

## INTERDISCIPLINARY FUTURES

Global Approaches and Insights from the ISR 2026

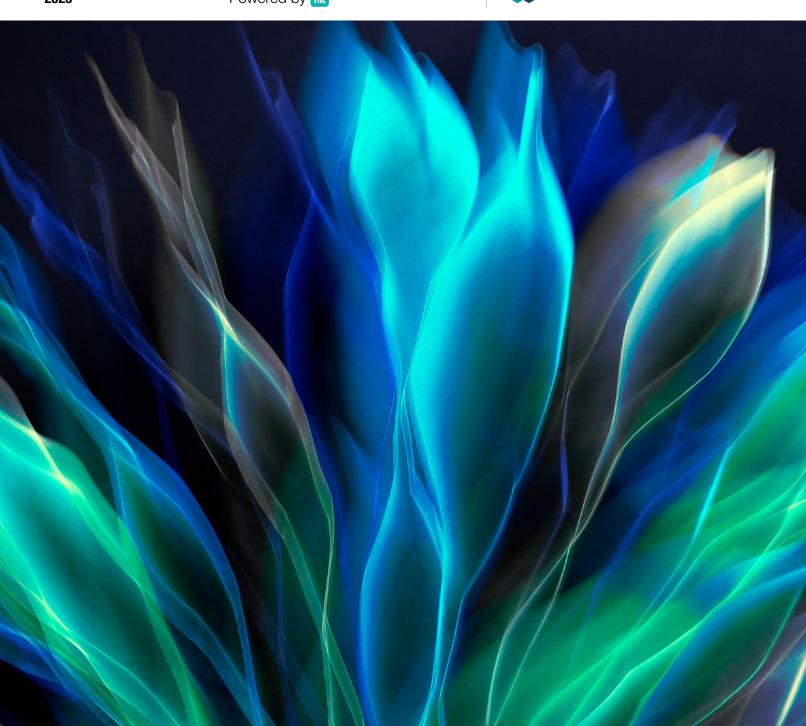
**Interdisciplinary Science Rankings 2026** 

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November 2025



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## **EXECUTIVE SUMMARY**



The Interdisciplinary Science Rankings (ISR) 2026 highlight how universities worldwide are deepening their commitment to interdisciplinarity—strengthening established systems while enabling new entrants to build capacity and impact. Participation expanded to 911 ranked institutions across 94 countries—a 22% increase from the previous edition—reflecting the growing recognition that addressing global challenges such as climate change, public health, and artificial intelligence advances requires integrated, crossdisciplinary approaches.

#### **Key Findings and Global Trends**

The 2026 results show a clear upward trajectory in interdisciplinarity worldwide. While high-income systems- particularly universities in the U.S. continue to lead, representation and improvement across universities from upper- and lower-middle-income countries signal a broadening global base. Smaller and coordinated systems such as Singapore and Hong Kong achieved outstanding performance through focused investment and collaboration; while rapidly transforming systems such as India, Egypt, Saudi Arabia, and Pakistan have seen more ranked universities in 2026. and experienced a higher median overall score as compared to ISR 2025. Within this group, Saudi Arabia increased the most in its median, advancing rapidly through policy alignment and targeted funding set out by their Research, Development, and Innovation Authority.

#### **Key Strategic Directions from ISR 2026**

Drawing on ISR 2026 data analysis, qualitative interviews with university leaders, and institutional case studies, the following outline key recommendations for universities seeking to strengthen interdisciplinarity:

- 1. Integrate interdisciplinarity into core institutional strategy. Sustained progress occurs when interdisciplinarity is embedded across research, education, and engagement. Developing the next generation of researchers through investment in interdisciplinary undergraduate and doctoral programs is also key to building a lasting culture of interdisciplinarity. Massachusetts Institute of Technology (MIT) has structural mechanisms that embed interdisciplinarity into both education and research. These include dedicated labs and sandboxes designed for cross-disciplinary collaboration, as well as joint degrees and integrated research tracks that combine multiple fields for students— a testament to MIT's position as the highest-ranked institution in ISR 2026.
- 2. Tailor approaches to context. Large, resourcerich universities and smaller, coordinated systems
  succeed through different models—cluster hiring
  and large-scale centers at Stanford University and
  Duke University, versus targeted investment and
  joint faculty appointments at Nanyang Technological
  University, Singapore (NTU) and City University of
  Hong Kong (CityUHK).
- 3. Recognize interdisciplinarity in promotion and tenure. Explicitly valuing interdisciplinary research in evaluation and advancement criteria is essential to embed collaboration institutionally. Flexible appointments, recognition systems, and doctoral co-supervision—exemplified by Politecnico di Milano, Polytechnic University of Turin, and the University of Turin—further support this shift.

- 4. Use targeted investment to catalyze scale. Programs like Duke's seed-to-scale funding pipeline and CityUHK's strategic research funds demonstrate how modest internal grants can leverage major external support.
- 5. Deepen partnerships and curricula integration. Cross-sector collaboration and problem-driven education— exemplified by initiatives like Technical University of Munich (TUM)'s Tomorrow Factory, which brings students and industry together to codesign solutions—will be essential to sustaining interdisciplinarity into the next decade.
- **6.** Achieving Excellence and Visibility. Strengthen recognition of interdisciplinary work through openaccess dissemination and strategic communication to amplify influence and encourage collaboration.
- 7. Leverage ISR as a strategic guide.
  Beyond benchmarking, the ISR
  framework can help universities identify
  strengths, gaps, and priorities—
  supporting institutions that seek to build
  interdisciplinary capacity and culture.

The evidence from ISR 2026 affirms that interdisciplinarity has become a strategic priority worldwide. Universities that align structures, incentives, and partnerships around integrated research and learning are best positioned to lead the next generation of global knowledge, innovation, and impact.

INTERDISCIPLINARY FUTURES SECTION 1

This report builds on the foundation of the Times Higher Education (THE) 2025 Interdisciplinary Science Rankings (ISR), co-developed with the Schmidt Science Fellows. Interdisciplinary science has become a defining approach in modern academia, offering transformative ways to tackle complex global challenges such as climate change, public health, and technological disruption.

Launched in 2024, the ISR framework was developed in consultation with global university leaders to assess interdisciplinarity across three key pillars:

Figure 1

Three Key Pillars of the ISR Framework

#### METRIC PILLARS

#### **INPUTS**



The resources that enable interdisciplinary research, such as funding and partnerships.

#### **PROCESSES**



The structures and incentives that support interdisciplinarity, including policies, facilities, and administrative systems.

#### **OUTPUTS**



The results and impact of interdisciplinary research, measured through publications, citations, and reputation.

For the ISR 2026, 911 institutions worldwide were ranked, representing a 22% increase in ranked institutions compared to the 2025 ISR — the inaugural edition launched in November 2024. This strong level of engagement reflects three key trends. First, the growing recognition of interdisciplinary research as central to both academic excellence and real-world impact. Second, rapid advances in artificial intelligence are further catalyzing the need for cross-disciplinary collaboration, making the inclusion of social sciences and clinical & health studies in this year's rankings especially timely to ensure human, ethical, and societal perspectives remain integral to innovation. Third, the increased number of participating institutions demonstrates that universities increasingly view the ISR not only as an evaluation and benchmarking framework, but also as a supportive mechanism for developing and strengthening their interdisciplinary research capacity.

This report explores the evolving role of interdisciplinarity in higher education. It presents key findings from this year's ISR results, highlights examples of institutional success, and draws on literature, sector perspectives, interviews with academic leaders, and case studies showcasing innovative global approaches to advancing interdisciplinarity.



INTERDISCIPLINARY FUTURES SECTION 2



Over recent decades, universities have moved from "Interdisciplinarity 1.0" to "2.0" (Balleisen, 2024)¹—from constructing facilities to designing collaborative spaces, from commercializing research to cocreating with industry, and from isolated programs to integrated, problem-driven curricula supported by cluster hiring and strong administrative frameworks.

## 1. From Physical Facility to designing Collaborative Space

Physical infrastructure is a critical foundation for interdisciplinary research, but its impact depends on intentional design. As Pryor and Steinberg<sup>2</sup> note, facilities foster collaboration and innovation only when guided by a clear vision, strategic occupant selection, and adaptable layouts. Stanford's ChEM-H & Neurosciences complex (2019)<sup>3</sup> embodies this approach with open "living room" areas, shared seminar rooms, and informal gathering spaces to promote unplanned interaction, while Yale's reimagined Kline Tower (1966; reopened 2023)4 uses open collaboration zones, interconnecting staircases, and shared event spaces to link researchers across departments.

Similarly, ETH Zurich has created purposebuilt facilities to foster interdisciplinary collaboration. The Student Project House<sup>5</sup> and its student-led Makerspace provide tools, coaching, and space for prototyping, while the Life Science Lab enables students from any discipline to explore life sciences through hands-on projects.

The University of Turin's "Butterfly Area" campus<sup>6</sup> hosts over 300 firms alongside students and researchers in agri-food, biotech, and sustainability, embodying a company-on-campus model that will accommodate 10,000 students, 1,000 researchers, and 20 spin-offs. These examples mark a shift from merely constructing facilities to deliberately designing spaces that enable interaction.

<sup>&</sup>lt;sup>1</sup> https://interdisciplinary.duke.edu/resource/challenges-building-interdisciplinary-ecosystems-research-universities/

https://www.srainternational.org/blogs/srai-jra2/2023/10/18/making-interdisciplinarity-concrete-views-from-lea

<sup>&</sup>lt;sup>3</sup> https://chemhneuro.stanford.edu/about?utm

<sup>&</sup>lt;sup>4</sup> https://news.yale.edu/2023/09/29/reimagined-kline-tower-promotes-connections-collaboration

<sup>5</sup> https://ethz.ch/students/en/studies/student-project-house. html#:~:text=The%20Student%20Project%20House%20is,Events

<sup>&</sup>lt;sup>6</sup> https://butterflyarea.unito.it/en/home-english/

## 2. From Commercialization to Co-Creation with Industry

Traditional models of research commercialization are giving way to new forms of co-creation as universities respond to global challenges such as climate change, AI, and public health. Addressing these issues requires cross-sector collaboration and shared problem definition with industry and society.

