

Boldly go

As *Nature Reviews Physics* takes its first step, publishing its first issue, we outline the journal's scope, aims and dreams for the future. We call on readers, authors and referees to join us on our journey.

The way we do physics changes. Fast. Increasing interdisciplinarity and blurred boundaries between sub-disciplines, big collaborations, big instruments and big data are transforming the traditional research enterprise. But the format and narrative of the scientific paper have hardly changed in the past 350 years. Review articles are a younger and more fluid scientific genre (as described in the [Comment](#) by Roberto Lalli), so they are a good ground for experimenting with new formats. *Nature Reviews Physics* sets out to explore new formats, reflecting the changing needs of the physics community; for example, Technical Reviews, Roadmaps and Expert Recommendations.

In the first issue, we introduce Technical Reviews. These are technical resources overviewing the state-of-the-art capabilities in a subfield, focusing on comparisons of techniques or methods. Three examples illustrate how the format is used for different topics: [atomic force microscopy for mechano-biology](#), [statistical physics of networks](#) and [entanglement certification](#). To this diverse mix we add a traditional Review on [ultrastrong coupling](#).

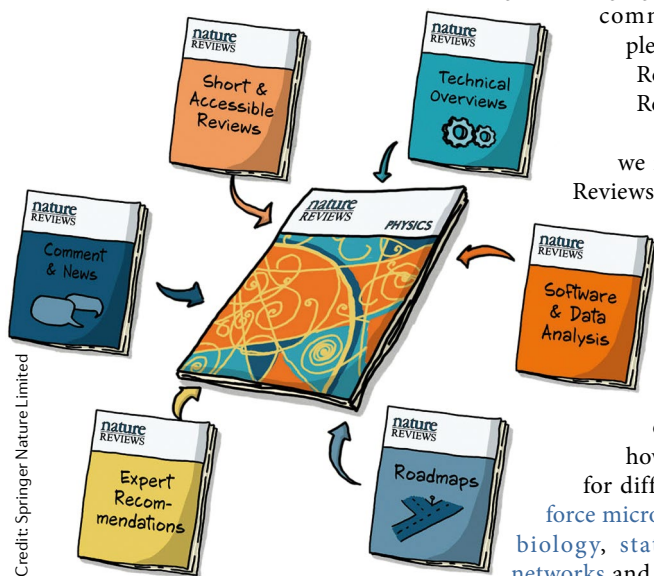
In this issue we also explore how physics looks today. Physics' remit has traditionally been hard to define. In the absence of a rigorous definition of the field, a popular — but hardly illuminating — alternative is 'physics is what physicists do'. But who are the physicists and what do they do? [Federico Battiston and colleagues](#) try to answer these questions by taking a census that offers insights into the size, productivity and impact of different physics sub-disciplines. The picture their study paints is a dynamic one with a continuous migration of people and flow of ideas between different areas of physics. This picture is reinforced by the failure of a static traditional taxonomy of subject

areas to reflect the contemporary physics landscape, as Arthur Smith explains in a [Comment](#). In this context, researchers start to think outside their discipline-specific boxes, as Frank Wilczek points out in a separate [Comment](#) "Today many physicists ... actively look to the others for guidance. And when new ideas appear in one area, the new breed of physicists instinctively consider what they might imply for other, vastly different realms."

Physics and astronomy are among the most computationally intensive and data heavy sciences, and they use large and complex scientific instruments. This naturally leads to a focus on non-traditional research outputs such as software, data and instrumentation. However, general standardized solutions for their description, curation, indexing and distribution are still to be developed. To complicate things further, the size of collaborations in physics and astronomy is rivalled only by genomics. As Battiston et al. show, the big-collaboration culture is reshaping the productivity and impact of the fields. The timescales and publication habits of large collaborations, together with the increased focus on software, data and instrumentation, call for new article formats.

In the coming issues we will introduce Roadmaps and Expert Recommendations. Roadmaps are forward-looking articles focused on the challenges and opportunities in a certain area. They are targeted at long-term projects and big instruments, and are meant to complement technical documentation, offering accessible summaries for non-specialists and identifying problems in which expertise in other areas could lead to opportunities for collaboration. Expert Recommendations are meant to promote good scientific practice by introducing methodological guidelines. With Expert Recommendations we hope to explore issues of benchmarking, verification and validation, which are particularly important for scientific software and data analysis.

Regardless of your field of research, whether you are a theorist or experimentalist, work alone or in a big collaboration, use a small lab setup or a big instrument, we hope you will find something of interest in every issue of the journal. We would love to hear from you, because *Nature Reviews Physics* is an adventure we go on together.



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