

Open Science needs no martyrs

Mind your career, but recognize that the game is broken

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@mostlyphysics



universität
wien

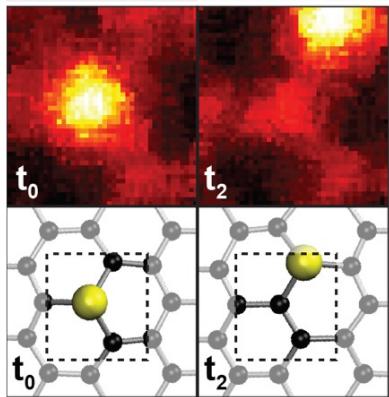
*Initiative for Science
in Europe*

ise:



Young Academy of Europe

My background



FWF Stand-alone project
(2015–2018)



European Research Council
Established by the European Commission
ERC Starting Grant
(2017–2022)

M.Sc. Helsinki U. Technology (2008)

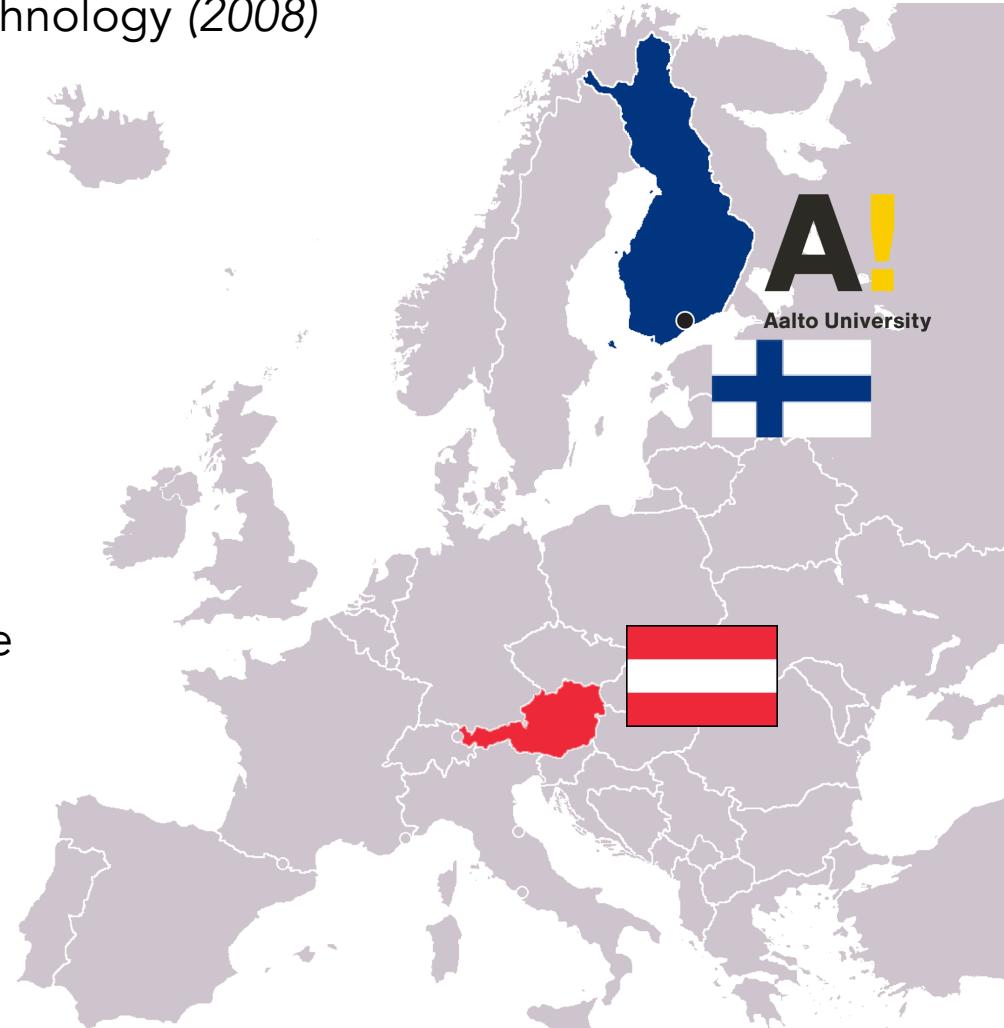
D.Sc. (Tech)
Aalto University
(2011)
postdoc at Aalto
(2011–2013)

FWF-funded PI
(2013–2018)

ERC Starting Grantee
(2017–2022)

Assistant Professor
(2019)

Associate Professor
(tenured, 2021)



Young Academy of Europe



Vice-Chair (2018–2020)



Open Science Task Force
(2020–2022)



Aspirations for Open Science...