INTERDISCIPLINARY FUTURES

The Technical University of Munich (TUM) exemplifies this shift through long-term partnerships with companies like BMW and Siemens, featuring co-funded professorships and shared research infrastructure. These collaborations advance fields such as automated driving and quantum computing while strengthening Germany's innovation ecosystem.

At Purdue University West Lafayette, research problems are often defined jointly with industry and government partners, ensuring outcomes in areas such as health sciences, environmental engineering, and AI ethics are practical and readily adoptable.

Similarly, the National University of Singapore's Sustainable Futures initiative (launched in 2025) unites researchers, industry, and government to co-develop mission-driven solutions in low-carbon energy, urban resilience, and nature-based climate strategies.<sup>7</sup>

## 3. Cluster hiring, staff funding and supportive administrative framework

Cluster hiring strengthens institutional excellence by fostering collaboration, enriching teaching, engaging communities, and advancing diversity. The USU/APLU Advisory Committee identifies success factors such as clear diversity goals, early leadership buy-in, and recognition in tenure and promotion.<sup>8</sup>

UC Berkeley's initiative concentrates faculty in seven socially impactful areas—including AI, inequality, democracy, and climate equity—drawing from disciplines such as law, engineering, and public health to promote cross-field collaboration. Duke University has used cluster hiring to expand capacity in AI, nanomaterials, and climate science, reinforcing strengths in emerging areas like quantum computing. Similarly, CityUHK recruits thematic groups for tenure-track roles in fields such as climate modelling and AI, encouraging collaboration across data science, law, and neuroscience.<sup>9</sup>

Sustained funding, adapted evaluation systems, and senior management-level coordination—such as Duke's Office of Interdisciplinary Studies—are critical to ensuring cluster hiring drives lasting, diverse, and interdisciplinary impact.

## 4. From Isolated Programs to Integrated, Problem-Driven Curricula

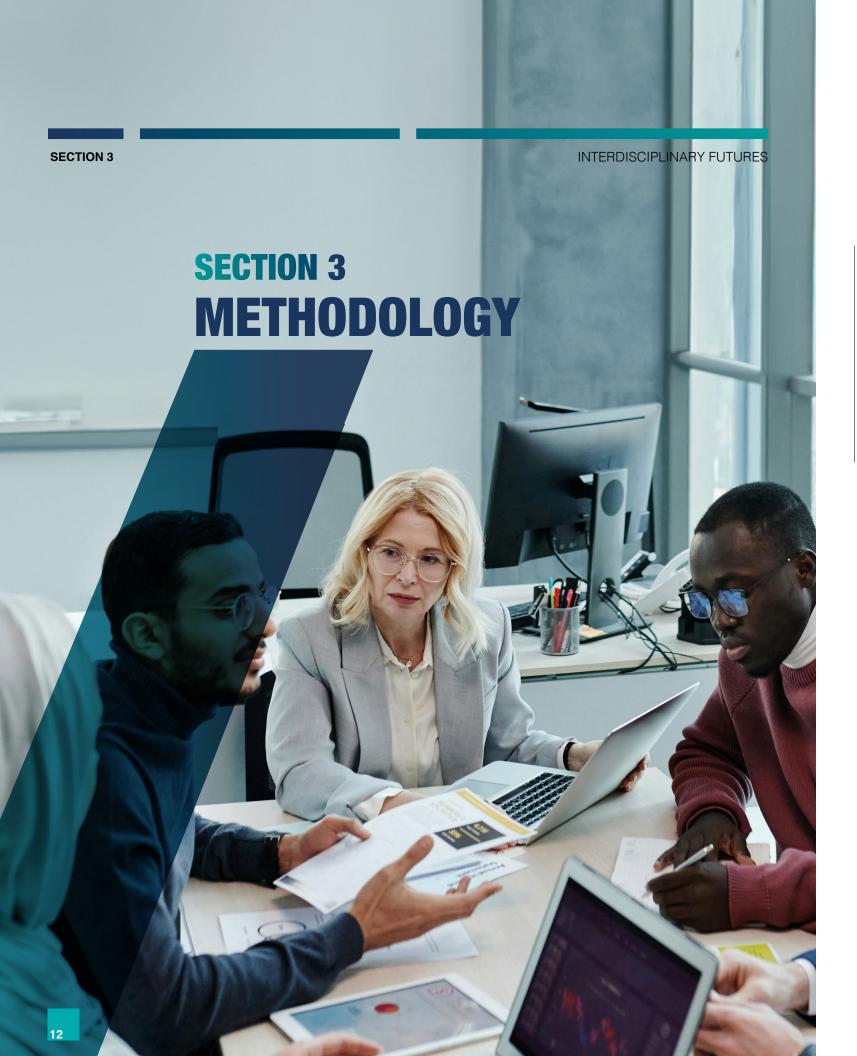
Universities are shifting from standalone interdisciplinary programs to vertically integrated, problem-driven models engaging students at all levels with external partners. Initiatives such as Duke's Bass Connections, Georgia Tech's Vertically Integrated Projects Consortium, and Rice's Institute for Global Health Technologies illustrate how applied, team-based learning prepares students to address global challenges (Balleisen, 2024).

At Duke, interdisciplinarity spans the full pipeline—from first-year engineering design to graduate collaborations in AI and climate-health. Purdue's Discovery Park gives students handson experience tackling issues like PFAS contamination and AI ethics with industry and government. NTU Singapore's Interdisciplinary Collaborative Core (ICC) curriculum requires all undergraduates to complete six courses in transferable skills and global challenges, fostering interdisciplinary thinking and collaboration.

Taken together, these models show how leading universities are embedding interdisciplinarity as a core institutional practice rather than a peripheral initiative.

https://news.nus.edu.sg/new-nus-sustainable-futures-initiative-builds-on-interdisciplinary-research-and-cross-sector-collaborations-to-drive-sustainability-research-and-education/
 https://www.aplu.org/wp-content/uploads/

https://www.cityu.edu.hk/hro/en/job/current/academic.asp?ref=uac-r17825



INTERDISCIPLINARY FUTURES SECTION 3

## 3.1 Development of the ISR methodology

The ISR methodology was developed through global consultation with academics and university leaders. Between April and June 2022, THE convened roundtables to define interdisciplinarity, identify incentives, assess measurement challenges, and explore data sources such as the U.S. NSF's HERD survey.

Based on this input, THE produced a feasibility study recommending a framework structured around three research-cycle stages—Inputs, Processes, and Outputs—

comprising twelve metrics. In 2023, a pilot invited universities to submit data without publication, testing metric feasibility, data reliability, and normalization. A total of 629 universities participated, with particularly strong engagement from the Global South. The pilot highlighted data-quality issues in the Process pillar and lower participation from the Global North.

Following the pilot, ISR was deemed viable. THE, the Schmidt Foundation, and partner universities refined the framework, removing one inconsistent Input metric on researcher recruitment. The final model, comprising eleven metrics, underpins ISR 2025.

#### 3.2 Metrics and Weightings

Figure 2 Final set of metrics and weightings for ISR 2025.

Metric	Name	Weight
i1	Proportion of research funding dedicated to interdisciplinary research	8.00%
i2	Amount of industry funding, normalized by the staff numbers	11.00%
p1	Does your institution provide measures of interdisciplinary research success within applicable disciplines?	4.00%
p2	Does your institution provide specific physical facilities for interdisciplinary research teams within applicable disciplines?	4.00%
р3	Does your institution provide specific administrative support for interdisciplinary research teams within applicable disciplines?	4.00%
p4	Does your institution have a tenure or a career promotion system in place that recognizes interdisciplinary research within applicable disciplines?	4.00%
o1	Number of Interdisciplinary Science Research publications	10.00%
o2	Proportion of Interdisciplinary Science Research publications	5.00%
о3	Utility of interdisciplinary science research outside of discipline citation	5.00%
o4	Quality of interdisciplinary science research publications, as measured by the 75th percentile FWCI	20.00%
о5	Reputation of support for interdisciplinary teams	25.00%

SECTION 3 INTERDISCIPLINARY FUTURES INTERDISCIPLINARY FUTURES SECTION 3

## 3.3. Definition of Interdisciplinarity (2025 vs 2026)

The ISR 2025 framework defined interdisciplinarity as the integration of knowledge, traditions, and processes across multiple scientific disciplines. This could mean collaboration between academics from different fields or a single researcher applying methods from multiple sciences. Because ISR is a science-focused ranking, projects combining one science discipline with only non-science disciplines were excluded. Science disciplines were defined as Computer Science, Engineering, Life Sciences, and Physical Sciences (see Appendix A for the full list).

For ISR 2026, the pillars, metrics, and their weightings remain unchanged. However, the definition of interdisciplinary research has been broadened:

- Now includes social sciences, clinical & health studies, and selected other subjects, as long as at least one science subject is involved.
- Metric i1 (proportion of research funding dedicated to interdisciplinary research):
  - Clinical & Health subjects are now included alongside Science subjects in the calculation.
  - Clinical & Health income is included in the denominator for i1.
  - The i1 ratio remains capped at 1.

#### 3.4. Eligibility Criteria

Universities must also meet the following eligibility criteria in order to be ranked.

#### **Inclusion Criteria**

In order for an institution to be ranked in the Interdisciplinary Science Rankings, it must satisfy all of the criteria listed on the next page:

#### Figure 3

List of criteria universities should satisfy to participate in ISR.

- Must submit data for the World University Rankings 2026
- Must declare at least one science subject (Computer Science, Engineering, Life Sciences and Physical Sciences) as applicable.
- Must publish at least 100 Interdisciplinary Science Research academic publications within the five-year window 2020 to 2024.
- Must have at least 50 academic and research staff in total across the applicable science subjects. These staff members do not necessarily need to be engaged in interdisciplinary research.
- Must not have more than two missing metrics, once the metrics have been calculated for the rankings.
- Must not be in THE's custom exclusion list –
  THE reserves the right to exclude any institution from our rankings, even if they satisfy all other inclusion criteria.

