Fostering a sustainable and inclusive research culture

An ECR Perspective

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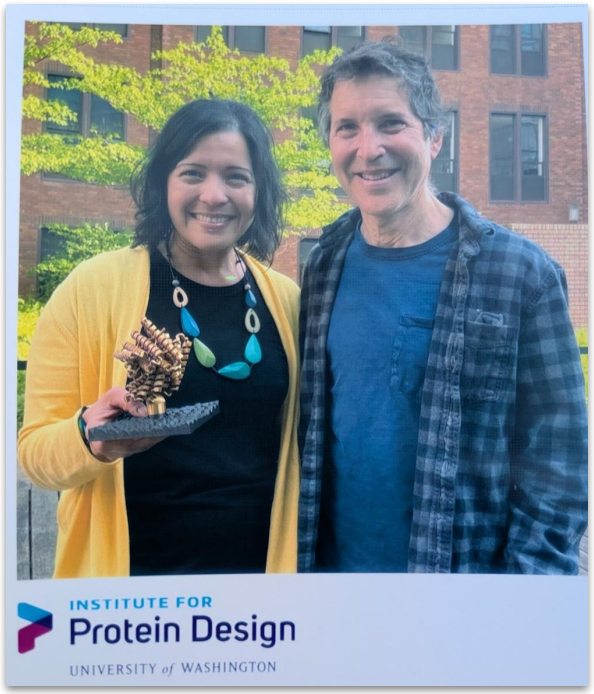

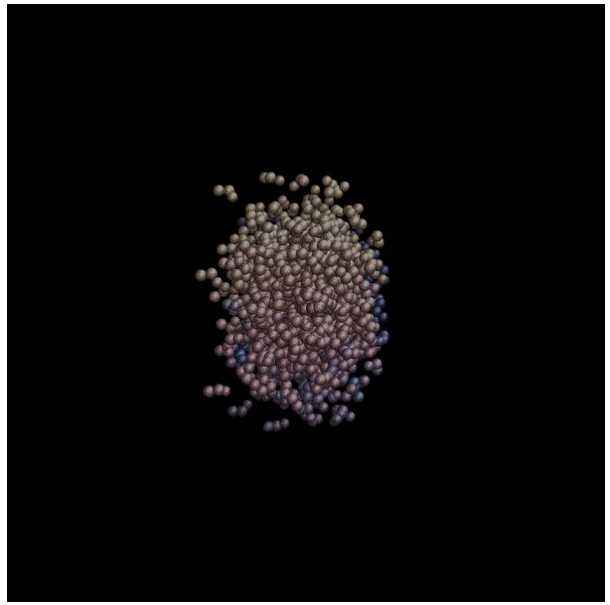

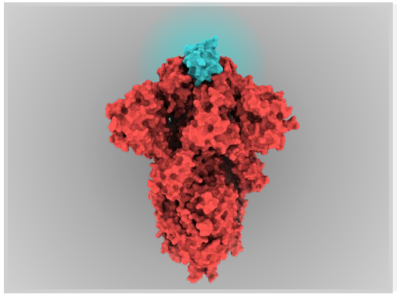

Rapid novel antivirals targeting the novel coronavirus, influenza, designed and pre-clically tested within a month.

Machine learning generates custom enzymes

Today we report in Nature the computational design of highly efficient enzymes unlike any found in nature. Laboratory testing confirms that the new light-emitting enzymes can recognize specific chemical substrates and catalyze the emission of photons very efficiently.

A new path to carbon storage

Our research shows that custom proteins can drive the growth of limestone-like minerals, a breakthrough that may one day help remove excess carbon from the environment.

COVID-19 vaccine with IPD nanoparticles wins full approval abroad

From AI to anti-venom: Celebrating our women in science

To commemorate the International Day of Women and Girls in Science on February 11, we're shining a spotlight on some of the extraordinary women we have had the privilege to work with.

A foundation in science for the public good

Early work grounded by societal needs

- Developing **conservation strategies** to protect vital ecosystems and biodiversity.
- Documenting **Indigenous crop knowledge** for food security.
- Generating **epidemiological evidence** for women's health screening.
- Starting a **molecular biology lab** for biodiversity research capacity.

This context shaped my understanding of science for the public good

What is valued?

