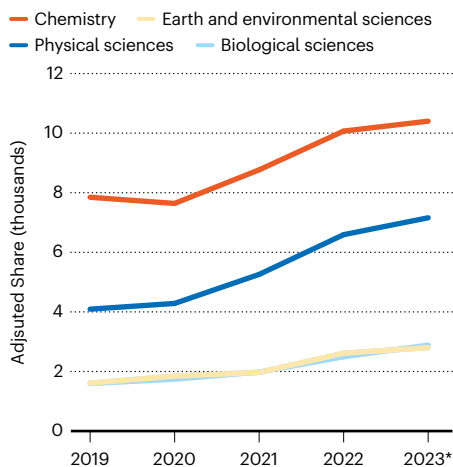


# Room to grow

China's strength in chemistry and physical sciences has propelled it to the top of the Nature Index. But there is untapped potential in other subject areas, which could allow China to reach new heights. **Analysis by Bo Wu. Infographic by Simon Baker, Bec Crew and Tanner Maxwell.**

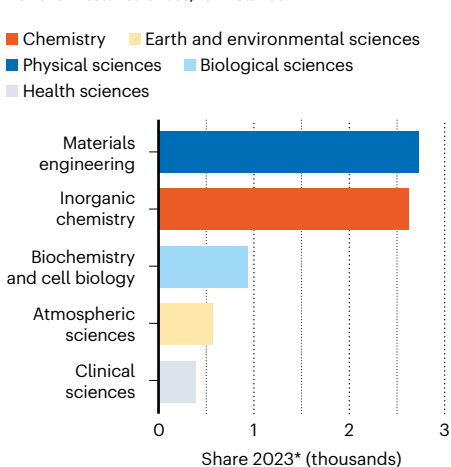
## STRONG POTENTIAL

Chemistry and physical sciences are clear areas of focus for China, accounting for 85% of the country's total Share in the Nature Index in 2023\*. But output in other subjects is growing fast. China's adjusted Share in biological sciences increased by 15.8% from 2022 to 2023\* — the highest percentage among the four natural-sciences subjects shown below.



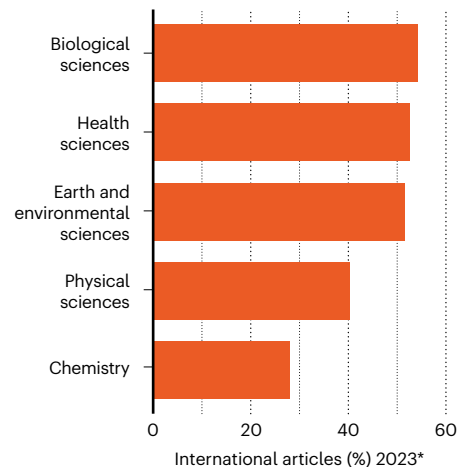
## TOPIC TRENDS

The top fields of research (FORs) in each of the five subjects tracked by Nature Index are shown. The most dominant FORs across the respective areas are biochemistry and cell biology, at 36% of biological-sciences output, and materials engineering, which represents 34.7% of physical-sciences output. FORs can relate to more than one subject: biochemistry and cell biology is also among the top five FORs for health sciences, for instance.



## LOOKING OUTWARDS

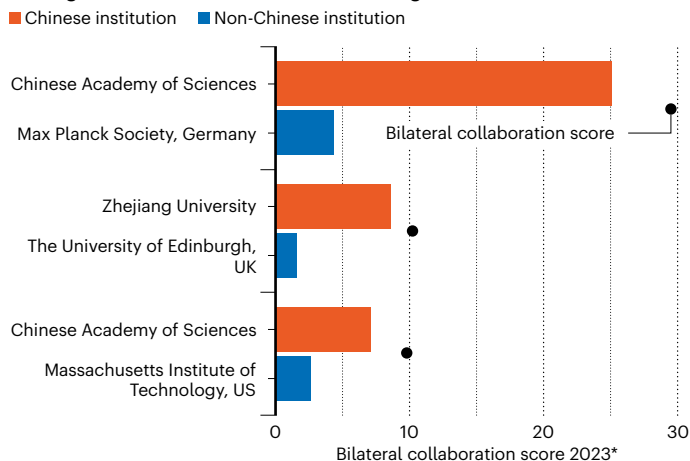
China's areas of relative weakness have the highest percentage of internationally collaborative papers. For most subject areas, China's international-article percentage was lower than every other leading country in the Nature Index in 2023\*. In biological sciences, however, it is 54.1%, a higher proportion than the United States (52.7%).



## STRENGTH IN NUMBERS

China might be more outward-looking in its approach to biological sciences research, but it still dominates its top three international partnerships in the subject. A different dynamic can be seen in its collaboration with Harvard University in Cambridge, Massachusetts, which has more than double the collaboration score (6.39) of the Chinese Academy of Sciences in Beijing (3.02), in the fourth-ranked international partnership in the subject (not shown).

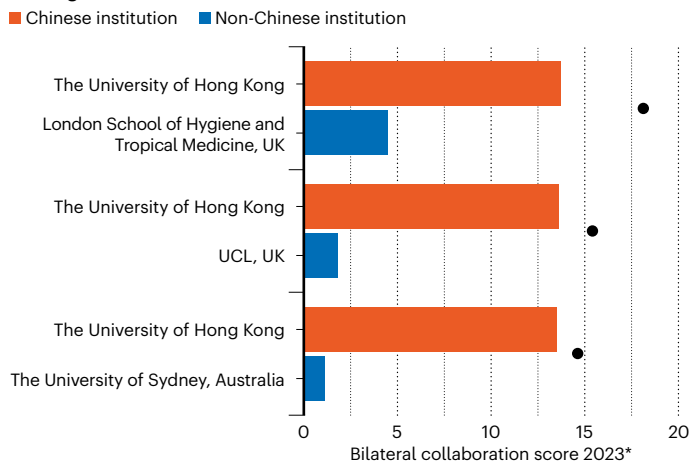
### Leading institutional collaborations in the biological sciences 2023\*



## CONCENTRATED EXPERTISE

It's no surprise that China's largest research institute, the Chinese Academy of Sciences, forms five of the country's ten leading international partnerships in biological sciences. What is striking is the strength of the University of Hong Kong — a much smaller institution — which forms the top three international health-sciences collaborations. Among China's top international collaborations in health sciences and biology, the University of Sydney is the only institution from outside Europe and the United States.

### Leading institutional collaborations in the health sciences 2023\*



\*Data for 2023 represent the period August 2022–July 2023.