Policy statements and recommendations

- 2019: "Open science is a **policy priority** for the European Commission and the **standard method of working** under its research and innovation funding programmes as it improves the quality, efficiency and responsiveness of research.

When researchers share knowledge and data as early as possible in the research process with all relevant actors it helps diffuse the latest knowledge."

- European Commission

https://ec.europa.eu/info/research-and-innovation/strategy/goals-research-and-innovation-policy/open-science_en

- 2018: "For Open Science to be successful, it **must become embedded** at every level and in every aspect of the scientific endeavour and not be perceived as separate from (or even in competition with) current practice.

...To enable this, **all stakeholders** in research and its communication **need to take responsibility for supporting Open Science activities.**"

- Open Science Policy Platform, recommendation report

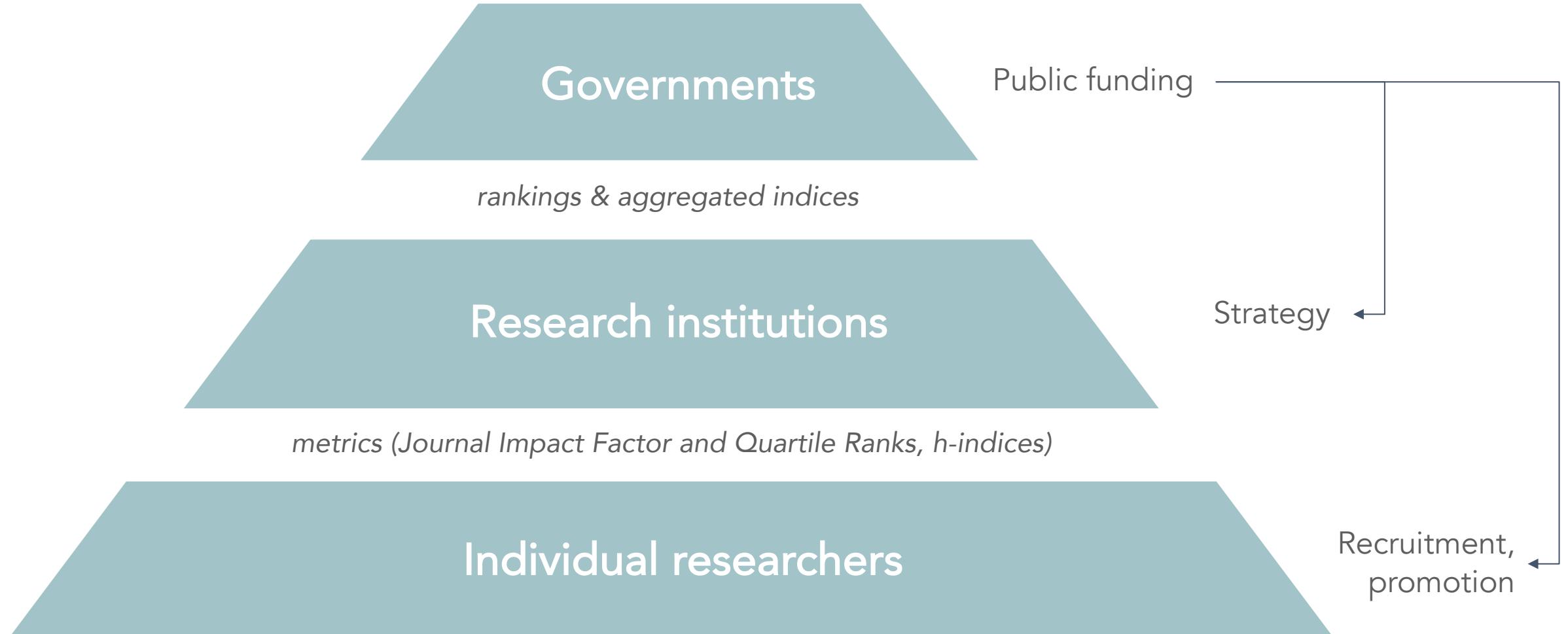
https://ec.europa.eu/research/openscience/pdf/integrated_advice_opspp_recommendations.pdf