Universities that submitted data but did not meet the eligibility criteria are listed alphabetically at the end of the rankings table as 'reporter' institutions, without an assigned rank.

## 3.5. Data Sources (portal, bibliometrics, survey)

Data for ISR is collected from three sources:

- THE's Data Collection Portal, where universities submit data to. Data submission includes both quantitative data and evidence data.
- Survey of active researchers' institutions
- Bibliometric data

#### **Data Collection Portal**

The THE Data Collection Portal is the main repository in which universities submit their data for participation in THE rankings. For ISR 2026, both quantitative data and evidence data was collected.

#### **Quantitative Data**

One piece of quantitative information specific to interdisciplinary science research were obtained from the Portal data.

Amount of interdisciplinary science research funding

In addition, the following quantitative data, which were collected in the parallel World University Rankings 2026 data collection, were also used in the compilation of the ISR 2026

- Academic staff numbers
- Research staff numbers
- Research income
- Industry income

These data contribute to the Inputs Pillar.

#### **Evidence Data**

Universities answered questions about policies and support for interdisciplinary science, submitting URLs as evidence. Questions were designed to evaluate universities' institutional infrastructure and mechanisms for interdisciplinary research.

Eg. Does your institution provide specific physical facilities for interdisciplinary research teams within applicable disciplines?

More questions asked can be found here.

These data contribute to the Process Pillar.

#### Bibliometric Data

For ISR 2026, bibliometric data were supplied by Elsevier, covering publications and citations from 2020–2024. The dataset included millions of records across journals, conferences, books, and reviews, with detailed metadata on authors, institutions, and publication types. Citation data—extending to 2025—enabled calculation of volume and quality using the Field-Weighted Citation Impact (FWCI) metric, while subject subfield data supported the assessment of interdisciplinarity.

#### **Survey Data**

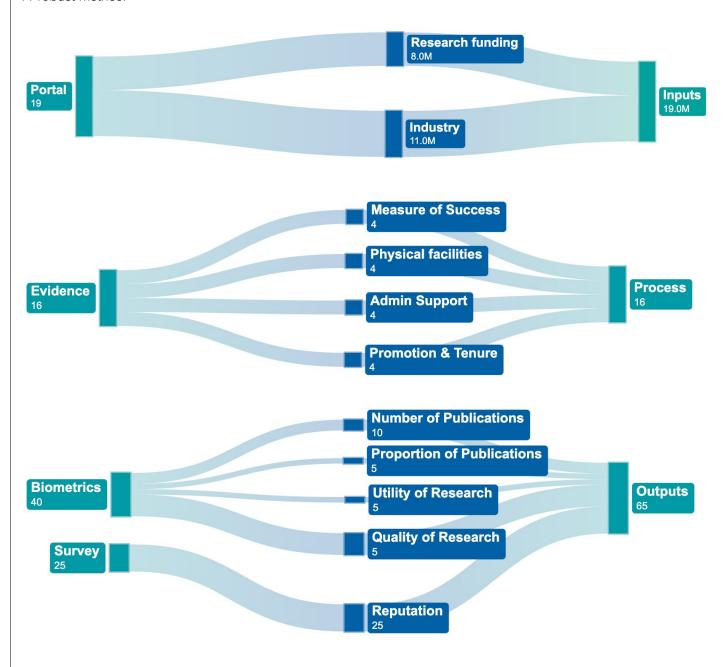
Universities who signed up for participation in the WUR/ISR data collection were asked to distribute a survey to active researchers in 2025. Respondents who are researchers in science disciplines, were tasked to identify five institutions that they thought were best globally for interdisciplinary science research. To prevent bias and ensure global representation of institutions in the data set, self-votes were discarded, and remaining votes were country-weighted against a benchmark. More details can be found <a href="https://example.com/here.">https://example.com/here.com/

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SECTION 3 INTERDISCIPLINARY FUTURES

## Figure 4 Mapping of types of data used in ISR, the 11 metrics, and the three pillars of the ISR framework, together with their weightings

Overall, the updated ISR methodology aims to comprehensively measure and recognize universities' contributions to interdisciplinary science research, through a three-pillar model representing the lifecycle of interdisciplinarity and the 11 robust metrics.



INTERDISCIPLINARY FUTURES

#### 3.6. Impact of methodological updates

While the ISR 2026 framework retains the same pillars, metrics, and weightings as ISR 2025, refinements to the definition of interdisciplinarity and adjustments to the treatment of research income and subject classifications have had notable effects on the results.

- Broader inclusion: With the expanded definition now covering social sciences, clinical & health, and selected additional subjects, 911 institutions qualified for ISR 2026. Using 2025 definitions, only 857 would have met the criteria—meaning 54 institutions (around 6%) benefited from the broader scope.
- Cohort and comparator effects: Participation increased by more than 20% compared with ISR 2025. This expansion caused some established institutions to move down in rank, even where their underlying scores remained stable, due to the larger comparator pool.
- i1 normalization adjustment: Including Clinical & Health income in the denominator for metric i1 applied downward pressure on input scores for some institutions, despite no change in underlying activity.
- Subject taxonomy expansion: The broader disciplinary coverage altered denominator definitions for output share metrics (notably o2), reducing relative scores for institutions whose ISR output did not expand at the same pace.
- Reputation data cleaning: Stricter filtering of survey responses reduced noise in the reputation metric (o5) but also produced some shifts in institutional scores due to changes in vote share.

Overall, despite these changes and the significant increase in participating institutions, ISR 2026 remained relatively stable compared with ISR 2025. Most volatility in results can be attributed to the effects of expanded inclusion, comparator dynamics, and recalibration of input and output metrics.



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# SECTION 4 FINDINGS AND GLOBAL TRENDS



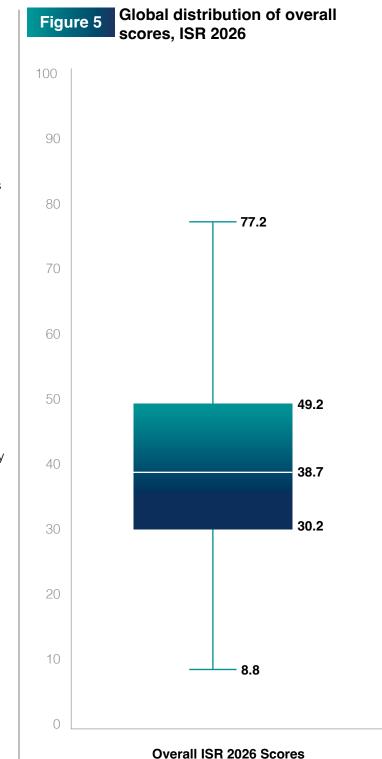
## 4.1 Global Participation and Economic Diversity

This year's rankings reflect THE's increased engagement with universities globally, resulting in greater geographical diversity and an increased number of ranked institutions. For ISR 2026, a total of 911 institutions were ranked, selected from 1267 institutional submissions. These ranked institutions were from 94 countries- a stark increase from the 92 countries featured in ISR 2025, the inaugural edition of the rankings launched in November 2024. Compared to ISR 2025, the number of ranked institutions rose by 22%, while the total number of participating institutions saw a 24% increase.

Across all 94 featured countries, about 41% of ranked institutions are classified by the World Bank as highincome countries, while 32% are classified as uppermiddle income countries, and the remaining 27% belong to the low and lower-middle income classification. The distribution of countries across income levels in the rankings reflects the substantial financial, infrastructural, and resource investments required for interdisciplinary science. However, the inclusion of institutions from low- and lower-middle-income countries, despite the dominance of high-income economies, underscores the growing global relevance of interdisciplinary science research — even in emerging regions. As interdisciplinary science research continues to evolve, opportunities for collaboration and the exchange of best practices across diverse economic contexts are likely to expand.

Globally, the distribution of ISR 2026 scores improved from the previous edition, with an increase in global median from 35.6 (ISR 2025) to 38.7 this year. The top 25 percent of institutions also improved, with all scoring above 49.2, as compared to the score of 46.3 of last year. This year, the gap between high-performing outliers and the 75th percentile narrowed, suggesting that more institutions have improved.

Some institutions did not receive a rank because they may not have fulfilled the inclusion criteria. This refers to how universities should submit data for the World University Rankings 2025, a publication threshold, and submissions should be relating to science disciplines Full list of the inclusion considerations are found here: <a href="https://www.timeshighereducation.com/sites/default/files/breaking\_news\_files/isr\_2025\_methodology.pdf">https://www.timeshighereducation.com/sites/default/files/breaking\_news\_files/isr\_2025\_methodology.pdf</a>



SECTION 4 INTERDISCIPLINARY FUTURES INTERDISCIPLINARY FUTURES SECTION 4

This year, India has the largest number of universities ranked in ISR 2026, followed by Turkey and the United States—replacing Russia in last year's top three. Iraq and Turkey recorded the fastest growth in ranked institutions, while India (+23), Turkey (+37), and the U.S. (+8) also expanded significantly. Similar to India, Egypt, Saudi Arabia, and Pakistan also increased their number of ranked institutions between ISR 2025 and ISR 2026—by 13, 4, and 19 respectively

It is worth noting that rapidly developing systems such as India, Egypt, Saudi Arabia, and Pakistan all increased their participation and median scores. Saudi Arabia saw the largest median score gain—from 38.4 to 49.4—reflecting the impact of national R&D and innovation grants promoting cross-disciplinary collaboration.

## **4.2 Economic Diversity Among Top- Performing Institutions**

Beyond the overall number of ranked universities, interdisciplinary science research activity can also be gauged by the diversity of countries represented among the highest-ranked institutions. In ISR 2026, the top 50 universities in the rankings came from 21 countries, one more than in ISR 2025. Among these, two countries (Indonesia and Nigeria) are classified by the World Bank as lower-middle-income economies, four as upper-middle-income, and 15 as high income.