- Locally impactful work does not count
- Context and societal needs are invisible
- Publishable questions outweigh relevant ones
- Authorship and prestige act as proxies for value

The work that served society has no place in evaluation

Context + Potential considered

Dr Kellie Dean, Head MSc Molecular Cell Biology Programme, UCC

Return of Investment

IRISH RESEARCH COUNCIL
An Chomhairle um Thaighde in Éirinn


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Irish molecular diagnostics company GlowDX raises €1.1 m
Company's backers include a number of well-known angel investors and SOSV

Erasmus +

Questioning what we value in science

CoARA
Coalition for Advancing Research Assessment

GLOBAL YOUNG ACADEMY

International Science Council
The global voice for science

GLOBAL SUSTAINABLE DEVELOPMENT REPORT

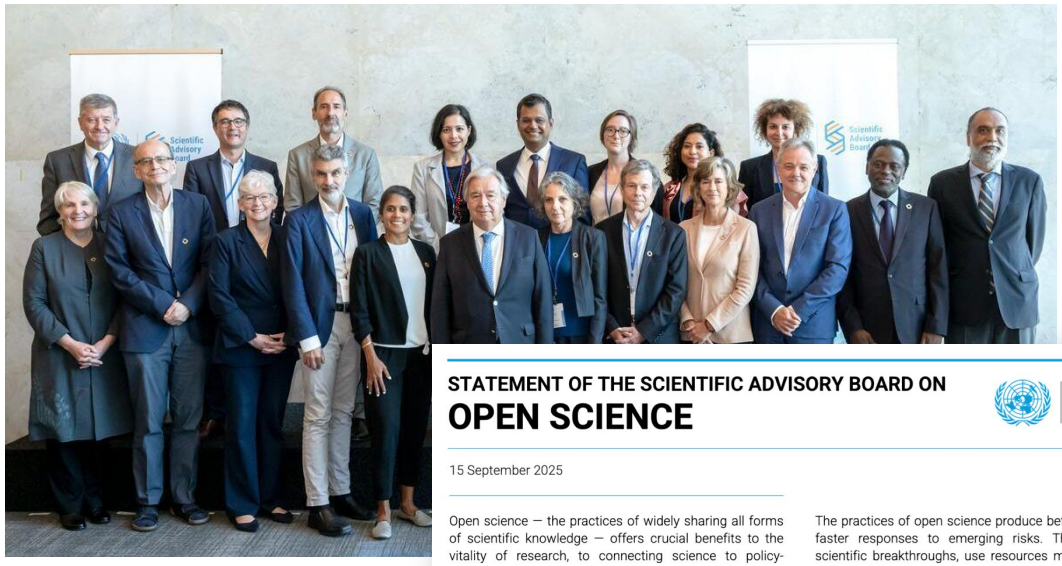
Acadamh Óg na hÉireann
Young Academy Ireland

HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT

Repositioning Higher Education:

Consensus Statement of the Global Higher Education Symposium 2025

Higher education institutions are uniquely positioned to bridge science, policy, and society through open dialogue, evidence-based insight, and long-term vision. They are key shapers of tomorrow's leaders[1]. Yet, they remain underrepresented in shaping the



STATEMENT OF THE SCIENTIFIC ADVISORY BOARD ON

OPEN SCIENCE

Scientific Advisory Board

15 September 2025

Open science — the practices of widely sharing all forms of scientific knowledge — offers crucial benefits to the vitality of research, to connecting science to policy-makers and society, and to addressing global inequality.

The practices of open science produce better results and faster responses to emerging risks. They accelerate scientific breakthroughs, use resources more effectively, and have developed strong safeguards against misuse.

NATIONAL ACADEMIES Sciences Engineering Medicine

Creating a responsible authorship culture in science: Anchoring authorship practices in principles of transparency, credit, and accountability

Véronique Kiermer[1,2,3], Sofia Adams[4], Kirsten Bibbins-Domingo[5], Yensi Flores Bueso[6], Kathleen Hall Jamieson[7,3], Joerg Heber[8], Mohammad Hosseini[9], Ana Marušić[10], Beau Nielsen[11], Magdalena Skipper[3,12], Geeta K. Swamy[13], Susan M. Wolf[3,14]

Ending publication bias: A values-based approach to surface null and negative results

Stephen Curry, Eunice Mercado-Lara, Virginia Arechavala-Gomeza, C. Glenn Begley, Christophe Bernard, René Bernard, Stefano Bertuzzi, Needhi Bhalla, Dawn Bowers, Samuel Brod, Christopher Chambers, Michael R. Dougherty, Yensi Flores Bueso, […], Frances Weis-Garcia [view all]

Published: September 24, 2025 • https://doi.org/10.1371/journal.pbio.3003368

Article | Authors | Metrics | Comments | Media Coverage

GLOBAL YOUNG ACADEMY

What really counts in research assessment?


