

# nature INDEX 2015

## CHINA

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A year has passed since we published the first Nature Index supplement about China, and the data accrued in that time reveal another remarkable period for science in that country. In the past 12 months, the growth of China's output in the index has dwarfed that of any other nation.

In this supplement, we analyse three years of research output from China — from 2012 to 2014 — providing a telling snapshot of the country's emergence as a scientific superpower, a phenomenon watched with intense interest around the globe. The articles in this index focus on cities with particularly interesting stories to tell.

Nationally, China's weighted fractional count (WFC) rose 37% between 2012 and 2014, and growth in this metric was notably high in Hangzhou, Xi'an and Chengdu (see 'At the very heart of progress', S179). Further explanation of how WFC and other metrics are calculated can be found in the guide to the index on page S190.

Measuring output by WFC reinforces the status of Beijing, Shanghai and Nanjing as the dominant scientific centres, which our feature article on page S176 explores.

In light of China's ongoing drive to use science and technology to move away from its economic reliance on traditional manufacturing, we also examined the nation's industry hubs.

The index shows that cutting-edge life science has matured quickly in Shenzhen, Beijing and Wuhan. In these cities front-line science is yielding practical outcomes and bringing returns that will stoke the fires of the Chinese economy. The city of Shenzhen, in particular, has experienced a remarkable transformation into a research-based industry hub and companies based there now account for almost half of the country's international patent filings (see 'The changing face of industry', S184).

As China cements its role as the world's second largest producer of high-quality research papers, it is gaining momentum from academic collaborations. Nature Index data reveal that Hong Kong, Hefei and Tianjin are active in the pursuit of international or domestic associations. All three recorded a high collaboration score, a metric of institutional collaboration in terms of co-authorship of articles in journals covered by the index.

Each year, the Nature Index presents a more comprehensive picture of the patterns driving research. China's scientific ascension is likely to continue, a phenomenon that the index, and future China-focused supplements, will be well placed to follow.

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## CONTENTS

- S166 BUILDING A POWERHOUSE**  
Cities across the land are making a mark in every capacity
- S170 THE RAPID RISE OF A RESEARCH NATION**  
Huge increase in quality research parallels the economic boom
- S176 THREE GIANTS TIGHTEN THEIR GRIP**  
Beijing, Shanghai and Nanjing continue their dominance
- S179 AT THE VERY HEART OF PROGRESS**  
Chengdu, Hangzhou and Xi'an each find their own niche
- S184 THE CHANGING FACE OF INDUSTRY**  
Research leads to bold new horizons for manufacturing hubs
- S187 ALLIANCES FOR SCIENTIFIC SUCCESS**  
Partnerships old and new reap rich rewards of collaboration
- S190 HOW TO USE THE INDEX**  
A guide to getting the most out of Nature Index data
- S191 THE TABLES**  
How China's many institutions stack up

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