Within the top 10 universities in the rankings where majority are universities from the United States-owing to robust funding for interdisciplinary science, Singapore and the Netherlands also stands out. Their presence underscores the growing priority these countries place on interdisciplinary research as a driver of innovation and economic development.

## 4.3 Regional Distribution of Leading Institutions

Institutional strength in interdisciplinary research is most concentrated in a few key regions. The top 50 universities in the rankings come from 21 different countries. The U.S. holds the greatest number of universities in the top 50, followed by Saudi Arabia, Italy, Hong Kong and Thailand- all of which have three universities represented in the top 50. Other countries in this group have only one to two universities represented. Notably, while Hong Kong, Australia and Singapore have a small number of universities represented, they enjoy high average scores.

The U.S. leads the rankings with 18 institutions in the global top 50, including the Massachusetts Institute of Technology (MIT), Stanford University, the California Institute of Technology (Caltech), and the University of California, Berkeley. This reflects the country's deep institutional capacity for interdisciplinary research—

supported by federal funding diversity, strong industry partnerships, and a mature ecosystem linking innovation and academia.

Europe's representation—including Wageningen University & Research in the Netherlands, the École Polytechnique Fédérale de Lausanne (EPFL) in Switzerland, the Technical University of Munich (TUM) in Germany, and the Politecnico di Milano and Polytechnic University of Turin in Italy—reflects the region's strength in research translation and sectoral collaboration.

Asia is also scaling in growth– Singapore's presence in the global top 10—Nanyang Technological University, Singapore (NTU) and National University of Singapore (NUS)—illustrates how national strategy

#### Figure 6 Top 10 countries by number of ranked universities, ISR 2026

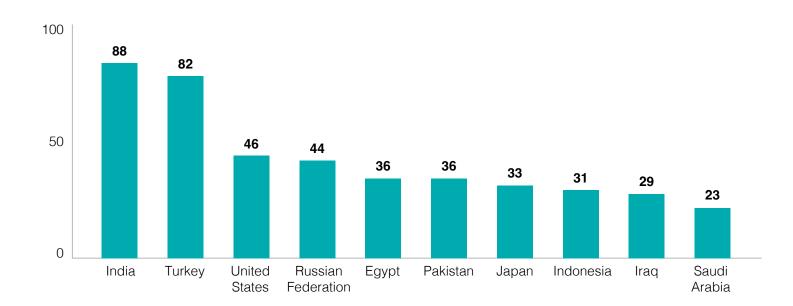


Figure 7 Top 10 countries by number of ranked institutions within the Top 50, ISR 2026



and mission-oriented funding can drive interdisciplinary excellence. Similarly, this strength is visible in Hong Kong, Thailand, and Saudi Arabia, where leading institutions like City University of Hong Kong, Chulalongkorn University, and King Saud University have aligned interdisciplinarity with national modernization and economic diversification agendas.

Australia represents Oceania in the top 50, with universities such as Royal Melbourne Institute of Technology (RMIT) and the University of Newcastle illustrate how government measures in research can reinforce institutional efforts through grants and structures to incentivize interdisciplinarity. These universities have scored within the top 100 for the outputs pillar, which looks at the quantity and quality of interdisciplinary science publications and universities' reputation for producing it, owing to strong grants for interdisciplinary research promoted through the Australian Research Council.

## The Input pillar accounts for 19% of the overall ISR rankings.

- 11 https://www.cityu.edu.hk/media/ press-release/2025/03/18/cityuhksecuresitshighestfundingrecordoverhk60million10interdisciplinaryresearchprojectsrgc
- 12 https://ri.kfupm.edu.sa/research-centers/interdisciplinary-research-centers
- 13 https://facts.mit.edu/mit-industry/

#### **4.4 Institutional Analysis by Pillar**

#### 4.4.1 Inputs Pillar: Building Capacity for Interdisciplinary Research

The Input pillar takes up 19% of the overall rankings. Inputrelated metrics indicate how robust an Interdisciplinary Research environment is from a resource perspective.

For ISR 2026, the global median score was 37.2, signaling a 6% increase in score since ISR 2025 (35.1). Similarly, the global 75th percentile also increased by 6%, from 55.3 in ISR 2025 to 58.7 in ISR 2026.

CityUHK<sup>11</sup> and King Fahd University of Petroleum and Minerals<sup>12</sup> shared the top positions in the Input pillar, owing to their internal funding structures that have translated into significant research funding apportioned for interdisciplinary research projects and structured partnerships offices that focus on human capital for interdisciplinary research centers and projects.

Similarly, MIT<sup>13</sup> and Empress Catherine II Saint Petersburg Mining University<sup>14</sup> promote interdisciplinarity through robust industry funding and labs funded by multinational companies.

Meanwhile, other strong performing universities are encouraging interdisciplinarity structurally, through funding, training and infrastructure. For instance, the National Taipei University of Technology<sup>15</sup> held 100 million NTD funding from industry partners for interdisciplinary research at an institute integrating six colleges crossing the disciplines of AI, semiconductors, and information security. Özyeğin Üniversitesi<sup>16</sup> and Bogazici University<sup>17</sup> run seed funding programs to support early-stage and impactful interdisciplinary programs, while IPB University<sup>18</sup> and Cochin University of Science and Technology<sup>19</sup> invests in cross-disciplinary labs and innovation hubs.

- 14 https://en.spmi.ru/
- 15 https://www-en.ntut.edu.tw/p/406-1006-119558,r1196.php?
- 16 https://www.ozyegin.edu.tr/en/interdisciplinary-research/support-interdisciplinary-research/seed-funds
- 17 https://buvak.org.tr/index.php?sayfa=29
- 18 https://global.ipb.ac.id/interdisciplinary-collaboration-2023/

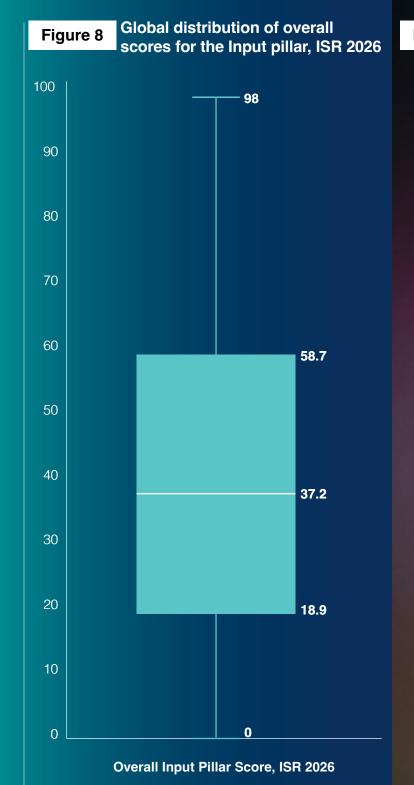


Figure 9 Top 10 universities in the Input pillar, ISR 2026

City University of Hong Kong

1 King Fahd University of Petroleum and Minerals KFUPM

National Taipei University of Technology

3 Özyeğin Üniversitesi

5 IMT Atlantique

6 Bogazici University

7 Cochin University of Science and Technology

8 Empress Catherine II Saint Petersburg Mining University

9 Massachusetts Institute of Technology

10 IPB University

19 https://cittic.cusat.ac.in/?page\_id=1580

**SECTION 4** INTERDISCIPLINARY FUTURES **INTERDISCIPLINARY FUTURES SECTION 4** 

#### 4.4.2 Process Pillar: Strengthen Institutional Support for Interdisciplinary Research

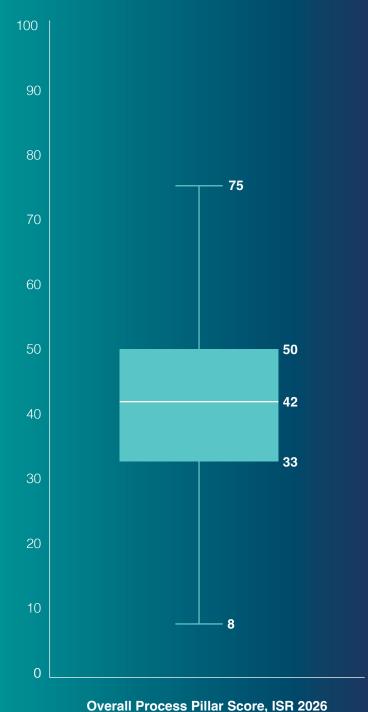
The Process pillar takes up 16% of the overall rankings. Process-related metrics indicate whether a university has the institutional infrastructure and mechanisms in place to actively support and reward interdisciplinary research. For ISR 2026, the global median score was 42.3, signaling a 6% increase in score since ISR 2025. The global 75th percentile increased by 9%, from 45.8 in ISR 2025 to 50 in ISR 2026.

Top institutions in this pillar such as **Duke University**<sup>20</sup> and **IMT Atlantique<sup>21</sup>** are home to numerous physical facilities for interdisciplinary teams such as collaborative research centers and hubs, robust administrative support for managing such teams and tenure promotion system for recognizing interdisciplinary research. Similarly, Chulalongkorn University<sup>22</sup> operates several Centers of Excellence in interdisciplinary domains such as sustainable development and eco-innovation.

Strong performers like Georgia Institute of Technology<sup>23</sup> and **Koç University**<sup>24</sup> also have dedicated administrative staff to scale in interdisciplinarity. Georgia Tech has an Office of the Vice President for Interdisciplinary Research, coordinating research efforts across research institutes and faculties. In addition to dedicated administrative staff, Koc provides capacity development for researchers in interdisciplinary research.

Notably, Politecnico di Milano<sup>25</sup> - who improved significantly since ISR 2025, can attribute its success to the industrial-PhD schemes involving companies and co-supervision, formally integrating interdisciplinarity into doctoral studies.