Boon Han Lim


Carlo D'Ippoliti


Martin Dominik


Alma Hernández


Koen Vermeir


Kok-Keong Chong


Hussam Hussein


Vicente Morales


Karen Cloete


Jude Kimengsi


Luciana Balboa


Stefania Mondello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Sherien Elagroudy


Pradeep Kumar


Shymaa Enany


Vanny Narita


Michael Backes


Velia Siciliano

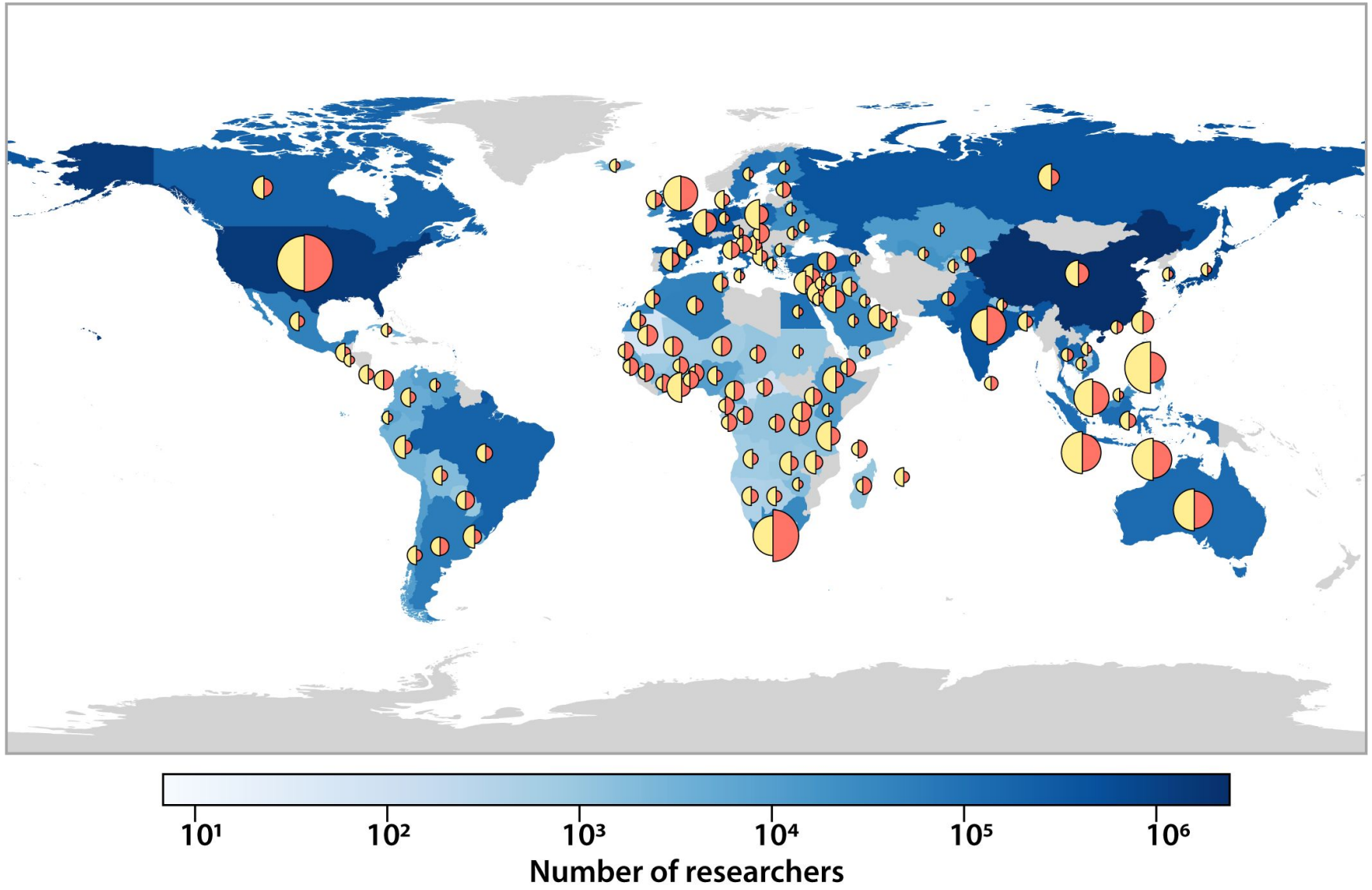

D. Egamberdieva


Yensi F.B.

