

# Twenty-five years of *Nature Neuroscience*



**This month, *Nature Neuroscience* celebrates the 25th anniversary of our first issue. To mark the occasion, we reflect on the past quarter of a century of the journal and the field, and look to the future.**

**W**hen *Nature Neuroscience* launched in 1998, an [editorial in the inaugural issue](#) opened with the question, “Why neuroscience, and why now?” At least to neuroscience lovers such as ourselves, the question now seems almost absurd. Of course neuroscience is a vital field of research, now and for generations to come. Still, the answers supplied in the editorial feel familiar and relevant today: the large size and continual growth of the field, the diversity of topics and techniques, the resulting need for a shared lexicon and forum, and the sense that, “Perhaps more than any other field of biology, neuroscience still has a ‘frontier’ feel to it.”

Those ‘frontiers’ of unanswered questions in neuroscience have shifted in the past 25 years. For example, we have a good appreciation of mechanisms of axon guidance, synaptic plasticity, and sensory transduction. We know relatively less about the relationship between genetic variation and brain phenotypes in humans, the contributions of glia, immune cells, and neurovasculature to brain function, and the neural basis of decision making and consciousness. Discoveries over the past 25 years have been fueled by a breathtaking array of new technologies, including optogenetics, single-cell genomics, gene editing, artificial intelligence and machine learning approaches, human induced pluripotent stem cell and organoid methods, genome-wide association studies, super-resolution

microscopy, imaging of genetically encoded activity sensors, and many others. Neuroscientists now have the ability to observe and manipulate brain gene expression, cell types, circuits, and networks in a way that could only be dreamt of 25 years ago, enabling knowledge to be generated with an unprecedented pace and scope. That said, some research frontiers have seen disappointingly little progress – notably treatments for psychiatric disorders and neurodegenerative diseases – although there’s cause for optimism in these areas.

Along with these transformations in the content of neuroscience research, the culture of the field has also changed. Neuroscience is much more interdisciplinary and collaborative than it once was. Data-driven and large-scale approaches are more commonly used, so studies often begin with a screen or ‘-omic’ approach, rather than with a specific hypothesis, and team science efforts have become permanent fixtures in the research community. Neuroscientists are increasingly adopting an ethos of open and shared science, rather than continuing more siloed or competitive stances. Standards for rigor and reproducibility have been improving, including increased attention to appropriate statistical power, independent validation of key findings, transparent reporting of methods, and pre-registration of study designs. Importantly, we see a positive trend in efforts to ensure that the neuroscience community is diverse, equitable, and inclusive, although there is clearly still a long way to go.

Through it all, *Nature Neuroscience* has remained true to the vision laid out in that first editorial, “to publish a relatively small number of papers of exceptional significance and quality, drawn from all areas of neuroscience.” We are proud of the many groundbreaking discoveries published in our pages, too numerous

to list here, whose success can be measured in multiple ways, including textbooks rewritten, companies launched, young scientists inspired, and new avenues of research opened.

As neuroscience has changed, our journal has also changed over the years. We’ve introduced new content types, including Perspectives, Technical Reports, and Resources. We led the field in [rolling out a checklist](#) for reporting methodological and statistical information, and we [updated it to reflect the changing consensus](#) on how to report specific methodological details to improve reproducibility. We are committed to promoting open science, including by encouraging preprint deposition, mandating data and code availability statements, and [offering open access publication](#).

To celebrate our 25th anniversary, we will feature special content throughout the coming year. In this issue, our current Chief Editor, Shari Wiseman, interviewed the five previous Chief Editors, who [share their stories](#) about the early days of the journal and their reflections on the field. We will also be publishing a series of interviews with established leaders in neuroscience and early- and mid-career researchers with more diverse perspectives. In this issue, we feature [Michal Schwartz](#) and [Nii Addy](#).

We, the editorial team of *Nature Neuroscience*, feel humbled and tremendously honored to be able to serve the neuroscience community and to continue our journal’s legacy of excellence and innovation. The next 25 years in neuroscience will bring discoveries, technologies, and therapies that we can scarcely imagine now, and we look forward to the opportunity to curate, refine, and publicize these findings through our editorial process.

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