**Top 10 universities in the Process** Figure 11 pillar, ISR 2026<sup>26</sup>

**Duke University** 

**IMT Atlantique** 

**Cyprus International University** 

**Stanford University** 

**Georgia Institute of Technology** 

**Polytechnic University of Turin** 

École Polytechnique Fédérale de Lausanne

**Chulalongkorn University** 

**Koç University** 

**University of Hong Kong** 

**Ajman University** 

**University of Luxembourg** 

**University of Alcalá** 

The Process pillar accounts for 16% of the overall ISR 2026 rankings.

> https://interdisciplinary.duke.edu/about/faculty-recognition-support/ https://www.imt-atlantique.fr/en/research-innovation/cross-disciplinary

https://www.research.chula.ac.th/en/interdisciplinary-research/

<sup>3</sup> https://research.gatech.edu/interdisciplinary-research

https://research.ku.edu.tr/interdisciplinary-research/ admin-support-for-interdisciplinary-research-under-koc-university-vice-president-office-for-research-and-innovation/

https://www.dottorato.polimi.it/en/research/interdisciplinary-proposals

<sup>26</sup> Some universities share the same rank because they received identical scores

SECTION 4 INTERDISCIPLINARY FUTURES INTERDISCIPLINARY FUTURES SECTION 4

#### 4.4.3 Output pillar: Excellence and Impact in ISR Performance

The Output pillar takes up 65% of the overall rankings, the weightiest pillar for this rankings. Specifically, Output-related metrics determine the volume, quality, influence and reputation surrounding a university's interdisciplinary research. For ISR 2026, the global median score was 40.9, signaling a 5% increase in score since ISR 2025. The global 75th percentile similarly increased by 4%, from 48.6 in ISR 2025 to 50.5 in ISR 2026.

The top 10 institutions in the Output pillar share a common thread: they all have a significant volume of interdisciplinary science publications, strong citation performance, a high FWCI, and robust interdisciplinary-related activities, lending to their strong image for interdisciplinary research and industry impact.

The top university in this pillar- Wageningen University & Research can attribute its success in this pillar to the strong volume and quality of its interdisciplinary publications, alongside research-intensive universities such as the National University of Singapore, and University of California, Berkeley.

Apart from research volume, universities like Stanford, MIT and California Institute of Technology are well-connected in international research networks, rendering a strong peer reputation for its interdisciplinary research.

Similarly, universities like King Saud University and Nanyang Technology University, Singapore have strong citation performance and owe its outstanding Outputs score to its high FWCI. Notably, King Saud University has improved its overall position in the ISR from 61st to 20th, owing to its excellent performance in the Output pillar.

Overall, these universities demonstrate how interdisciplinary science research outcomes spanning funding leverage, teaching and training impacts, research publications and visibility in networks can propel them into global visibility for ISR.

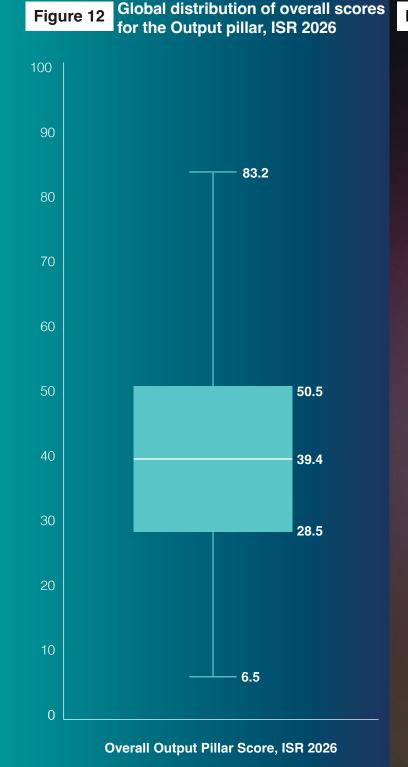


Figure 13 Top 10 universities in the Outputs pillar, ISR 2026

Wageningen University & Research

2 University of California, Berkeley

National University of Singapore

4 Stanford University

Massachusetts Institute of Technology

6 California Institute of Technology

**7** King Saud University

Nanyang Technological University, Singapore

**9** Georgia Institute of Technology

10 Northwestern University

The Output pillar accounts for 65% of the overall ISR rankings (the most heavily weighted).



INTERDISCIPLINARY FUTURES SECTION 5



The ISR 2026 points to a clear global consolidation of interdisciplinarity within research and higher education systems. The upward shift in scores across all three pillars—Inputs, Processes, and Outputs—indicates not only overall improvement but also a more even global distribution of interdisciplinary capacity. While performance remains highest among well-resourced systems, the expansion of ranked institutions across income groups reflects the steady diffusion of interdisciplinary practices worldwide.

## 5.1 Regional Patterns and System Strengths

The U.S. continues to anchor the top of the ISR, with 18 institutions in the global top 50 and strong representation across all pillars. Its scale of federal research funding, industry partnerships, and mature governance mechanisms for interdisciplinary collaboration underpin this dominance.

Europe maintains a robust presence led by the Netherlands, Germany, Italy, and Switzerland, where long-standing policy frameworks integrate interdisciplinarity with research translation and sectoral collaboration. In Asia and the Middle East, rapid advances in Singapore, Hong Kong, and Saudi Arabia demonstrate how targeted, mission-oriented investments can propel smaller systems to global prominence. Meanwhile, the emergence of institutions from upper- and lower-middle-income countries—such as Thailand, Indonesia, and Egypt—signals that interdisciplinary science research excellence is increasingly multi-polar, with diverse pathways to success.

The U.S. continues to anchor the top of the ISR, with 18 institutions in the global top 50 and strong representation across all pillars

#### SECTION 5

## **5.2 Institutional Pathways and Emerging Centers of Excellence**

Ranking movements in ISR 2026 clearly reflect strategic institutional choices.

- In the Input pillar, CityUHK has built a strong foundation through targeted investment—securing over USD 7.7 million from the Research Grants Council and establishing five Hong Kong Jockey Club STEM Labs with a further USD 6.3 million.<sup>27</sup> These measures expanded internal capacity and positioned the university as a global leader in resource mobilization for interdisciplinarity.
- Within the Process pillar, Politecnico di Milano and Polytechnic University of Turin advanced sharply after embedding interdisciplinarity into tenure and promotion systems and strengthening administrative coordination, illustrating how internal structures and incentives institutionalize collaboration.
- In the Output pillar, Purdue University West Lafayette climbed from 20th to 10th by demonstrating integrated interdisciplinary science research outcomes from funding leverage and teaching innovation to publication quality and visibility—while King Saud University rose from 61st to 20th by enhancing outreach and international recognition.

Together, these examples underscore that financial resources alone do not determine ISR success. What differentiates top performers is the strategic alignment of policy, structure, and investment—how institutions link funding to governance and reward systems that sustain interdisciplinarity over time.

#### **5.3 A Converging Global Trend**

Taken collectively, the ISR 2026 results suggest a converging trajectory toward stronger interdisciplinary systems across regions and income levels. Universities are embedding interdisciplinarity as a core strategic function, rather than treating it as a peripheral initiative. High-income systems continue to lead in scale, but emerging economies are demonstrating agility and innovation through targeted funding, capacity-building, and policy coherence.

As these dynamics evolve, the next phase of interdisciplinary development will likely be characterized by cross-regional collaboration, shared policy learning, and the adaptation of successful institutional models to diverse national contexts. The following section examines case studies of leading universities to illustrate how these mechanisms operate in practice.



in ISR 2026 reveal how strategy—not just funding—drives interdisciplinary success.

**Rankings movements** 

<sup>27</sup> https://www.cityu.edu.hk/media/news/2025/07/21/cityuhk-establishes-five-jc-stem-labs-foster-interdisciplinary-research



## **Stanford University – Integrating Technology, Humanity, and Discovery**



"A defining strength of [Stanford] is to bring together students and faculty with different ideas, backgrounds, and aspirations, to create a community of scholars who enhance each other's learning."28

Jon Levin, President and Jenny Martinez, Provost, Stanford University

### Ranked 2<sup>nd</sup> in Interdisciplinary Science Rankings 2026

At Stanford University, interdisciplinarity is understood as both an academic and societal imperative. It connects the university's scientific and technological strengths with broader human, cultural, and ethical understanding. Collaboration is structured through deliberate investments in people, facilities, and partnerships that link disciplines across all schools.

#### Inputs:

#### Investing in People, Programs, and Partnerships

Stanford's commitment to interdisciplinary research begins with its people. The Stanford Interdisciplinary Graduate Fellowship (SIGF) provides three years of full support for doctoral students working across disciplinary boundaries—over 430 fellows have participated since its launch in 2008. These early-career researchers form the foundation of a culture that values curiosity and collaboration.

The Stanford Doerr School of Sustainability, established in 2022, exemplifies the university's investment in cross-disciplinary problem solving. Through its Discovery Grants program, it has

awarded more than \$1.8 million to 16 teams addressing issues from climate resilience to resource equity. The school's cluster hiring approach brings together expertise from environmental justice, economics, and systems engineering, while the forthcoming Sustainable Societies Institute aims to connect sustainability research with culture and the humanities.

"If you want to transform a city, this is not just about engineering, infrastructure ... this is about people and about culture. We are hoping that this institute could bring the humanists and others together to really bring about this transformational change that society is looking for."<sup>29</sup> **Arun Maiumdar.** 

#### Dean, Stanford Doerr School of Sustainability

Stanford also maintains a strong record of collaboration with industry. Through sponsored research agreements, industrial affiliate programs, and initiatives such as Stanford Bio-X, the AI Affiliates Program, and the Stanford Medicine–Industry Partnership, the university connects academic inquiry with application in biotechnology, computing, and energy. The Stanford Research Park further supports this system by collocating corporate R&D with university research groups.

#### **Processes:**

#### Designing for Interdisciplinary Exchange

Interdisciplinary activity is supported through purpose-built facilities. The **Computing and Data Science** (CoDa) building, opened in 2025, brings together computing, statistics, and data science across all schools to address complex global issues. The **ChEM-H and Neurosciences Complex** (2019) houses chemists, engineers, and neuroscientists in modular laboratories that enable close collaboration across research domains.

