was heavily involved in persuading the rest of our Publishing Committee to recommend that the Society sign DORA.

If society publishers listen to and work with their early-career members, we have an opportunity to reclaim our place as trusted, valued players in the research communication space. We encourage our colleagues in other publishing societies to learn from our experience—and from their early-career members.

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## CONFLICT OF INTEREST

MF is an employee of the Microbiology Society. HM is a member of the ECM Executive Committee of the Microbiology Society and an Editor for *Access Microbiology*.

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