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Still going strong

Two decades ago this month, *Nature Physics* published its first issue. We reflect on the past and look into the future.

How did it all begin? More than twenty years ago, *Nature*'s physical sciences team in London was dreaming of *Nature Physics*. Over in the New York office, *Nature* life-science titles — *Nature Genetics*, *Nature Medicine* and others — were thriving. The physicists wanted to play too, so what could be better than a journal modelled on *Nature* but focused solely on the most exciting developments in physics?

Through the 1990s *Nature* had shed the reputation that it 'didn't do physics' and was thriving in many fields, particularly in condensed matter and astronomy. So much wonderful physics research was being submitted for publication, yet the space constraints in a multidisciplinary showcase journal meant that only a small fraction could be published. It seemed that there could be a community and an audience for *Nature Physics* — but if we were to build it, would they come? By 2002, there was a draft proposal for a journal circulating among the *Nature* editors. Although *Nature Materials* got the go-ahead first, *Nature Physics* was next in line.

All *Nature* titles follow the template set by *Nature* itself, but the Chief Editor sets the shape and style of their own launch. For *Nature Physics*, that meant a 'back half' dedicated to primary research that genuinely represented all of physics, not just certain subdisciplines. And it meant a 'front half' inspired by *Nature*'s magazine content, with News & Views and Comment articles, but also — less obviously — columnists and a section devoted to physics-related Books & Arts. It was certainly a challenge for a team of only four editors, but in the course of 2005, the journal started to take shape.

From the first issue in October 2005 onwards, the journal published research, Comments and Reviews on superconductors, superfluids and supernovae, on qubits and melting DNA, on laser fusion and sand piles. We had fun with our Endgame quiz, then Futures essays and Measure for measure; and Mark Buchanan's inaugural column set him on course to notch up a remarkable twenty years of writing for the journal.

The community did come, and *Nature Physics* has grown and evolved with it. Three main trends stand out from the last two decades.

The increasing geographical diversification of the journal's author base (exemplified most starkly by the inexorable growth of excellent research from China) led to the establishment of new editorial outposts in Shanghai and Berlin — the latter now hosting most of the team, rather than London where it all started.

The rise of open access is now reflected by the 30% of authors that currently choose to publish their articles in *Nature Physics* under a Creative Commons license. The availability of an open access option from January 2021 certainly got the community talking — not least because of the costs involved — but funder mandates made this development inevitable, and the journal remains committed to fostering the highest editorial standards, regardless of the publishing model.

Most importantly, physics has itself progressed considerably. Discoveries such as the Higgs boson, quantum advantage and gravitational waves were all made in the past two decades. Like all discoveries, they feel familiar after a while. But the sense of wonder generated by their announcement was keenly felt by the team of editors that worked at the journal.

> **"What will be constant is the mission that *Nature Physics* holds dear: to be both a journal and a magazine, and to excel at each."**

Championing all the sub-fields that make up the discipline of physics is core to the mission of *Nature Physics*, so the editors take pride in handling and publishing the 'little gems' that end up influencing their community in deep and unexpected ways. Occasionally, we found the time to coordinate Insights or Focus issues that dug deeper into areas as wide-ranging as Dark Matter, Quantum Materials and the Physics of Living Systems. Doubtless there will be more to come in the future.

The scope of the journal continues to expand, providing us with more sub-fields to champion as we feature more papers that have a distinct biological flavour, some that examine how physics can inform and improve medicine, and others from the physics education research community that examine not only how to improve physics pedagogy but also the social dynamics of who gets to participate in physics research and why.

So, in this issue we celebrate our first twenty years of service to the physics community by highlighting a Feature that looks back at the impact of the papers that came out in our first issue, both in terms of the science but also what it meant for their authors. Our columnist Mark Buchanan discusses some examples of how physics has advanced in that time in his Thesis.

Looking to the future, the inevitable impact of generative artificial intelligence looms large. It is far from clear how transformative this will be, but it is certain that things will change. One exciting possibility is that the technology (along with other forms of machine learning) may make it easier to spot fraudulent work, thereby increasing the reliability of the scientific literature. But this technology is clearly also a boon for those who wish to spread disinformation, and journals with highly motivated and very human editors will be more important than ever.

However, what will be constant is the mission that *Nature Physics* holds dear to its heart: to be both a journal and a magazine, and to excel at each. In short, to be the best physics journal in the world. We are now the biggest we have ever been, both in terms of the size of the editorial team and in the number of papers that we publish, and that is a perfect platform from which to go from strength to strength.

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