



SCIENCE MAPPED OUT

In a special issue, *Nature* examines the changing global landscape of research.

A fundamental shift is taking place in where, and by whom, science is being done. Once, a succession of science superpowers were dominant: France, Germany, the United Kingdom and the United States. Today, more nations — from China and India to Singapore, Brazil and South Korea — are taking their place at the high table of research. National boundaries are being transcended by networks of collaborators and researchers who are much more mobile than in the past. Academics are moving to where the funding and facilities are. As Rajika Bhandari of the Institute for International Education puts it: “Knowledge generation and research is really a border-less enterprise”.

This special issue of *Nature* looks at how this movement of people and ideas will change how science is done, how it is funded and the questions that it addresses. A News Feature explores data on migration and explains that ideas of ‘brain drain’ and ‘brain gain’

are being replaced by ‘brain circulation’, in which scientists move more fluidly around the world (see page 326). Analysing data on co-authorship, a Comment on page 335 charts the rise of collaboration networks — in Asia, Africa, the Middle East and South America — and challenges the traditional science heavyweights to keep up.

But ideas and talent could still circulate more freely, both within and between nations. On page 331, eight leaders of institutes and research programmes worldwide outline the steps that must be taken to raise the scientific bar in their countries. And on page 337, Subra Suresh, head of the US National Science Foundation in Arlington, Virginia, calls for greater cross-border cooperation and the pooling of resources to address global challenges such as climate change, pandemics, earthquakes, nuclear catastrophes, water shortages and malnutrition. Science must go truly global if it is to equip us for life on our changing planet. ■ **SEE EDITORIAL P. 309**



THE NEW MAP OF SCIENCE

The changing global landscape of research. nature.com/global