... and reality for researchers

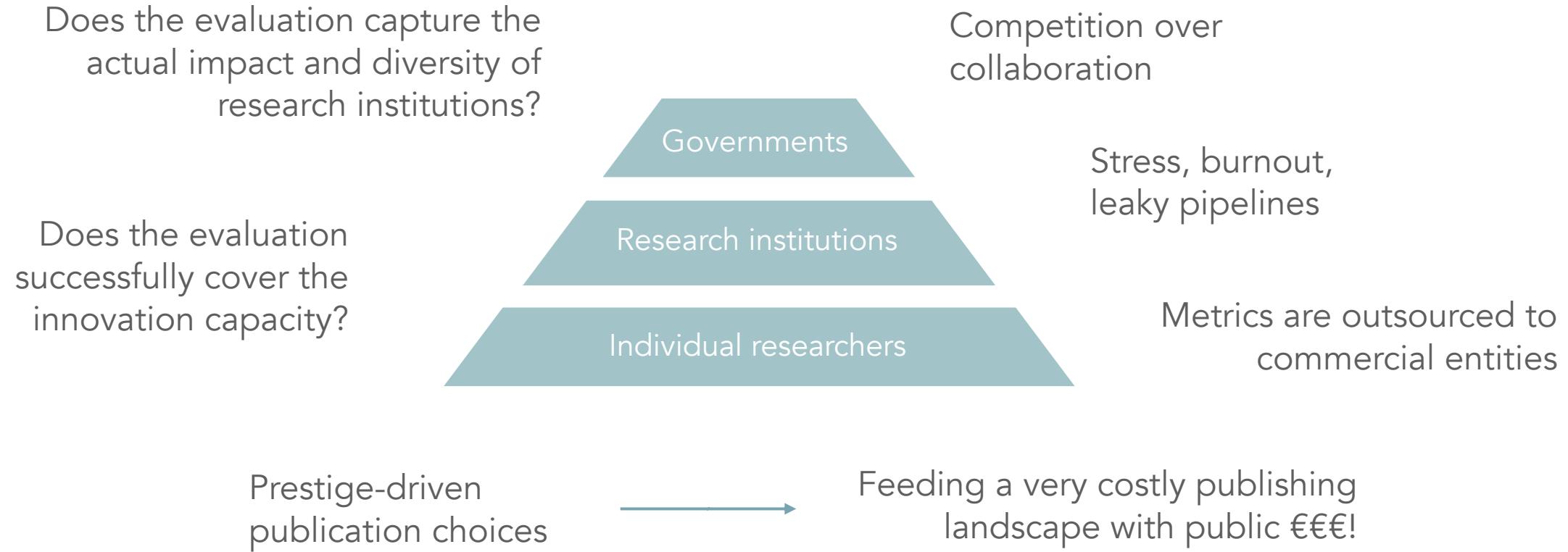
journal prestige prominent, open science... not so much

- 2018: “That faculty hiring and advancement at top institutions requires papers **published in journals with the highest JIF** (e.g., Nature, Science, Cell) is more than just a myth circulating among postdoctoral students.” <https://doi.org/10.1371/journal.pbio.2004089>
- 2019: “A university that pledged not to judge professors on the journals in which they publish has apologized for posting a job advertisement calling for a postdoc who had **published in a title such as Nature or Science.**”
www.insidehighered.com/news/2019/06/28/university-vowed-not-consider-journal-quality-hiring-does-just
- 2020: “**Mention of alternative metrics for sharing** research (3%; n=3) and data sharing (1%; 1) **was rare**, and three criteria (publishing in open access mediums, registering research, and adhering to reporting guidelines) were not found in any guidelines reviewed [for promotion and tenure in biomedical sciences faculties in the US].”
<https://doi.org/10.1136/bmj.m2081>
- 2021: “Open Science in academic assessment: In 34% of institutions, none of the Open Science elements examined by the survey were included in academic assessments.” – 2020-2021 EUA Open Science Survey
<https://eua.eu/downloads/publications/2021%20os%20survey%20report.pdf>

Inappropriate metrics flow downhill



Easy-to-use globalising system, but...



