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ISR Data and Rankings Masterclass Asia Pacific

Duncan Ross Chief Data Officer THE

SCHMIDT SCIENCE FELLOWS





Why interdisciplinary science?











How can we get there?

We need to identify ways to encourage greater support, better infrastructure, and the right incentives and rewards for interdisciplinary science to help break down the silos that have grown up around the disciplines







How can we get there?

Interdisciplinary Science Rankings Powered by III





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Our philosophy for the Rankings

- Step-wise development
- Engagement with broad range of stakeholders
- Iteration and co-creation of metrics and data collection
- Commitment to a dialogue with the sector
- Transparent metrics









Our aims for the Interdisciplinary Science Rankings

- To recognize, incentivize, and celebrate interdisciplinary science
- Provide the university sector with the data to measure and benchmark interdisciplinary achievement
- Recognize and reward universities leading on support for interdisciplinary science
 Promote best practices and incentivize
- Promote best practices and incent change
- Develop new measures and metrics for interdisciplinary science







THE's Ranking Family

RESEARCH



Focus: research output, research quality, research collaboration, reputation + more

Participation rules: 1,000+ publications over 5 years, teach undergraduates across a range of subjects





IMPACT & SUSTAINABILITY



Times Higher Education
Impact Rankings



Focus: research, teaching, stewardship and outreach against the UN's 17 Sustainable Development Goals

Participation rules: all UG or PG higher education institutions





Insights

Researchers working across disciplines

> Scope of interdisciplinary research

Demand from students and faculties

Culture









Methodology







How to identify IS research?

- In Scopus every publication is tagged with a set of subjects (or "subfields") and relevance scores e.g. {'Computer Science': 0.3, 'Biology': 0.7}
- We can format these scores into a vector S 0 0.3 0 0 0.7 0 0 0
- Matrix A which counts that co-occurrence of subjects can be defined as

A =

- Let D be the Distance matrix. $D_{u,v} = No$
- The IS score of the document is

 $S^{\frac{1}{2}}$

 A publication is considered IS if its IS sco publications





$$\sum_{i} S_i^{\frac{1}{2}T} S_i^{\frac{1}{2}}$$
$$orm(A_u - A_v)$$

$$\frac{1}{2}D(S^{\frac{1}{2}})^T$$

• A publication is considered IS if its IS score is in the top 25% percentile of all eligible



Introducing Interdisciplinary Science Rankings 2025



Impact Rankings

Science Rankings







556 / 462









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Interdisciplinary



World University Rankings





















Country/region Representation









Country/region Representation – Asia Pacific

ISR 2025 - Asia Pacific	
Japan 33	Indonesia 26
	Thailand 14









Global Top 10

- 1 Massachusetts Institute of Technology
 - 2 Stanford University
 - **3** National University of Singapore
- **Caltech** 4 California Institute of Technology
 - Duke 5 Duke University
 - 6 University of Minnesota
 - **4** 7 Wageningen University & Research
 - **UCSB** 8 University of California, Santa Barbara
 - 9 Nanyang Technological University, Singapore
 - 10 University of Michigan-Ann Arbor

Interdisciplinary Science Forum





Regional Highlights

Europe

LatAm

54 National Autonomous University of Mexico =57 University of São Paulo 63 Pontificia Universidad Católica de Chile =84 Universidade Estadual Paulista (Unesp) 123 Federal University of São Carlos

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7 Wageningen University & Research **12 Technical University of Munich** 19 École Polytechnique Fédérale de Lausanne =30 Politecnico di Milano APAC 34 University of Barcelona

Africa

- **39 Cairo University**
- 67 Mansoura University
- 73 Covenant University
- =93 American University in Cairo
- 97 Alexandria University

- **3 National University of Singapore**
- 9 Nanyang Technological University, Singapore
- **13 University of Hong Kong**
- 16 Fudan University
- 21 National Taiwan University (NTU)



Inputs vs Outputs



Africa
 Asia
 Europe
 North America
 South America





Inputs vs Outputs



Taking Process into Consideration





Inputs+Process vs Outputs

Inputs + Process



How is the APAC different?







Country/region level performance – ISR vs WUR







Which countries/regions are unperforming their potential?



Inputs + Process





country/region

- Australia
- Hong Kong
- Indonesia
- Japan
- Mainland China
- Malaysia
- South Korea
- Taiwan
- Thailand



Quality vs Quantity



quantity





country/region

- Australia
- Hong Kong
- Indonesia
- Japan
- Mainland China
- Malaysia
- South Korea
- Taiwan
- Thailand



Perception vs Reality



Outputs ex Reputation





country/region

- Australia
- Hong Kong
- Indonesia
- Japan
- Mainland China
- Malaysia
- South Korea
- Taiwan
- Thailand



Case study – MIT Koch Institute

- Bringing together more than 1,000 biologists, biological, chemical, mechanical, and materials science engineers, chemists, computer scientists, clinicians, and others.
- A building design and community programs that encourage cross-pollination among scientists and engineers in shared research and social spaces.
- Its central location, situated where MIT's campus meets Cambridge's biotechnology hub in Kendall Square, facilitating collaboration with academic, clinical, and industry partners.
- Robust research centres, training and funding programs, and cutting-edge shared support facilities designed to help researchers translate their ideas into discoveries.







More information

analysis-2025-interdisciplinary-science-rankings



GLOBAL TRENDS IN INTERDISCIPLINARY RESEARCH

An Analysis of the 2025 Interdisciplinary Science Ra

Novembe 2024

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https://www.timeshighereducation.com/content/global-trends-interdisciplinary-research-

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How to participate

- New institutions Register with us
 - Authorize a member of staff to provide data for your institution
- Registered institutions will receive notification for data submission soon. Data collection starts on 13 Jan 2025
- For general queries, please email interdisciplinary@timeshighereducation.com









Eligibility Criteria

- Must submit data for THE World University Rankings
- Must declare at least one science subject as applicable
- Must publish at least 100 ISR publications within a 5-year window
- Must have at least 50 academics working in science subjects
- Must not have more than two missing metrics
- Must not be in THE's exclusion list









Changes in 2026

Social science disciplines

Science disciplines





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Clinical and health disciplines



Thank you for joining us