Scope

532 Policies
190 Academic institutions
58 Governmental agencies

121 Countries
32 Global North
89 Global south



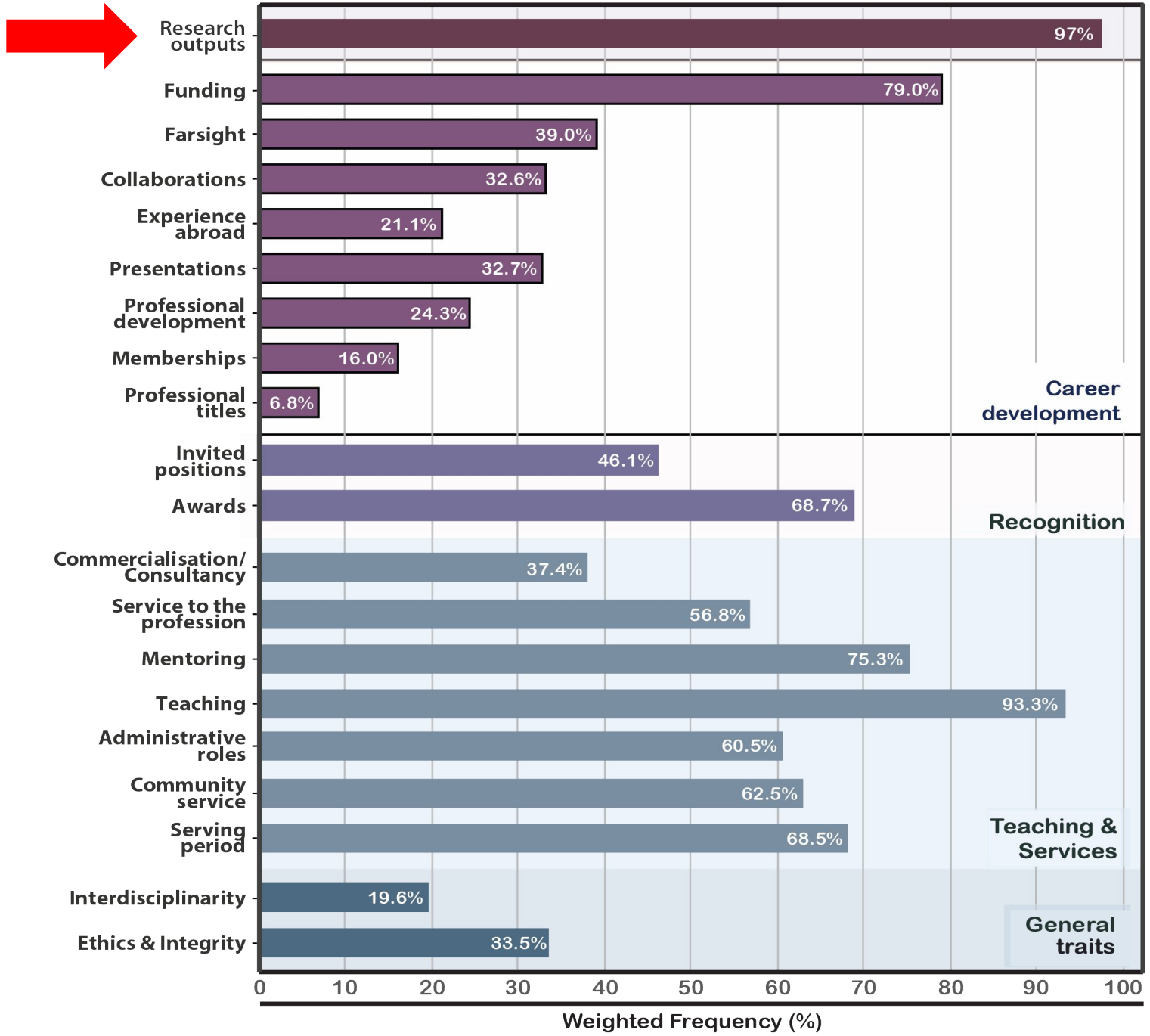
Lim BH, D'Ippoliti C, Dominik et al. (2025). Regional and institutional trends in assessment for academic promotion. Nature. https://doi.org/10.1038/s41586-024-08422-9

What Criteria are most influential?

30 prevalent criteria

5 categories

- Career Development
- Recognition
- Teaching & services
- General traits
- Research outputs (97%)



Assessment of Research Outputs

All type of policies rely heavily on quantitative indicators

Co-occurrence of evaluation criteria

Similar criteria tend to cluster in the same documents

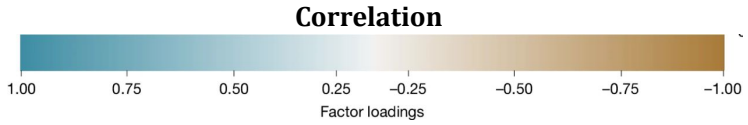
Output Metrics: Number of publications, number of authors, and journal index

Outcomes & Impact: Patents, funding, and foresight.

