

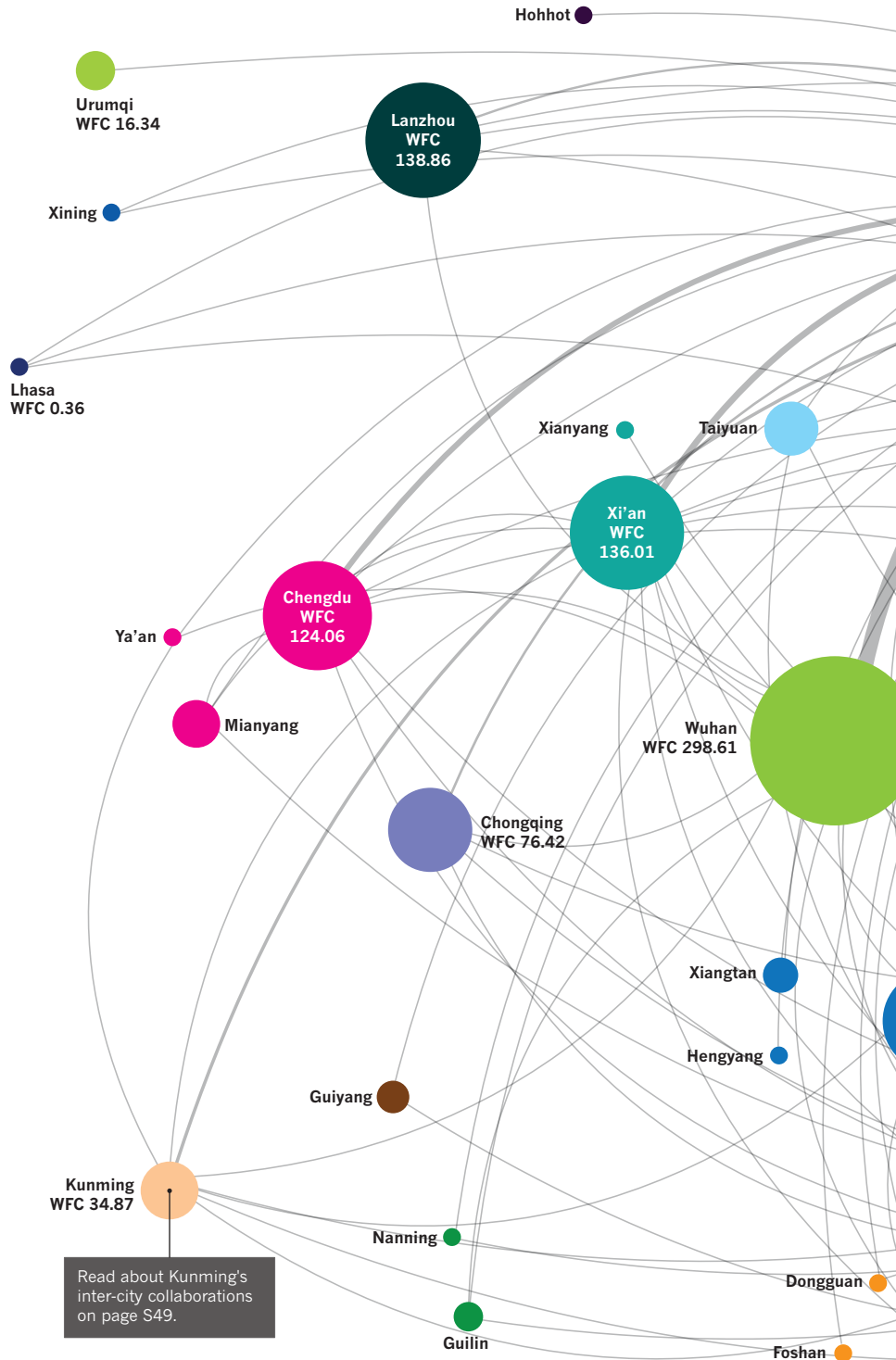
# INTER-CITY CONNECTIONS

The Nature Index tracks collaborations by examining the author affiliations on papers published in top journals. Collaborations between pairs of Chinese institutions comprise a much greater contribution to these journals than partnerships between a Chinese institution and a partner in another country (see the tables page S73).

This map shows two aspects of Chinese science. Firstly, it reveals the high-quality research output of mainland Chinese cities in 2016. Bubbles represent the contribution of a city's institutions to journals included in the index, a measure known as weighted fractional count (WFC) (see The Guide, page S72).

Secondly, the map also shows the number of partnerships institutions formed with counterparts in other cities last year. Line thickness indicates the number of partnerships that formed between institutions in those cities. In this context, a partnership occurs when researchers from one Chinese city co-author papers in index journals with peers from another Chinese city. Only connections between cities in mainland China comprising at least five bilateral institutional partnerships are shown on the map.