Most pernicious problem: misuse of journal-based impact metrics

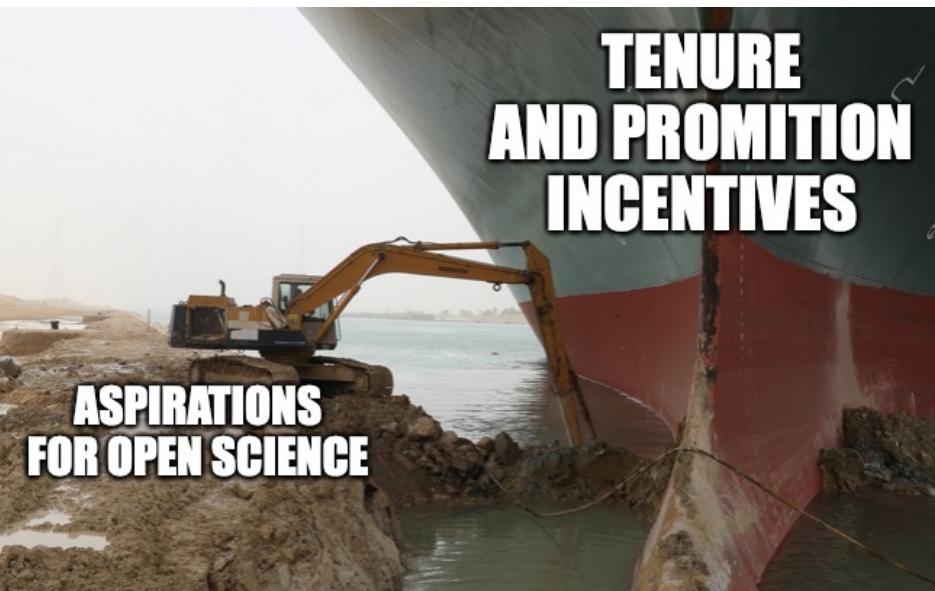
...creating dilemmas for researchers (especially for early-career researchers!)

Career incentives

- Publish (a lot and fast) or perish
- Strategic journal choices over innovative publishing models

Idealistic thinking

- Open data, software, methods...
- Slow-paced innovative approaches
- Collaborative review systems... and more



We need to reform research assessment
...and change the evaluation culture!

Game Over

Empower Early Career Researchers to Improve Research Quality



VERONIQUE DE
HERDE

PhD Candidate
UCLouvain
Belgium



The European Council of Doctoral
Candidates and Junior Researchers



MATTIAS
BJÖRNMALM

Senior Advisor
Research and
Innovation
CESAER



TOMA SUSI

Assistant Professor
Faculty of Physics
University of Vienna



'early career
researchers are
“locked-in” when it
comes to selecting
venues for publication'

'The game may be
rigged, but we all are
forced to play'

'no researcher should
have to martyr
themselves to advance
openness, given how
valuable it is for
science'

The young academic and PhD supervisor: no choice but to perpetuate the current system

I have been supportive of open access since early in my PhD. Although I have tried to publish openly whenever possible, I have consciously – and with the advice of my mentors – chosen journals that are perceived to be most prestigious, in order to further my career. This strategy has been successful: thanks to ample third-party funding that can be used for APCs, the majority of my published output is openly available, but at the same time, I have been able to win prestigious grants and find a tenure-track position at a fairly young age. However, although in this sense I have ‘won the academic lottery’ and my position will soon be secure, a new challenge has started to emerge – I am no longer only responsible just for my own career. I have PhD trainees and postdoctoral researchers under my supervision, whose career prospects I feel responsible to safeguard. Should I submit the key findings of a PhD project to a less prestigious but open access journal, or should I go for the top-tier ‘closed’ options to give them the best chances of succeeding, as I have succeeded? For me, the choice is unfortunate but clear: I need to make sure that the people I supervise have the best chances for career success. This dilemma shows starkly the systemic nature of the problem and also highlights the vulnerability of early career researchers – no researcher should have to martyr themselves to advance openness, given how valuable it is for science. Instead, what is urgently needed is a systematic overhaul of the entire reward and evaluation system to value research on its own merits instead of where it is published.

‘no researcher should have to martyr themselves to advance openness, given how valuable it is for science’

How can we change the system?

First, as a research community, among researchers across all career stages, **we need to take a hard, realistic and honest look at the current reward system and its flaws**, regardless of how well it may have served us.

Second, beyond localized examples of evolving practices of research evaluation [...] a broader **internal dialogue is needed within the research community** to focus on what is important, what should be rewarded and how individuals are evaluated at different stages of their research careers.

Please read:

ISE Open Science Task Force report: "The centrality of researchers in reforming research assessment"
<https://initiative-se.eu/paper-research-assessment>

ERC Magazine interview: "Open science needs no martyrs, but we must recognize the need for reform"
<https://erc.europa.eu/news-events/magazine/open-science-needs-no-martyrs-we-must-recognize-need-reform>