

## China

**Editorial** Simon Baker, Benjamin Plackett, Bec Crew, Rebecca Dargie, David Payne **Analysis** Bo Wu **Art & design** Tanner Maxwell, Madeline Hutchinson, Sou Nakamura, Wojtek Urbanek **Production** Ian Pope, Nick Bruni, Kay Lewis, Bob Edenbach, Paul Glaeser **Sales and Partner content** Jolie Wu, John Pickrell, Sabrina Zhi, Grace Sun, Rebecca Pan, Yi Ru, Michael Lee, Nicole Yu, Stella Yan, Sabrina Ma, Rachel Liu **Publishing** Rebecca Jones, Richard Hughes, David Swinbanks.

**Nature Index 2023 China**, a supplement to *Nature*, is produced by Nature Portfolio, the flagship science portfolio of Springer Nature. This publication is based on data from the Nature Index, a Nature Portfolio database, with a website maintained and made freely available at [natureindex.com](http://natureindex.com).

**Nature editorial offices**  
The Campus, 4 Crinan Street,  
London N1 9XW, UK  
Tel: +44 (0)20 7833 4000  
Fax: +44 (0)20 7843 4596/7

**Customer services**  
To advertise with the Nature Index, please visit [natureindex.com](http://natureindex.com) or email [clientservicesfeedback@nature.com](mailto:clientservicesfeedback@nature.com).

© 2023 Springer Nature Limited.  
All rights reserved.

It is only two years since the previous Nature Index supplement on China, but global events and the country's astonishing pace of change means that was long enough to shift the dial on its place in world science. Back in 2021, with the COVID-19 pandemic in full flow, data from the previous year revealed signs of a slowdown in the exponential rise in China's contributions to the high-quality research tracked by Nature Index. After three years of double-digit growth, its adjusted Share had risen by just 1% in 2020. In the two years since, however, normal service has resumed and at a lightning pace; in 2022, China's adjusted Share rose by 3,414, a 21% increase on the previous year.

This surge has been enough to propel China past the United States to become the leading nation for Share in natural-science journals. It represents a watershed moment, as we discuss on page S2. The underlying data, and examples of the ground-breaking research emanating from China, also demonstrate how the nation is now broadening and deepening its scientific capacity in areas – such as environmental science, life sciences and humanities – that it still had major ground to make up a decade ago.

At the same time, there is ample evidence pointing towards a narrowing in terms of China's international research collaboration with Western nations, especially the United States (see page S9). As explained in this supplement's comment article, there are numerous reasons, including political tensions, the pandemic's interruption to scientific networking, and an emphasis on China's researchers having a more domestic outlook (see page S14). Global higher-education trends, meanwhile, point towards China becoming more self-confident in its ability to train the researchers of the future, instead of needing support from Western universities. These trends do not necessarily mean isolation. Indeed, China is forging new links with emerging research nations in Asia and Africa. What is certain is that the centre of gravity has shifted to the extent that whatever direction China takes next will shape science for years to come.

**Simon Baker**  
Editor, Nature Index

*\*Nature Index's signature metric Share, used in this supplement, is a fractional count for an article allocated to an institution, city or country/region, that accounts for the proportion of authors on the article whose institutional affiliation is with that institution or location. Adjusted Share accounts for the small annual variation in the total number of articles in the Nature Index natural-science journals. We point out that the Nature Index provides just one indicator of research performance, and many other factors must be taken into account when assessing the quality of research or institutions.*



Credit: Joey Guidone

## Contents

- S2 China tops Nature Index: what a new milestone means for science**  
Position reflects strengthening expertise across a range of disciplines.
- S6 How China is capturing attention with landmark research**  
From ancient sea species to clues on comets, papers by the country's talented scientists are regularly making headlines.
- S9 Tectonic shift**  
Visualizing research partnerships and trends.
- S11 Favour falls with study abroad as Chinese students stay local**  
Pandemic and geopolitics among the factors as fewer students opt to move overseas.
- S14 Will China stay centre-stage for international research collaboration?**  
As global research emerges from the fog of the pandemic, new influential networks are being formed.
- S15 The tables**  
How the 100 leading institutions stack up.