Institutions in Beijing had the highest contribution to the index, as well as forming the largest number of partnerships (2,780) last year. Shanghai and Nanjing followed, both in terms of contributions to the index and number of partnerships. ■



Read about Kunming's inter-city collaborations on page S49.

DATA ANALYSIS BY LARISSA KOGLECK

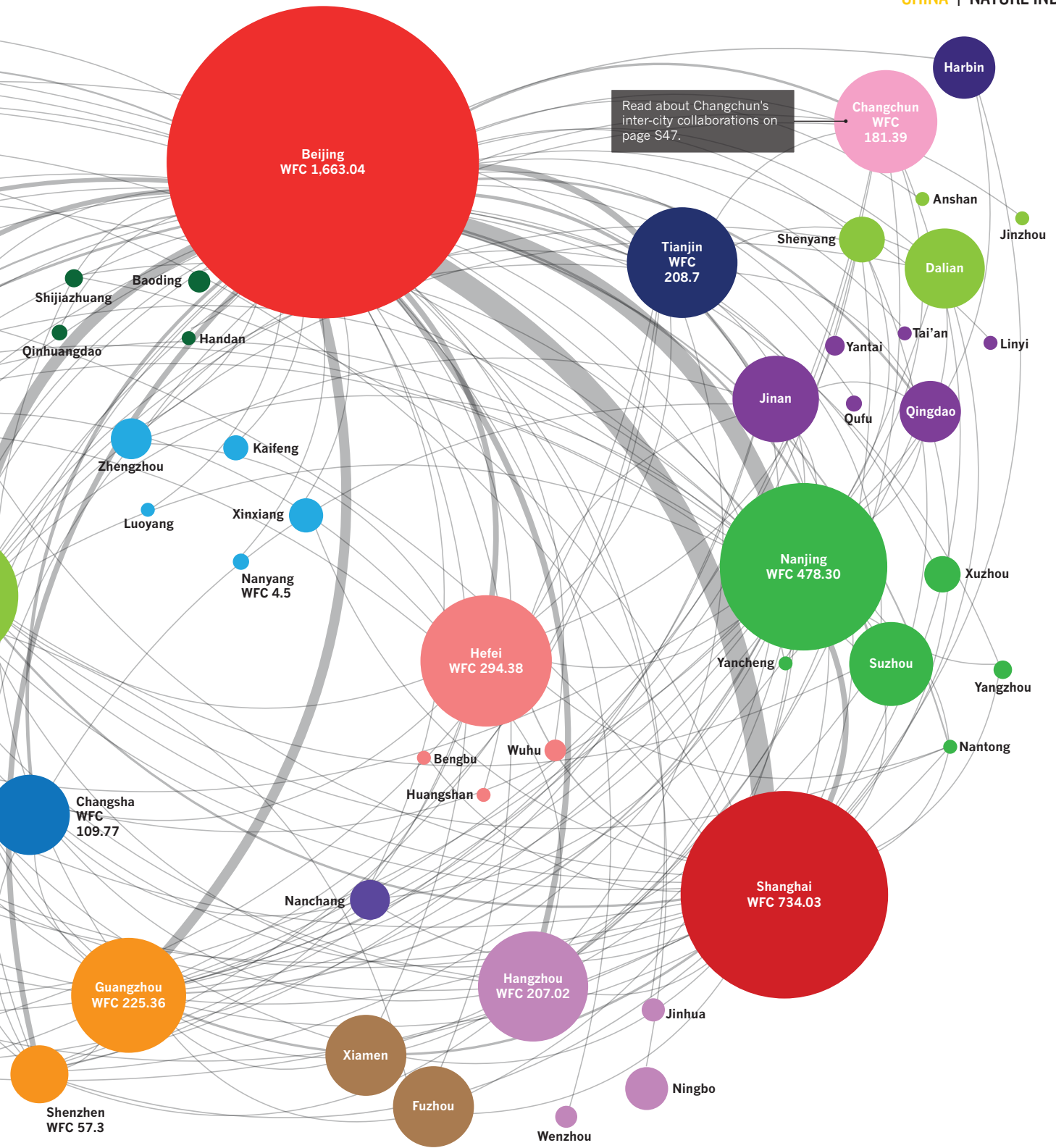
LEGEND

Connecting lines are bilateral institutional partnerships (minimum 5, maximum 329)

Bubbles are sized by city WFC and colour coded by province

Disclaimer: Graph only includes root institutions except CAS, which is split into its constituent top level institutes. Only the main campus of an institution is counted, e.g The output of Peking University's campus in Shenzhen is included in the main institution's output in Beijing.

NATURE  
Explore this map in more detail, visit:  
[natureindex.com](http://natureindex.com)



**TOP 10 CITY COLLABORATIONS**

Beijing dominated the city-to-city collaborations in mainland China in 2016.

