

# It takes four to tango: the cooperative adventure of scientific publishing

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**ABSTRACT** The publication and scientific implementation of scholarly articles is a collaborative effort that unites readers, authors, editors, and referees. A scientific journal thereby serves as a vital platform, enabling these interactions and fostering a shared commitment to advancing the quality and impact of scientific communication. In this short editorial, we celebrate the milestone of publishing the 500th article in *Microbial Cell* by highlighting these collective efforts. Importantly, from the outset of the journal more than ten years ago, we have cultivated a handcrafted organ that is produced by scientists for scientists. In that frame, we have followed and advocated a radical open access approach that fuels interaction and visibility of such cooperative endeavors for the public good.

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This Editorial is the 500th article published in *Microbial Cell*, a journey that started in 2014 [1] and has seen the journal grow steadily and maintain itself as a respected community platform [2]. The foundation that has allowed for and driven this development – as for any responsible journal – is composed of four essential pillars: the readers, the authors, the editors and the referees.

*Microbial Cell* currently counts approx. 18.000 views per month, with more than 10.000 unique user IPs. We thank our **readers** for their continued trust in the content of the journal. Their curiosity and reliance on our published works validate our commitment to high-quality research. By exploring and building upon the knowledge we publish, they contribute to the growth and evolution of *Microbial Cell*. Of course, at the core of the journal is the scientific content provided by the **authors**. Their work, including original research papers, commentaries and review articles, has provided valuable insights into heterogeneous areas of microbiology to better understand cellular responses to internal and external stimuli in pathogenic and non-pathogenic unicellular organisms as well as multicellular microorganisms. In addition, it has also added new knowledge to the use of microorganisms as model systems for non-infectious human diseases, and contrib-

uted methodological, biotechnological and pharmacological innovations, among others. The quality of their published work is mirrored in the stable citation record of the journal's content as retrievable by metrics like the journal impact factor (Clarivate) or the CiteScore (Elsevier), where *Microbial Cell* has been steadily ranking in Q1-Q2 of all relevant categories. We are aware that authors deciding to share their work through a journal from an independent publisher is not to be taken for granted. We are thus deeply grateful for the trust the authors have placed in *Microbial Cell*. This confidence in our platform strengthens our commitment to further supporting excellence in research.

The quality of the published work relies not only on the original submission, but also on the implementation of *trustworthy* peer-review. In times of an increasing number of fake papers with manipulated or fabricated data [3], and predatory journals with pretended peer-review [4, 5], this reliability is essential to fight against the danger of scientific work that seems to be curated but is not, reminiscent of Georg Christoph Lichtenberg's accurate aphorism: "The most dangerous untruths are truths slightly distorted."

Our **Editorial Board** is composed of experts in numerous fields that accompany the peer review process with their competence to select appropriate referees and in-

corporate their constructive insights, while at the same time promoting clear and respectful communication in the decision-making process. Their support has been instrumental in shaping the journal's high standards, and we are very thankful to have such dedicated editors on our team. Over the last years, they have interacted with hundreds of referees around the world. The referees' expert opinions and insightful comments have nourished submissions with their input, irrespective of whether the manuscript was eventually accepted for publication or rejected. Given that this essential contribution is made on a *pro bono* basis, their dedication cannot be emphasized enough. Referees embrace their responsibility in upholding the integrity and quality of scientific publishing - a commitment that deserves recognition and applause not only from this journal but also from the broader scientific community [6]. We thus sincerely thank all the referees who have contributed their time and expertise to the review of submissions to *Microbial Cell*.

The journal provides the platform that allows for the interaction between these four pillars. From the outset of *Microbial Cell*, we have followed conceptual and operational principles that are essentially characterized by three aspects: quality, openness and fairness.

**Quality.** Of course, the importance of quality in scientific publications needs to outweigh that of quantity. Although a journal depends on sufficient submissions (and publications) to survive, the responsibility of producing rigorously validated and scientifically sound research needs to be at the core of its activity. As outlined, peer review plays a critical role in maintaining these standards, ensuring the credibility and reliability of published findings [6]. For instance, one of the more recent challenges has been assessing articles written with excessive reliance on artificial intelligence (AI) [7–9]. While AI tools can certainly support some aspects in research, they may also produce plausible-sounding but factually incorrect content without clear accountability. Neglecting to rigorously scrutinize AI-generated content by all researchers involved - authors, referees, and editors - poses a significant risk of introducing unchecked or even incorrect information into the scientific literature. An open discussion with authors on this matter upon submission is fundamental as we move quickly towards AI being an integral part of scientific activity. Furthermore, more "typical" concerns like image manipulation, data falsification, plagiarism, etc. need to be carefully addressed for each submitted manuscript. While *Microbial Cell* puts all the efforts to accelerate these control processes, it is also essential to recognize that accurately assessing the quality of scientific work requires some time. Of note, we apply this principle to submissions that may challenge an accepted paradigm or a public opinion, or that may not classify as classical, including "negative studies" and "confirmation studies." We

consider this work to be equally valuable to the community as the more classical formats.

**Openness.** The publishers of *Microbial Cell* fully subscribe to the principles of open access as outlined in the Budapest Open Access Initiative [10]. In a nutshell, scientific knowledge should be universally and freely accessible. An open access approach means the return to one of the essential values of science: the free exchange of ideas. Thus, the articles and accompanying materials appearing in the journal are published under the CC BY creative commons license [11] and have been designed to be freely available to the scholarly and general public around the world. Assessing universal online accessibility to scientific knowledge allows (i) the quick and unrestricted use of published data by researchers, (ii) the visibility maximization of own findings for authors, (iii) the public access of mostly publicly funded research and (iv) the availability of latest research results for educational purposes. These advantages ultimately benefit all instances in the process, including the authors, the journal and the broader public.

**Fairness.** The journal is run exclusively by active researchers, and we place a strong emphasis on fairness. We draw upon our own experiences as authors, reviewers, and editors in other journals to shape the *Microbial Cell*'s operations with a focus on being author-friendly, minimizing formal and bureaucratic hurdles. This encompasses all manuscript stages, ranging from a user-friendly submission system to flexibility in word count and figure limits. During revision, this extends to the possibility of multiple revision rounds to adaptability of revision deadlines. Fairness also applies to content, not least to prevent bias or censorship from stifling progress. Scientific publishing must remain impartial, ensuring that articles challenging mainstream perspectives or conflicting with the interests of powerful stakeholders are evaluated solely on their scientific merit. We do think that upholding such fairness is essential to foster innovation and diversity of thought. Finally, we aligned article processing charges (APCs) to cover the essential costs of running the journal, avoiding extreme profit-driven pricing. In cases where authors, especially from low-income countries, cannot afford payment, we apply a journal-own waiver and discount program. APCs are certainly necessary to sustain an open access approach, but they cannot be hijacked for rampant capitalization. Unfortunately, this has been increasingly the case, not only limiting equitable participation in open access dissemination, but also jeopardizing the principles of open access itself [12].

In conclusion, research has always been a collaborative effort, whether within a single lab, among international research groups, or spanning different generations of scientists. This principle has always propelled science as famously stated by Isaac Newton: "If I have seen further [than others], it is by standing on the shoulders of giants."

It is in this long-standing tradition, that a journal becomes an active participant in the process of generating scientific knowledge. This role thus inherently demands a strong sense of responsibility and a commitment to fostering collaboration.

### CONFLICT OF INTEREST

FM and DCG have equity interests in The Longevity Labs (TLL) and Shared Science Publishers GmbH. FM has equity interests in Samsara Therapeutics.

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