Professional development: accumulated citations, experience abroad, service to the profession

Visibility & engagement: social impact, community engagement, qualitative aspects of outputs

Less emphasis in diversity of candidates profiles



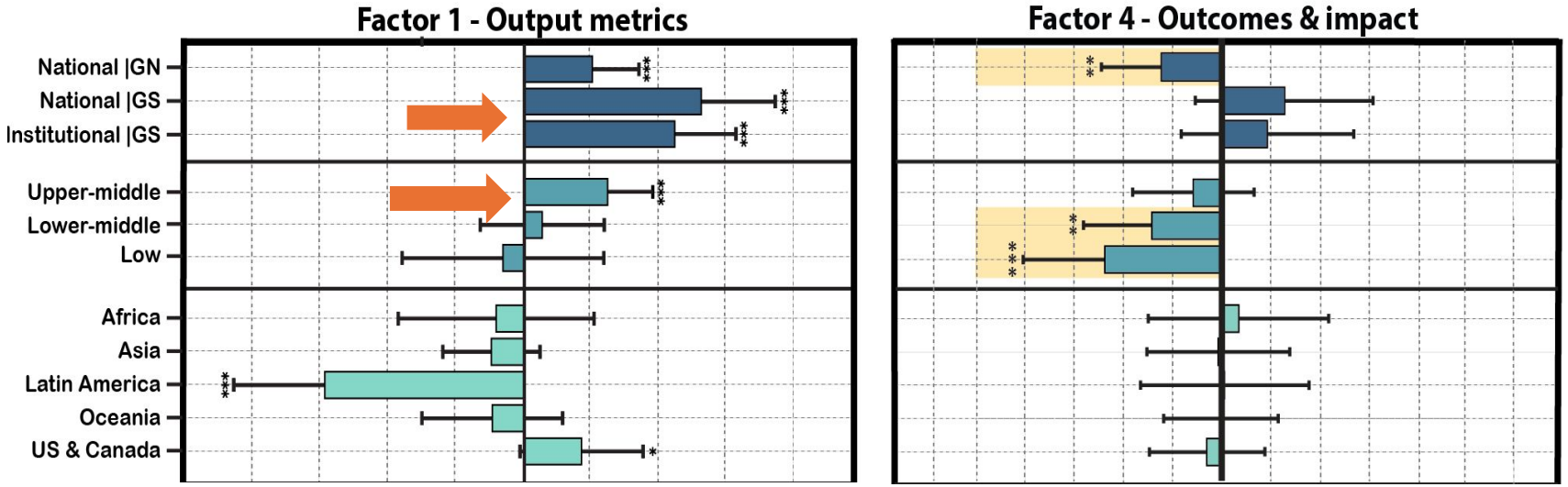
		Output metrics	Visibility & Engagement	Professional Development	Outcomes & Impact
RESEARCH OUTPUTS	Number of publications	0.87			
	Recent publications	0.69			
	Patents				0.87
	Citations	0.35		0.64	
	Journal Indexing	0.58	-0.34		0.52
	Number of authors	0.71		0.47	
	Authorship order	0.85			
	Societal impact		0.84		-0.40
	Non-metric quality of publications		0.75		
	Role of authors	-0.84			
	Non-metric journal quality				0.66
CAREER DEVELOPMENT	Funding			-0.62	0.64
	Farsight				0.72
	Collaborations	-0.30	0.45		0.36
	Experience abroad			0.78	
	Presentations		0.57		
	Professional development			0.75	
	Memberships		0.62		
	Professional titles	-0.31		0.35	
RC	Invited positions	-0.58	0.43		
	Awards	0.51	0.69		
SERVICES	Commercialisation/ Consultancy				0.56
	Service to the profession	-0.56		0.69	
	Mentoring	-0.47		0.46	0.33
	Teaching				
	Administrative roles	-0.55	0.31		0.32
	Community service		0.80		
	Serving period			-0.60	
GT	Interdisciplinarity	-0.48	0.58		
	Ethics & Integrity	0.35			

Factors that influence the policy choice

Context related:

High effect in determining the criteria of evaluation

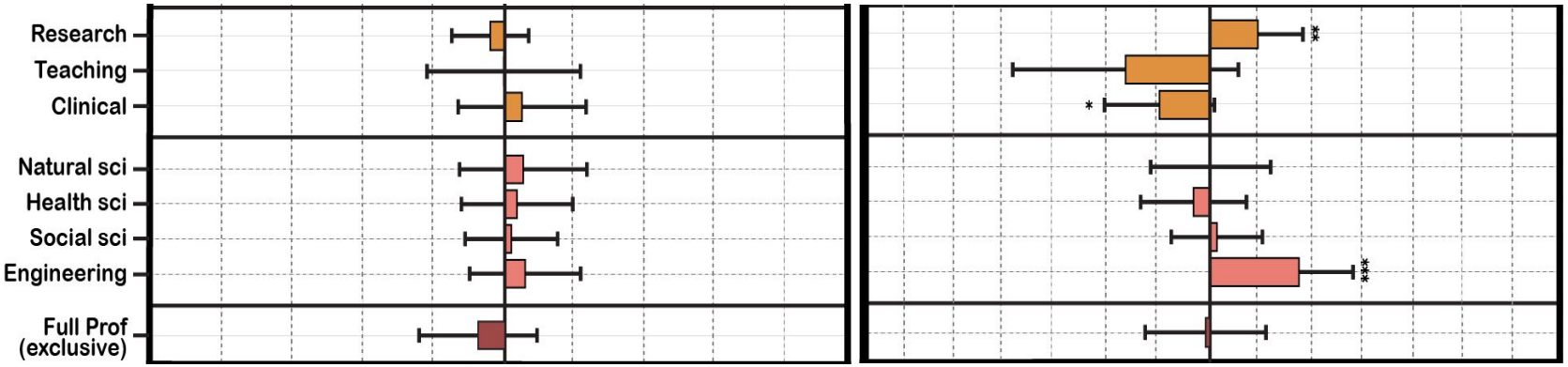
- **Region | policy scope** [Institutional / GN]
- **Income level** [High Income]
- **Continent** [Europe]



Job related:

Not significant determinants of assessed criteria

- **Track** [Std. academic]
- **Full professor** [Non-specific]
- **Disciplines** [General]



Main takeaways

1. Evaluation systems are not uniform - with different ideas about what is valuable.
2. Many policies emphasise only a narrow set of research outputs, showing limited diversity in what is valued; with over-emphasis in: publications, citations, grants, journal prestige.
3. The research context shapes incentives more than the job description does.
4. Scientometrics are omnipresent but most popular in upper-middle income countries.
5. Engagement and societal contributions are consistently undervalued.
6. Open science, reproducibility, and team science only in a small minority of policies.

Why this matters?

Trust in science → trust in institutions:

- Perceived elitism and lack of communication fuels antagonism and populist narratives.
- Fraudulent or irrelevant research weakens credibility.
- Declining trust in science is exploited to undermine universities and democratic institutions.

Science meeting societal needs:

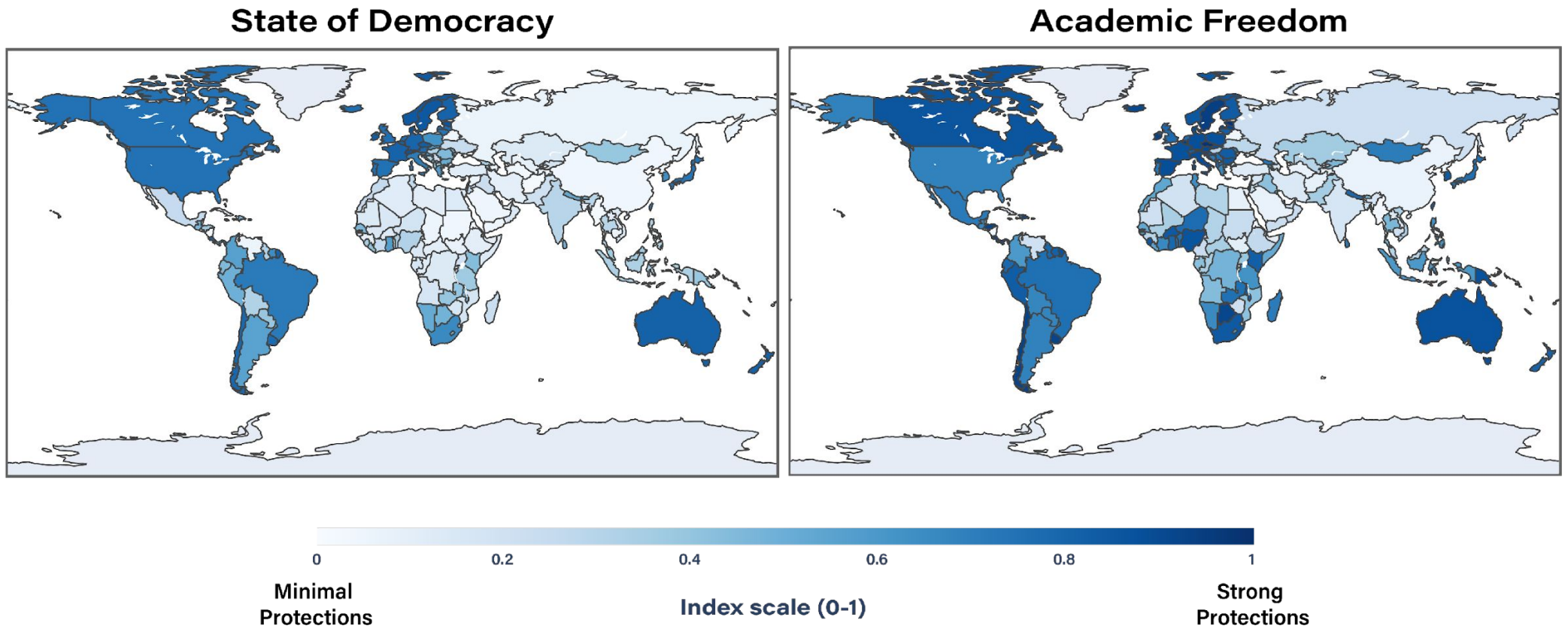
- Open, collaborative, and responsive science strengthen societal resilience and public confidence.

