

nature INDEX 2018 RISING STARS

NATURE, VOL. 561, ISSUE NO. 7723 (20 SEPTEMBER 2018)

THE FAST TRACK

If ideas are the flames burning from the torches of discovery, scientists are the hands that hold them. Creative minds uphold the scientific enterprise.

In recognition of their leading role, Nature Index 2018 Rising Stars profiles 11 up-and-coming researchers in the natural sciences (S10). These scientists are highlighted based on their recent contributions to the 82 journals tracked by the Nature Index, and their standing in the League of Scholars Whole-of-Web ranking, which assesses individuals on their research quality and impact, industry links and co-authorship networks. Their work ranges from analysing peatland and permafrost, to developing wearable electronics.

The researchers have all demonstrated excellence, and the passion, ambition and resilience to rise higher — essential for surviving in academia. As competition for jobs intensifies, researchers are expected to do more earlier in their careers, from publishing high-quality research to achieving impact, attracting funding, teaching, and cultivating international connections.

This supplement also tells the stories of institutions (S26), countries and regions (S20) that have exceeded expectations over the past three years in their contribution to the Nature Index. The ones we have selected as rising stars experienced exceptional absolute and percentage growth in their output of high-quality research, either across the breadth of subjects in the natural sciences, or in specific areas. As always in the Nature Index, our primary quantitative measurement is fractional count (FC) — a metric that accounts for the relative contribution of each author to an article. All FC figures are adjusted to 2017 levels.

A section on young universities explores their progress in the research world, achieved without the years of experience of established competitors (S30). We expect to see more of these high-flying contributors to the Nature Index, in reports of scientific inquiry and the testimonies of social change.

Smriti Mallapaty
Senior editor, *Nature Index*

The world at their feet



S10 The newcomers making their mark in science across the disciplines.

Challenger states

S20: Strength in different sectors, subjects, and regions contributes to national success.

Discovery relies on strong support staff

S24: A lack of trained administrators is holding African scientists back.

Movers and shakers

S26: The most improved institutions in the Nature Index 2015–2017.

Green shoots

S30: The young universities

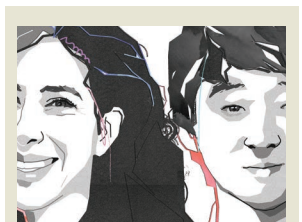
whose growth in high-quality research surpasses their peers.

Predicting scientific success

S32: Even sophisticated, data-driven models of academic careers have trouble forecasting the highs and lows.

The tables

S35: The world's institutions ranked by output rise.



PADDY MILLS

ON THE COVER

Cognitive neuroscientist, Sarah Garfinkel, (left) and system engineer, Jaemin Kim, are bringing fresh ideas to their fields.

EDITORIAL: Catherine Armitage, Smriti Mallapaty, Rebecca Dargie, Herb Brody, Stephen Pincock **ANALYSIS:** Aaron Ballagh, Bo Wu, Willem Sijp **ART & DESIGN:** Tanner Maxwell, Madeline Hutchinson, Ruffi Lu, Mohamed Ashour, Wojtek Urbaneck **WEB DEVELOPMENT & DESIGN:** Bob Edenbach, Olivier Lechevalier, Roberto Espinoza, Naomi Nakahara, Erika Suzuki **DATA QUALITY:** Jörn Ishikawa, Yuxin Wang, Paul Glaeser, Megha Katyal, Topsy Jerald, Fabiha Shaikh, Rasika Zilpelwar **PRODUCTION:** Kay Lewis, Karl Smart, Ian Pope, Nick Bruni **MARKETING:** Stacy Best Ruel, Angelica Sarne **PROJECT MANAGEMENT:** Rebecca Jones, Chris Gilloch, Kazuki Kurebayashi, Sharon Wang **SALES:** Helen Hill, Janet Cen, Olaitan Fakinlede, Maki Ishikawa, Neil Macmillan, Nichole Yu, Stella Yan, Tommy Yim **ART DIRECTOR:** Kelly Buckheit Krause **PUBLISHING:** Nick Campbell, Richard Hughes, David Swinbanks.

NATURE INDEX 2018 RISING STARS

Nature Index 2018 Rising Stars, a supplement to *Nature*, is produced by Nature Research, the flagship science portfolio of Springer Nature. This publication is based on data from the Nature Index, a Nature Research website maintained and made freely available at 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/client-services-feedback@nature.com
Copyright © 2018 Macmillan Publishers Limited, part of Springer Nature.
All rights reserved.