#### **Outputs:**

#### A Model for Interdisciplinary Science

Stanford produces a substantial volume of high-quality interdisciplinary research. Its ISR performance reflects both scale—through a high proportion of cross-field publications—and quality, indicated by strong field-weighted citation impact. These results are reinforced by the university's long-standing reputation for research excellence.

#### **Quick Impact Stats**

#### 430+

Stanford Interdisciplinary Graduate Fellows since 2008

#### \$1.8M

in *Discovery Grants* awarded to 16 teams (2024)

#### 2

major recently established interdisciplinary facilities: CoDa (2025) and ChEM-H/Neurosciences Complex (2019)

#### 20+

active *Industrial Affiliate* and sponsored research programs

#### 1

new Sustainable Societies Institute bridging sustainability, culture, and the humanities

<sup>28</sup> https://news.stanford.edu/stories/2025/03/ welcome-spring-quarter-university-leaders?

<sup>&</sup>lt;sup>29</sup> https://news.stanford.edu/stories/2024/11/deans-highlight-interdisciplinary-approach-in-research-and-education?



## **Duke University – Building Interdisciplinarity at Scale**

"Interdisciplinarity works best when we invest in connecting people matchmaking across methods, spaces, and disciplines."

Edward Balleisen, Vice Provost for Interdisciplinary Studies, Duke University

Ranked 6<sup>th</sup> in Interdisciplinary Science Rankings 2026

Duke University has made interdisciplinarity a cornerstone of its research identity. Leaders stress that success comes not only from funding but from building systems of connectivity—structures that bring together people, ideas, and institutions across traditional boundaries. By aligning investments in infrastructure and hiring, Duke has created an environment where collaborative science can thrive.

#### Inputs:

#### **Strategic Investments in Connectivity and People**

Duke's interdisciplinary ecosystem rests on deliberate investments in people and programs. Eleven university-wide institutes act as cross-school hubs, proactively "matchmaking" among faculty with overlapping interests. These include the Duke Global Health Institute, the Nicholas Institute for Energy, Environment & Sustainability, the Duke Institute for Brain Sciences, and the Rhodes Information Initiative, all designed to convene researchers around shared problems. Seed funding through Bass Connections provides grants of about \$25,000 per team, enabling faculty-student groups to launch new projects or open new research directions. With an annual investment of roughly \$2 million, the program has generated more than \$120 million in



external funding over twelve years—a striking multiplier effect. Larger three-year "interdisciplinary hubs" provide \$400,000 annually, giving teams the runway to pursue seven-figure external grants.

#### **Processes:**

#### **Building Systems that Connect and Support**

Connectivity is reinforced by infrastructure and organizational practices. Renovated and purpose-built spaces like Gross Hall, which houses several interdisciplinary units including the Social Science Research Institute and Science & Society, and the Chesterfield building, which colocates startups with the Duke Quantum Center, create collision spaces for daily interaction. Regular convenings of institute directors build a community of practice and leadership pipeline, while administrative task forces streamline barriers around compliance, data, and community partnerships.

Duke has also used cluster hiring as a strategy to build capacity around big problems. An earlier joint initiative between schools and interdisciplinary institutes yielded 35 faculty, many now leaders, though shared funding models created tensions. More recently, a Science & Technology cluster hire brought in 40 faculty in areas like AI, nanomaterials, and climate, prompting complementary departmental hires and dramatically strengthening fields such as quantum computing. To avoid future frictions, Duke is now exploring endowed interdisciplinary chairs that would stabilize joint appointments.

#### Outputs:

#### Research, Policy, and Human Impact

This model has yielded transformative outcomes. Duke scientists have pioneered advances from G-protein coupled receptor research—underpinning dozens of new drugs—to the first combination heart–thymus

transplant for newborns. Interdisciplinary teams have shaped national policy, including agricultural research that informed a \$3 billion U.S. federal climate-smart agriculture program. These examples illustrate how investments in connectivity and hiring strategies translate into tangible scientific breakthroughs and societal impact.

#### **Education:**

#### **Training the Next Generation**

Duke is also investing in education to ensure interdisciplinarity has a lasting future. At the undergraduate level, all engineering students take a firstyear design course with community or campus clients, instilling habits of problem-driven teamwork. Bass **Connections** extends this model, blending sciences, law, business, and policy across 70–75 teams each year and serving as a pipeline to external funding. At the graduate level, new Interdisciplinary Graduate Education Collaboratives (IGECs) are preparing PhD students to tackle areas such as society-centered Al, climate and health, and data science for public service. These initiatives aim to preserve disciplinary depth while giving students the skills to collaborate across fields and connect research to societal needs. Thousands of students have already gained direct experience in interdisciplinary teams, and Duke is doing more to ensure future cohorts carry this capacity into their careers.

#### Conclusion

Duke's experience shows that interdisciplinarity flourishes when connectivity is treated as infrastructure. By investing in matchmaking systems, strategic hiring, and spaces that encourage collaboration, the university has built a resilient ecosystem that links people and ideas. The result is not only scientific breakthroughs and policy influence but also a rising generation of scholars prepared to work across boundaries.

#### **Quick Impact Stats**

\$25,000

seed grants \$120 million in external funding over 12 years

40

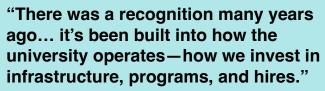
new faculty hired in priority science & technology clusters

\$3

billion U.S. federal program informed by Duke's interdisciplinary agriculture research

34

## Purdue University West Lafayette – Interdisciplinarity Built In



Lawrence Buja, Senior Research Scientist, Purdue University

Ranked 10<sup>th</sup> in Interdisciplinary Science Rankings 2026

Purdue has long treated interdisciplinarity as a core strategy rather than an add-on. More than two decades ago, leadership made a deliberate commitment to fund interdisciplinary centers, construct dedicated facilities, and embed interdisciplinary research into the budget and governance structure of the university. Today, interdisciplinarity is part of Purdue's identity, shaping how problems are defined, how faculty are organized, and how partners are engaged.

#### **Inputs and Incentives**

Purdue invests in interdisciplinarity through a dedicated budget line managed by the Office of Research. Funding flows directly to centers and institutes, giving them resources and flexibility to set strategic directions in alignment with university priorities. Faculty are hired into departments for disciplinary depth and then affiliate with centers to pursue cross-cutting projects. The portfolio is broad and long-standing: the Bindley Bioscience Center integrates life sciences and engineering instrumentation; the Birck Nanotechnology Center anchors nanoscale research; the Purdue Institute for Drug Discovery and the Purdue University Center for Cancer Research connect chemistry, materials,



and clinical science; the Purdue Institute for Inflammation, Immunology & Infectious Disease (PI4D) and the Purdue Institute for Integrative Neuroscience (PIIN) span dozens of departments; and the Purdue Climate Change Research Center (PCCRC), now part of the Institute for a Sustainable Future, links climate science with policy and community engagement.

#### **Processes and Partnerships**

Much of Purdue's new infrastructure has been built with interdisciplinarity in mind, notably the Discovery Park District, which houses facilities for entrepreneurship, health sciences, and applied engineering. Faculty emphasize a "solution-driven" model, where projects often start with external partner needs. Industry, government, and community stakeholders shape problem definition from the outset, while university teams co-design approaches drawing on broad expertise. Administratively, each center has its own director and staff, supported by the Vice President for Research, creating a stable spine for collaboration.

#### **Outputs and Future Directions**

This approach has produced tangible advances. In health sciences, teams combining chemistry and materials science have developed drugs that make cancers glow under UV light, improving surgical outcomes. Environmental science and engineering groups are working with policymakers on PFAS contamination. Across domains, social sciences and humanities are integrated into technical research, as in the case of AI ethics, where philosophers and engineers collaborate on "physical AI." Purdue also sees AI as a major future driver, "infiltrating almost everything" and adding value to both research methods and applications.

#### Conclusion

By embedding interdisciplinarity in budgets, buildings, and partnerships for more than 20 years, Purdue has ensured that interdisciplinary research is not bolted on but built in. The result is a resilient ecosystem that combines disciplinary excellence with applied impact, producing innovations that range from cancer therapies to climate adaptation while preparing students to thrive in collaborative science.

#### **Quick Impact Stats**

#### 20+

years of sustained investment in interdisciplinary science

#### **Discovery Park District**

purpose-built for entrepreneurship, health sciences, and applied engineering

#### **Flagship centers:**

Bindley Bioscience, Birck Nanotechnology, PI4D, PIIN, and PCCRC

#### **Exemplar outputs:**

cancer "glowing tumor" imaging, PFAS contamination research, and AI ethics collaborations

#### Technical University of Munich (TUM) – Culture over Policy: Building Agility for Interdisciplinary Science

"It's not a policy question—it's a cultural question. What matters is the culture of your university community: to experiment, explore, and go new routes. Scientists shouldn't be forced by policies—they should want to work with others because they know it makes them more successful."

Thomas F. Hofmann, President, Technical University of Munich

Ranked 13<sup>th</sup> in Interdisciplinary Science Rankings 2026

At the Technical University of Munich (TUM), interdisciplinarity is a mindset rooted in autonomy, curiosity, and agility. Rather than relying on policy mandates, TUM fosters a research culture where collaboration develops naturally through flexible funding, shared facilities, and recognition systems that value both depth and connectivity.

#### Inputs:

#### Investing in Culture, Space, and People

Interdisciplinary learning begins early in the student experience. Plug-in modules and project weeks bring together mixed teams—often including external partners—to tackle real-world challenges. The new Tomorrow Factory, a large prototyping facility, provides space for students to co-design and test ideas across disciplines.



At the research level, the TUM Innovation Networks fund bottom-up, cross-school teams exploring emerging fields. Eight networks are active, selected from about fifty proposals. Mission Networks provide coordination staff and short-term funding for projects such as the circular economy for batteries, uniting chemistry, materials science, business, and social sciences. The Virtual Faculty of Emeriti of Excellence, with around 80 professors, keeps senior academics engaged in interdisciplinary mentoring and collaboration.