Science as provider of independent evidence:

- Prioritising — prestige over rigour, metrics over substance , the evidence is less reliable.
- Weakened science systems are easier for illiberal populists to influence and control.

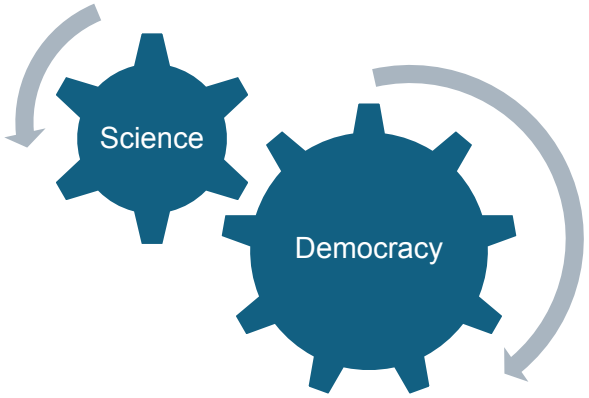
Pew Research Center (2023); Nature Human Behaviour (2024); OECD STI Outlook (2023); UNESCO Recommendation on Open Science (2021); V-Dem AFI Report (2024); Moher et al., *Nature* (2018); Hicks et al., *Nature* (2015).

Global patterns in democracy and academic freedom

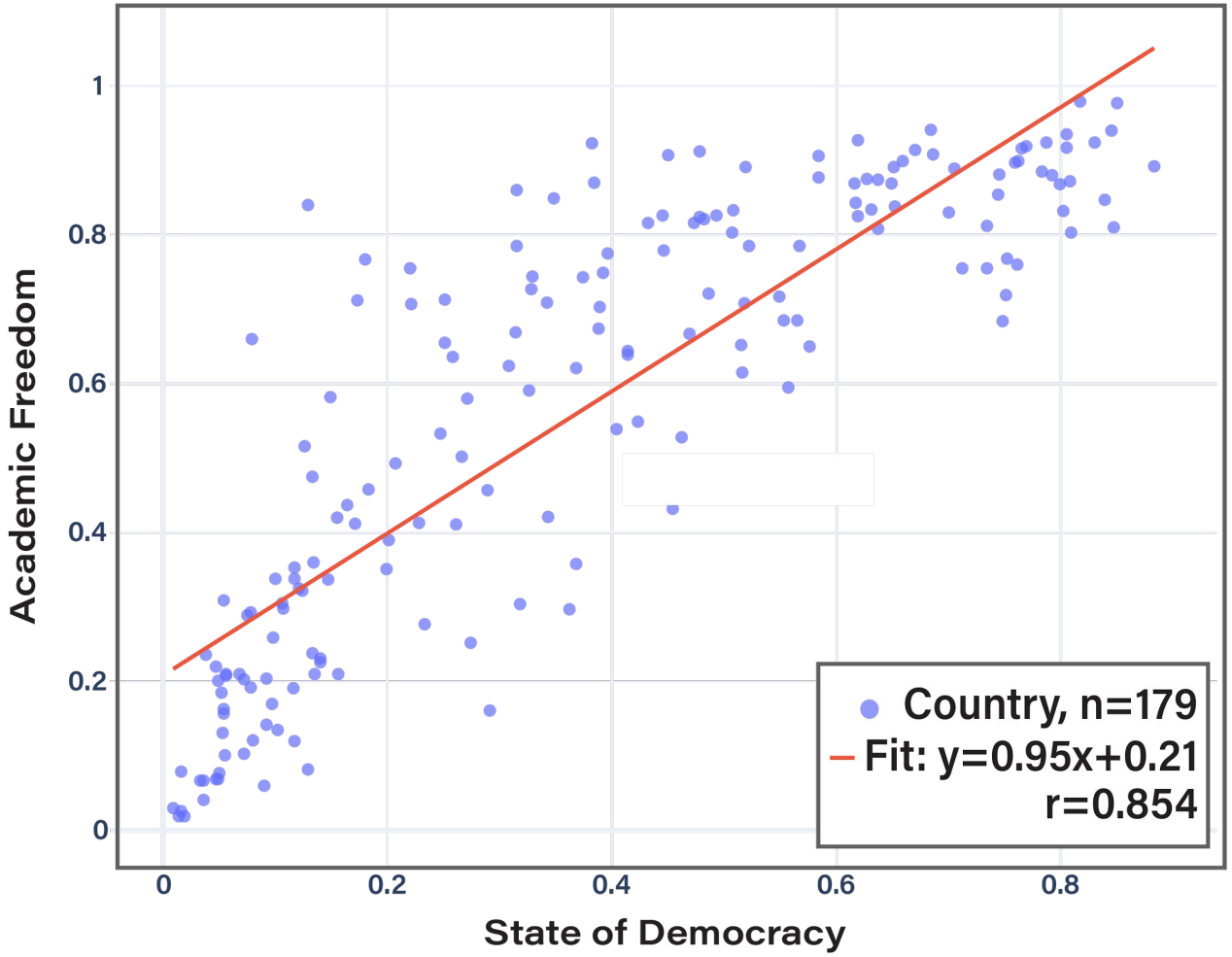


Data from: V-Dem Institute (2025). ***V-Dem Country-Year Dataset v15*** (2024).
Indicators : Liberal Democracy Index (v2x_libdem) and Academic Freedom Index (v2x_academ).

The relationship is strong and consistent across countries



Weaker scientific institutions leave societies more exposed to misinformation and political pressure.



Data from: V-Dem Institute (2025). ***V-Dem Country-Year Dataset v15*** (2024).
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What do we do about it?

We foster research cultures that are sustainable and inclusive

What do we mean by sustainable and inclusive research cultures?

Sustainable

- Support long-term careers and researcher well-being.
- Protect scientific integrity (rigour, reproducibility, independence).
- Are resilient to political, economic, and social pressures.
- Enable research to respond to societal needs.

Inclusive

- Value diverse contributions (mentoring, open science, teamwork).
- Ensure fair opportunities regardless of background, geography, or language.
- Recognise non-linear career paths and care responsibilities.
