



## Imaging Neuroscience opening editorial

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### ABSTRACT

In this editorial we introduce a new non-profit open access journal, *Imaging Neuroscience*. In April 2023, editors of the journals *NeuroImage* and *NeuroImage:Reports* resigned, and a month later launched *Imaging Neuroscience*. *NeuroImage* had long been the leading journal in the field of neuroimaging. While the move to fully open access in 2020 represented a positive step toward modern academic practices, the publication fee was set to a level that the editors found unethical and unsustainable. The publisher of *NeuroImage*, Elsevier, was unwilling to reduce the fee after much discussion. This led us to launch *Imaging Neuroscience* with MIT Press, intended to replace *NeuroImage* as our field's leading journal, but with greater control by the neuroimaging academic community over publication fees and adoption of modern and ethical publishing practices.

### NEUROIMAGE, APC DISCUSSIONS, AND DECISION TO LEAVE ELSEVIER

*NeuroImage* was launched in 1992, and grew in size and impact over the following 30 years. By 2022, it was publishing almost 1,000 papers per year, and had an impact factor of 7.4. *NeuroImage:Reports* was a companion-journal started in 2021, promoting the publication of null findings and article types such as Registered Reports.

*NeuroImage* began with a pay-to-read publication model.<sup>1</sup> Almost 20 years later, it switched to a hybrid

model, where some papers were pay-to-read and the others were pay-to-publish (i.e., providing open access, OA). Academics in the neuroimaging community have increasingly expressed concerns about the very high publication cost at journals like *NeuroImage* and *Human Brain Mapping*, but until fairly recently, the main focus for journal editors was persuading publishers to switch to being fully OA. By 2020, the editorial team (led by the Editor-in-Chief at the time, Michael Breakspear) had succeeded in persuading the publisher to make the journal fully OA. However, the fee to publish (the article publication charge or APC) remained under the exclusive control of the publisher. The APC was initially set at \$3,000 USD. Going forward, it

<sup>1</sup> Interestingly, even the one-page opening Editorial by Arthur Toga cost \$5 to read in 1992 (and today costs \$36). The editorial itself though has stood the test of time extremely well, and could easily have been used for our editorial here.



appeared that a focus on profits would continue to put unrelenting upward pressure on the APC, and many were concerned that the high level of profit implied by high fees was unethical and unsustainable.

By 2022, Elsevier had raised the *NeuroImage* APC to \$3,450, without consulting the editors. The fee level at for-profit journals is generally decided by the publisher after consideration of "market forces", meaning that the fees are set by looking at competing journals' fees, and working out how much authors are willing to pay, given the perceived reputation and importance of a journal. This practice means that an APC often does not directly relate to the actual costs of publishing a paper, and has led to some academic publishers achieving extremely high profit margins. Estimates of direct article costs at relevant journals, particularly those that outsource much of the production process to lower-quality external production companies, are generally considerably lower than the APC.

High fees are prohibitive for researchers in less-well-funded countries, and to those with funding sources placing restrictions on the APC, leading to inequities. High fees are highly burdensome to smaller and newer labs. Even in established labs, high APCs divert precious research funding away from actual research activities, and from the salaries and conference costs of junior researchers. Academics and funders increasingly feel that it is unethical for publishers to make such high profits, particularly given that the publishers do not fund the original science, write the articles, or pay reviewers, and pay minimal editorial stipends. There is a common pattern whereby an editorial team (and everyone in their field) contribute to building up a journal's quality and reputation over many years, to then have publishers increase the fee of successful journals. As a result of all the above factors, authors and reviewers are increasingly refusing to work with for-profit journals.

In June 2022, we, the *NeuroImage* editors, formally requested that Elsevier reduce the APC to under \$2,000. After subsequent discussions on this, no reduction was offered, and we wrote again in March 2023, explaining that we would all resign and start a new journal if the APC was not reduced. In April, Elsevier responded to all editors stating that the APC would not be reduced, because they believe that market forces support an APC of \$3,450.

As a result, all editors (more than 40 Handling Editors, Associate Editors, Senior Editors, and Editors-in-Chief) across *NeuroImage* and *NeuroImage:Reports* resigned. To avoid adverse impact on authors with papers under current consideration, we are continuing to handle the final set of papers that were already submitted to *Neuro-*

*Image* or *NeuroImage:Reports* prior to our resignation. However, we are not handling new submissions, and Elsevier are currently using in-house staff to handle the editorial process for new submissions.