#### Processes:

#### **Enabling Agility and Collaboration**

Through its industry-on-campus strategy, TUM integrates partners such as Siemens and SAP, whose 700 AI specialists work alongside university researchers. Teambased hiring supports agility: initiatives like the Center for Organoid Systems and TUM Campus Heilbronn (around 40 professors) recruit across medicine, biophysics, AI, and management.

The TUM School of Social Sciences and Technology, now about 50 professors, anchors interdisciplinarity between STEM and society. Many faculty hold joint appointments or dual backgrounds, building bridges across disciplines. Tenure and promotion explicitly reward collaboration, while the TUM Think Tank, created during COVID-19, continues as a platform linking science, policy, and industry.

#### **Outputs:**

#### Translating Science into Reputation and Societal Impact

TUM's approach has produced visible outcomes and strengthened its global reputation. The M-Cube Mobility Network unites researchers, industries, and the City of Munich to pilot transport innovations through a Citizen Lab, turning research into lived urban experiments. These initiatives demonstrate how interdisciplinary science enhances both societal engagement and institutional reputation.

#### **Future Directions and Policy Outlook**

Looking ahead, TUM sees reforming research evaluation and funding models as critical to advancing interdisciplinary science. As President Hofmann notes, traditional assessment still privileges narrowly defined disciplines, making it harder for cross-boundary projects to compete. Developing frameworks that recognize impact potential and integrative excellence would allow interdisciplinary research to thrive on equal footing with disciplinary work and drive more transformative innovation.

#### **Quick Impact Stats**

#### 8

Innovation Networks funded from ~50 applications

#### ~700

SAP AI staff co-located with TUM researchers

#### ~50

faculty in the School of Social Sciences & Technology

#### ~40

professors at TUM Campus Heilbronn (team hires)

#### ~80

emeriti in the Virtual Faculty of Excellence

#### **M-Cube Citizen Lab**

pilots city-scale mobility experiments with the City of Munich

across disciplines.

SECTION 5 INTERDISCIPLINARY FUTURES INTERDISCIPLINARY FUTURES SECTION 5

#### Case study

## Politecnico di Milano (Polimi) – Establishing Processes for the Future of Interdisciplinarity



"Real interdisciplinary collaboration is when you have the possibility to experiment and play on the ground."

Daniele Rocchi, Professor of Applied Mechanics, Vice-Rector for Technology Transfer and Corporate Relations and Dean of the PhD School.

### Rank #15 in the Interdisciplinary Science Rankings 2026

Polimi is a public applied university targeting areas such as Engineering, Architecture and Industrial Design, with synergy created across these fields through institutional strategy to unify researchers and students alike in a multidisciplinary approach. Notable to their strategy is the physical and intangible infrastructure established to facilitate interdisciplinary science learning and research. Labs are designed to foster collaboration amongst researchers from different fields, and interdisciplinary learning is actively promoted through a cascading approach from the faculty level down to students. In so doing, Polimi has managed to increase in the ranks from the 30th position in 2024 to 15th in 2025.

#### **Inputs and Incentives**

Polimi invests heavily in interdisciplinary doctoral programs that serve two or more departments. A key initiative is the university's interdisciplinary fellowship scheme, which awards 20 fellowships annually to researchers pursuing interdisciplinary works. In addition to the fellowship scheme, doctorate programs embed interdisciplinary into their curriculum through the cross-department supervision feature and a co-teaching model, where students

receive supervision from two professors from different backgrounds, fostering interdisciplinary mentorship and learning.

Complementary to strong funding for building up internal capacity in interdisciplinary research, Polimi's interdisciplinary scale also extends to its external relations. Polimi hosts several Joint Research Platforms (JRP), which looks at interdisciplinary collaboration with industry. A notable example is its partnership with EssilorLuxottica in Polimi's Smart Eyewear Lab. The lab is set to develop and design smart glasses for daily wear, bringing together more than 100 researchers and scientists from both parties across several disciplines such as user experience, design, electronics, materials, etc. The joint collaboration has also extended beyond the lab, to the creation of an interdisciplinary Masters program in Smart Wearable Technologies, spanning the disciplines of engineering and design.

#### **Processes and Partnerships**

Polimi's progress in interdisciplinary research can be defined by its unique approach: A top-down strategy from university rectors is complemented by bottom-up initiatives by researchers and scholars who are interested in interdisciplinary research. The university governance strategically hires researchers from the humanities and social sciences and integrate them into the university's STEM-related departments. At the same time, these researchers from non-science backgrounds have a strong inclination towards interdisciplinary research, even initiating research units bridging disciplines across the science and humanities. For instance, the META group is an interdisciplinary study unit in social science and humanities for science and technology. It aims to provide expertise on philosophical and societal issues emerging from scientific research.

Polimi also invests in physical infrastructure supporting interdisciplinary science research. Each of the university's

12 departments has access to interdisciplinary labs, with significant funding allocated to labs serving two or more departments, encouraging joint research initiatives.

At Polimi, interdisciplinarity is well integrated into academic curriculum. At the PhD level, some programs adopt a dual-use model, where students work directly on projects in applied domains. A notable example is the joint PhD program with Humanitas University, known as the MEDTEC School. The program converges the disciplines of Medicine and Engineering, allowing students to integrate engineering technologies into clinical applications. Students are supervised by faculty from both Polimi and the Humanitas Hospital, allowing them to operate within a clinical environment, illustrating real-world interdisciplinary collaboration.

#### **Outputs and Future Directions**

Polimi's research dissemination efforts extend beyond academia, to society and general audiences. A unique example is the "Big Data B&B" theatre production, developed in collaboration with Piccolo Teatro di Milano, which aimed to raise public awareness of the ethical and social issues of emerging technologies.

As Milan's flagship technical university, it is also committed towards applicable research and solving real-world issues. At present, Polimi has launched three new interdisciplinary bachelor's programs-Engineering Science, Industrial Engineering, and Process Engineering, to cultivate talent that are creative, adaptable and innovative.

In the pipeline there are also plans for an Innovation District- PoliHub, to facilitate the growth of deep technology start-ups. The space intends to bring together people of varying job and academic backgrounds, to build new start-ups and scale in their investment through partnerships and collaborative work with corporates.

#### Conclusion

Interdisciplinarity collaboration occurs both internally within Polimi across its various departments, and externally through its partnerships with industry and academia. This dual approach fosters a dynamic exchange of knowledge, enabling the university to tackle complex real-world challenges, staying true to its ethos of being an applied university. Through interdisciplinary science research, Polimi is also strengthening its capacity for innovation, as it gears up for the growth of its applied technology.

#### **Quick Impact Stats**

## Strategic hiring practices and integrated teaching model

#### Flagship Innovation

PoliFab powered by ST Microelectronics, Clean Rooms, Smart Eyewear Lab, Polifactory

#### 10+

years of sustained humanities and science collaboration through the META unit

#### **Exemplar outputs**

Smart Wearable Technologies, Advanced Experience Design

40

#### Nanyang Technological University, Singapore (NTU) – Leveraging Inputs to Build Interdisciplinary Strength

"Good interdisciplinary research only works if your faculty are also really strong in their domain. Depth must come first—breadth alone is not enough."

Christian Wolfrum, Vice President (Research), NTU

Rank #5 in the Interdisciplinary Science Rankings 2026

NTU has embedded interdisciplinarity as a strategic priority, but with a guiding principle: deep disciplinary excellence is the foundation. Leaders emphasize that impactful research arises when strong disciplinary bases connect across boundaries. To enable this, NTU has designed systems of incentives, hiring, and partnerships that make the most of its inputs.

#### **Inputs and Incentives**

Singapore's higher education model links faculty headcount to student numbers. NTU centrally holds some of these positions and allocates them to schools that propose strong interdisciplinary initiatives. New hires are often co-affiliated across schools, ensuring disciplinary expertise is brought directly into crosscutting work.

National funding priorities further support interdisciplinarity: Singapore's National Research Foundation (NRF) favors interdisciplinary teams in competitive calls, such as AI for Science, giving NTU researchers a clear advantage. NTU has also invested in new university-level centers and clusters such as the Centre for Climate Change and Environmental



Health and the NTU 2025 research clusters, which bring together expertise across medicine, engineering, environment, and social sciences.

#### **Processes and Partnerships**

NTU has required every school to draft an interdisciplinary strategy, then encouraged joint planning where overlaps occur. The university's Interdisciplinary Collaborative Core (ICC) embeds cross-cutting courses into the undergraduate curriculum, while research platforms like the Energy Research Institute @ NTU (ERI@N) span renewables, sustainable buildings, and future mobility.

Physical space is another enabler: NTU allocates and reallocates facilities for interdisciplinary centres as projects evolve, ensuring resources are targeted where they can have the most impact. On-campus Corporate Labs with partners such as Rolls-Royce and Continental bring together engineering, AI, and even social sciences to work on problems defined by industry, embedding interdisciplinarity in day-to-day research.

#### **Outputs and Future Directions**

This model has made NTU competitive in national grant funding and produced applied outcomes through industry partnerships. Corporate Labs deliver solutions with direct industrial relevance, while initiatives such as AI & Humanities and Environmental Humanities ensure ethical and societal perspectives are part of research outputs. NTU has also launched joint international platforms such as CINTRA (with CNRS and Thales) and the TARIPH Centre on lung health, demonstrating how local and global partnerships can scale interdisciplinarity.

Leaders are also cautious, noting that interdisciplinarity must not become "shallow and broad." Maintaining depth within disciplines, while expanding cross-boundary collaboration, is the key to sustaining meaningful results.

#### **Quick Impact Stats**

3

levels of interdisciplinarity: undergraduate, graduate, and research centers

#### **Joint hires**

with co-affiliations across schools since 2020

#### **Corporate Labs with industry**

(e.g., Rolls-Royce, Continental) embed interdisciplinarity on campus

lacksquare

# SECTION 6 RECOMMENDATIONS: INTEGRATING ISR INTO STRATEGY AND SCALING PRACTICES

**SECTION 6** 





The ISR 2026 findings demonstrate a steady strengthening of interdisciplinarity worldwide, marked by higher scores across all pillars and broader participation across income levels. Successful universities are not simply investing more—they are aligning their systems, policies, and partnerships around interdisciplinarity as a strategic priority. The following recommendations draw on ISR data and institutional case studies to outline practical pathways for embedding interdisciplinarity into research, governance, and culture.