- Include ECRs and underrepresented groups in decision-making.

How do we foster sustainable & inclusive research cultures?

CoARA Coalition for Advancing Research Assessment

DORA

UNESCO United Nations Educational, Scientific and Cultural Organization Open Science

OECD

International Science Council The global voice for science

Actions

- Reward high-quality fundamental and applied research that advances knowledge.
- Prioritise rigour, openness, and value, not prestige-based signals.

- Assess contributions relative to opportunity.
- Use qualitative assessment and account for non-linear careers.

- Support long-term inquiry; rewarding rigour, reproducibility, and transparent reporting.
- Recognise null/negative results

- Decouple hiring and promotion from short-term output targets.
- Recognise mentoring, teamwork, teaching, and healthy research leadership.

- Value local impact, capacity building, and context-specific excellence.
- Value contribution over authorship.

An ECR perspective on retention of talent

A personal point of view

- Contributions: Limited space for transdisciplinary work or other forms of contribution to science and society.
- Eligibility: Limited funding options for transitioning into an independent research career.
- Funding gaps: Time-intensive fundraising and long timelines create scientific and immigration risks.
- Precarious contracts: Employment depends on securing external grants.
- Lack of flexibility in positions: Novel fields are rarely reflected in job descriptions, limiting opportunities.

Retention requires stability, support, and opportunities to grow

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INSTITUTE FOR Protein Design
UNIVERSITY of WASHINGTON

Thank you!