We took the decision to resign with great regret. We love our field, and are immensely proud that *NeuroImage* represented the very best of our science. *NeuroImage* was a crucial standard-setting venue for a field that needs and benefitted from methodological and neuroscientific rigour over the last three decades. The editors have invested enormous effort into *NeuroImage* over many years, and none of us had wanted to see it decline or disappear. *NeuroImage* had always benefitted from an extremely committed set of editors who are leaders in our field and a highly effective, collaborative team; we also had a large bank of dedicated and technically brilliant reviewers. We were torn between wanting *NeuroImage* to continue as our top journal versus our conviction that we need to take a stand on the excessive APC. We believe that journals with high APCs cannot succeed in the long term, as researchers increasingly object to unreasonably high costs of publication and access. We, therefore, strongly believe that we took the right action. In that regard, we are reassured by having received support for our action from all previous *NeuroImage* Editors-in-Chief, who have similarly dedicated many years to the journal.

#### STARTING IMAGING NEUROSCIENCE

On 17 April 2023, we publicly announced our resignation and the intention to start a new journal. The response (on Twitter, over email, and as reported in many venues such as Times Higher Education and Nature News<sup>2</sup>) was very large and positive. Within a few days, the announcement had been viewed 2 million times. The response was not just from people in our field; people across academia have been expressing support and suggesting that journals in other fields make a similar change. Within a few days, we had over 1,200 people volunteer to review for *Imaging Neuroscience*.

<sup>2</sup> Our move has been reported widely, including in: Nature News (<https://www.nature.com/articles/d41586-023-01391-5>), Times Higher Education (<https://www.timeshighereducation.com/news/mass-resignations-elsevier-journal-over-unethical-price-hike>), The Guardian (<https://www.theguardian.com/science/2023/may/07/too-greedy-mass-walkout-at-global-science-journal-over-unethical-fees> and <https://www.theguardian.com/science/audio/2023/may/16/is-it-the-beginning-of-the-end-for-scientific-publishing-podcast>), Inside Higher Ed (<https://www.insidehighered.com/news/faculty-issues/research/2023/04/20/exodus-elsevier-neuroscience-journal>), Spectrum (<https://www.spectrumnews.org/news/imaging-journal-editors-resign-over-extreme-open-access-fees/>), and Technology Networks (<https://www.technologynetworks.com/tn/news/mass-resignation-at-leading-neuroscience-journals-prompted-by-high-article-processing-fees-372339>).

All of the editors have worked together to start *Imaging Neuroscience*, which is being published by MIT Press, a highly respected non-profit academic publisher. Following the resignation in mid-April, we were ready to start receiving submissions by mid-May, with an interim paper-handling system using the open source Janeway publishing platform.<sup>3</sup> Within two months, we had already received over 150 journal submissions. We are very grateful to the authors and reviewers of these early submissions for their support and willingness to place their trust in us. We applaud these authors for their help in moving our field away from for-profit publishers. We have been able to get the new journal going so quickly, in part because of the enthusiasm and efficiency at MIT Press, and because we already had the established framework of the entire editorial team and a positive and collaborative journal ethos. In our APC discussions with MIT Press, we were extremely pleased that profit was not a consideration—they merely need to cover their costs as a high quality but non-profit publisher. Similarly, there is no pressure from MIT Press to lower the scientific standards of the journal (in order to make more money by publishing more papers), which is often the case with for-profit publishers.

One foundational principle of *Imaging Neuroscience* is to keep the APC as low as possible, and to waive the APC for authors from low/middle-income countries (LMIC). The starting APC is \$1,600. MIT Press and the editorial team are actively seeking philanthropic sponsorship, to reduce this further, and offer a larger number of waivers in deserving cases. In addition, as the journal grows and economy-of-scale improves, further APC reductions should be possible. The APC fee is waived if the last author's main institution is in an LMIC, currently defined as the country having an expenditure on R&D per capita<sup>4</sup> of under \$200. This definition of LMIC is more liberal and inclusive than is often applied for journal waivers. Of course, the actual costs associated with waived papers need to be covered from the APC of non-waived papers.

The editorial structure is the same as it was at *NeuroImage*: we have the Editor-in-Chief, 11 Senior Editors, and 31 Handling Editors. In the future, changes in the editorship will happen naturally, with editors (including EiC) rotating in and out over time. In addition to the editorial team, we have an Editorial Board of over 60 academics in our field. The EB exists to provide a wider pool of

wisdom and expertise to help the core editorial team in their planning, and as a “trusted reflection” of the state of the field as a whole. The EB is also valuable as a group of respected and enthusiastic reviewers (including acting as triage and adjudicating reviewers), and as potential future Handling Editors.