## 6.1 Integrate ISR Dimensions into Institutional Strategy

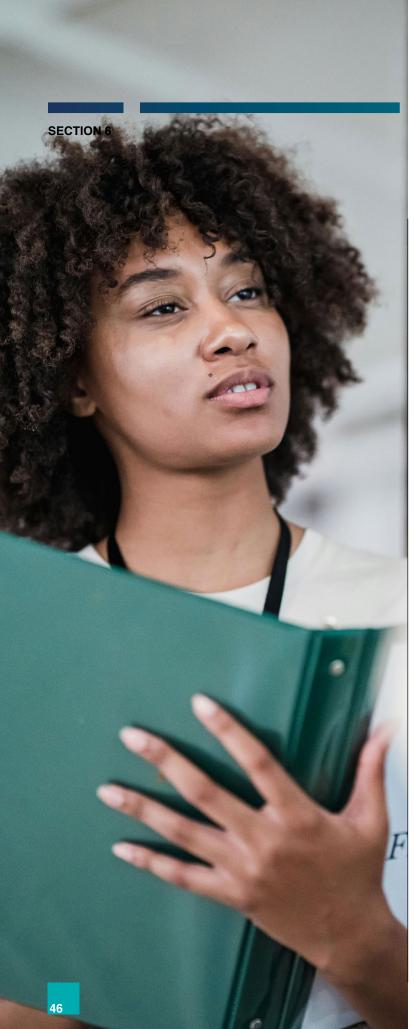
Interdisciplinarity gains traction when integrated into broader institutional frameworks for research, education, and engagement. Stanford University exemplifies this alignment through its Doerr School of Sustainability, where faculty hiring, discovery grants, and new research facilities are coordinated around shared interdisciplinary missions. Duke University has institutionalized interdisciplinarity through 11 cross-school institutes, connecting people and ideas through matchmaking, seed funding, and infrastructure.

### 6.2 Tailor Pathways to Institutional Context

The 2026 results reaffirm that no single model of interdisciplinarity fits all.

- Large research-intensive universities like Stanford and Duke leverage scale through cluster hiring, large crossschool centers, and dedicated facilities that convert disciplinary breadth into systemic capacity.
- Smaller or highly coordinated systems such as Nanyang Technological University, Singapore (NTU) and CityUHK achieve global visibility through focused investment. NTU allocates central faculty lines for coappointments and embeds interdisciplinary courses across the curriculum, while CityUHK has secured over USD 14 million in funding for interdisciplinary labs and projects.
- Universities operating in more constrained systems can advance interdisciplinarity through governance reform. The University of Turin has revised its internal statutes to enable co-appointments and strategic hires across departments, helping to advance interdisciplinarity within a traditional national tenure promotion system.
- King Saud University and Politecnico di Milano show that strategic investment and visibility can drive notable advances in interdisciplinarity across diverse institutional settings.

The key insight across these models is strategic fit—adapting interdisciplinary frameworks to each institution's regulatory environment, capacity, and mission.



## 6.3 Inputs — Building Capacity for Interdisciplinary Research

ISR 2026 underscores that strong Inputs—funding, infrastructure, and people—remain the foundation of interdisciplinarity. However, the most successful universities build capacity strategically rather than through scale alone.

- **CityUHK** leads this pillar through targeted funding schemes and industry partnerships.
- Duke University's Bass Connections and interdisciplinary hub programs demonstrate how modest seed funding can catalyze large-scale grants—turning USD 25,000 projects into USD 120 million in external funding over 12 years.
- **Stanford** and **NTU** show how cluster hires, endowed fellowships, and industry-linked labs generate sustained interdisciplinary talent pipelines.
- Purdue University, with two decades of budgeted support for interdisciplinary centers, illustrates how long-term funding structures embed interdisciplinarity as part of institutional identity.

Targeted internal investment—especially in joint facilities and early-stage seed funds—remains one of the most replicable and impactful strategies.

## 6.4 Processes — Institutionalizing Collaboration and Overcoming Structural Barriers

The Process pillar findings confirm that institutional mechanisms are decisive for sustaining interdisciplinarity. High-performing universities have embedded collaboration into their governance, evaluation, and daily operations.

- Massachusetts Institute of Technology have multiple structures established to encourage interdisciplinarity— from joint degrees and research programs combining diverse fields at both the undergraduate and graduate levels, to sandboxes housing diverse communities of researchers and students. It exemplifies how flexible spaces and shared resources can develop a collaborative ecosystem for interdisciplinarity.
- Politecnico di Milano and Polytechnic University of Turin have strengthened institutional mechanisms to support interdisciplinarity, expanding crossdepartment doctoral programs and introducing co-supervision models that encourage collaboration across fields.
- The University of Turin has introduced flexible coappointments and cross-field hiring in areas such as AI and sustainability to strengthen recognition of interdisciplinary research within a national framework that traditionally favors disciplinary structures. The rector has also established strategic positions to support emerging interdisciplinary areas.
- Georgia Tech, Duke, and TUM provide complementary models: each has built administrative offices, team-based hiring, and co-located facilities that connect research and industry.
- TUM's "culture-first" approach, supported by initiatives such as its Tomorrow Factory and Innovation Networks, shows that building agility and trust can be as powerful as policy mandates.

The lesson is clear: interdisciplinarity thrives when supported by institutional design. Aligning incentives, structures, and leadership responsibilities transforms collaboration from exception to norm.

## 6.5 Outputs — Achieving Excellence and Visibility

Performance in the Output pillar demonstrates that interdisciplinary research excellence depends as much on influence and reputation as on research volume.

- Wageningen University & Research, Stanford, and NUS lead through a combination of publication quality, cross-field collaboration, and international visibility.
- Purdue University's "solution-driven" approach linking research to policy and community impact shows how applied outcomes enhance global standing.
- **King Saud University's** rise from 61st to 20th in the overall ISR highlights how improving research quality (i.e., citation performance), volume, and outreach can elevate institutions in rapidly developing context.

For universities seeking to strengthen their output profile, the focus should be on networked research, cross-sector partnerships, and communication of impact.

#### 6.6 Using ISR as a Strategic Guide

As reported by some universities, the ISR framework can serve as a useful guide for strategy as well as an external benchmark. Preparing evidence for ISR has encouraged reflection on institutional priorities, gaps, and alignment across pillars, helping universities identify where adjustments in funding, structures, or incentives may be needed. The framework is particularly valuable for institutions seeking to build capacity and foster a stronger culture of interdisciplinarity.

## **CONCLUSION**



The ISR 2026 results underscore the growing recognition of interdisciplinarity as a defining mode of research in higher education. The analysis highlights how universities across diverse contexts large and comprehensive systems, smaller but coordinated institutions. and those navigating regulatory or structural constraints—are finding distinct pathways to strengthen interdisciplinarity. Case studies illustrate how strategies such as seed funding, cluster hiring, cross-sectoral partnerships, and administrative reforms have been embedded into institutional practice, shaping inputs, processes, and outputs in measurable ways.

The results confirm the global relevance of interdisciplinary research. Smaller systems such as Singapore and Hong Kong perform strongly through focused investment and coordination, while rapidly advancing systems like India, Egypt, Saudi Arabia, and Pakistan show how targeted policies and collaboration can drive quality and participation. All four increased their representation in ISR 2026, with Saudi Arabia recording the largest rise in median score—reflecting the impact of its national R&D and innovation grants supporting cross-disciplinary research.

At the institutional level, practices such as Duke's seed funding multipliers, Purdue's solution-driven partnerships, NTU's joint faculty appointments, Turin's hiring policy reforms, and Politecnico di Milano's joint research platforms with industry partners highlight how interdisciplinarity can be scaled and sustained through deliberate design.

A further lesson is the importance of embedding interdisciplinarity into education. At Duke, initiatives such as the first-year engineering design course, Bass Connections, and the new Interdisciplinary Graduate Education Collaboratives give students hands-on experience in problem-driven teamwork across fields. Politecnico di Milano similarly invests in interdisciplinary doctoral programs, with fellowships, cross-department supervision, and joint initiatives such as the MEDTEC School with Humanitas University, which integrates medicine and engineering. These models ensure interdisciplinarity is not only a research priority but also an educational one, preparing future cohorts to carry collaborative approaches into their careers.

Equally significant is the need to expand disciplinary inclusion within ISR. The 2026 framework broadened to encompass social sciences, clinical health, and selected other fields, reflecting the reality that complex challenges—ranging from AI ethics to climate resilience and global health—demand contributions that cut across

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#### CONCLUSIONS

both scientific and societal domains. This expanded scope signals the future trajectory of ISR as both broader and deeper: anchored in disciplinary strength, but reaching across domains to generate integrated knowledge and impact.

Looking ahead, interdisciplinary research is likely to continue rising in prominence. It is becoming increasingly institutionalized, moving from isolated initiatives to systemwide strategies supported by policy, infrastructure, and evaluation. Interdisciplinary research is also more closely tied to external engagement, with universities co-creating research with industry, government, and communities to address pressing societal needs. As it continues to evolve, interdisciplinarity will require universities to balance depth with breadth, local relevance with global impact, and academic excellence with societal contribution. Institutions that align their structures, resources, and cultures with these priorities will be best positioned to lead the next generation of knowledge, innovation, and impact.

The evidence from ISR 2026 suggests that interdisciplinarity is now firmly established as a strategic priority for many universities worldwide. The Interdisciplinary Science Rankings—supported by the Schmidt Science Foundation—will continue to play an enabling role in this transformation: providing recognition, offering a comparative framework for evaluation, and guiding institutions as they strengthen interdisciplinarity across research, education, and engagement.

#### SOURCES:

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