The overall scope, quality threshold, and entire editorial team is the same as it had been at *NeuroImage* (combined with *NeuroImage:Reports*). The scope of the journal includes research that significantly contributes to the understanding of brain function, structure, and behaviour through the application of neuroimaging, as well as major advances in brain imaging methods. The focus is on imaging of the brain and spinal cord, in humans and other species, and includes neurophysiological and neuromodulation methods.

While the primary focus is on the macro-level organization of the human brain, the journal also considers research using meso- and micro-scopic neuroimaging in all species, if it contributes to a systems-level comprehension of the human brain or probes biophysical properties and processes through brain imaging. The scope includes work that explicitly addresses these questions in clinical populations or animal models. However, regular submissions reporting on apparent effects of disease will only be considered to be within scope if they enhance our understanding of mechanisms of brain function or dysfunction, or develop a new neuroimaging methodology. This question of clinical scope can be tricky, but one way of thinking about this is: if a given paper is predominantly showing the effect of a specific disease on the brain in such a way that the methods and results are only innovative and informative for readers working on this disease, then the paper is unlikely to be suitable for the journal.

*Imaging Neuroscience* publishes original research articles, review papers, theoretical models of brain function, data resource papers, software toolbox papers, technical notes, comments, and perspectives. Given the scope of *NeuroImage:Reports*, *Imaging Neuroscience* will also welcome high-quality research focused on replications or reporting null findings. We strongly encourage open sharing of datasets and code.

We also publish Registered Reports, with a scope that is identical to regular articles except for relaxing the restrictions on clinical focus described above. In contrast to regular submissions, Registered Reports undergo a two-stage review process in which the rationale and methodology are evaluated before the research is conducted, and if assessed favourably, the study is then accepted in advance, regardless of the main results. Once the research

<sup>3</sup> <https://janeway.systems/>

<sup>4</sup> [https://en.wikipedia.org/wiki/List\\_of\\_sovereign\\_states\\_by\\_research\\_and\\_development\\_spending](https://en.wikipedia.org/wiki/List_of_sovereign_states_by_research_and_development_spending)

is complete, authors then submit a Stage 2 manuscript that includes the outcomes and conclusions, and the entire programme of work is then published in the journal as a complete article. By deciding which research is published based on theory and methods, independently of results, Registered Reports aim to eliminate various forms of bias that hinder reproducibility and transparency, including publication bias and analytic reporting bias. The best current route to publishing a Registered Report in *Imaging Neuroscience* is via the *Peer Community in Registered Reports* (PCI RR), which coordinates peer review at the preprint stage and then gives authors the option to publish their recommended manuscript without further peer review in a range of PCI RR-friendly journals.<sup>5</sup>

The editorial team comprises individuals with diverse specialties, reflecting the multidisciplinary nature of imaging neuroscience. We also place high value on equity, diversity, and inclusion. We are aiming for balanced representation of gender in the journal leadership; at present, half of the Senior Editors and a third of the Handling Editors are women. We will continue to further improve this and other aspects of diverse representation; as editors rotate off over time, we prioritise recruitment from under-represented groups.

#### OUR VISION FOR THE FUTURE

We have been contacted by editors at other journals who are interested to know more about the process we have been going through. Many are thinking about moving away from for-profit publishers or are aiming to achieve significant APC reduction. This kind of action requires a significant commitment and coordinated effort, starting with open and detailed discussions within an editorial team, followed by discussions with the publisher. One of the factors in this decision is whether editors see an overwhelming strength of feeling in their particular field that

would support a major change—some research areas may be less ready than others. In our case, the editors at *NeuroImage* and *NeuroImage:Reports* had a great deal of input from people in our field over several years, including many researchers refusing to review for or submit their work to journals at for-profit publishers.

We are committed to making *Imaging Neuroscience* a beacon of what academic publishing can be: not only by becoming the top journal in our field, where the best work can be found, but also by embracing the way forward in non-profit publishing. Although we appreciate that commercial publishers need to make some profit to remain viable, we believe that the era of extreme levels of profit made by some publishers is coming to an end.

The neuroimaging community has always been keen to push boundaries and embrace progress. So, as we took this collective leap, we were elated but not surprised by the overwhelming support from the imaging neuroscience community for what we are aiming to achieve. As we already see a steady increase in the number of high-quality papers being submitted, we are confident that the future is bright for *Imaging Neuroscience*—and imaging neuroscience.

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<sup>5</sup> <https://rr.peercommunityin.org/>