

Show notes

Doing Science Differently

#3 – Success in science [50:47]

Guest: Noémie Aubert Bonn, PhD

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In this episode of *Doing Science Differently*, we will learn more about success in science. Is it about advancing science or more about advancing careers? What makes a ‘successful’ scientist? And what has luck to do with it? Topics such as research assessment, research integrity, and academic brain drain are coming into focus, and it is increasingly important to understand how research evaluation impacts research integrity. In this third episode of our podcast, you will hear from Noémie and her personal journey from the fields of neuroscience and psychology to meta research focusing on bioethics, specifically research integrity. Additionally, you will also learn how early career researchers can build a successful and integrous career.

In this episode, you will hear more about:

[01:16] Noémie’s journey to meta research

“[...] I became very unhappy with the research that I had, that I was doing, because I felt that I couldn’t be entirely honest.”

[05:36] what research integrity means to Noémie

“[...] even if you're not conducting any misconduct, and you're not conducting any questionable research practices, you can create, produce research in a way that has more integrity.”

[11:46] what success in science actually means

“So, we use limited outputs. So limited overview of what the researcher is actually doing, using limited and reductionistic metrics to look at these few outputs. And this is basically what defines success right now.”

[17:32] open science metrics

“[...] one of the things we need is more diversity in what we look at”

[19:50] the perception of a “typical” scientist vs. reality

“Yeah, I think we're not helping science by expecting this typical uniform view of the researcher.”

[27:29] what luck has to do with success in science

“And I realized that luck is used to basically explain where the system fails.”

[31:25] brain drain in academia, and how to improve the situation

“And I realized that for all of them they felt like a failure.”

[38:00] advice on how to have a successful academic career, which includes research integrity

[...] luckily, things are really changing and they're changing really fast. So, I think young researchers right now, they have more room to, everybody understands the meaning of open science, [...]

[41:47] how and where early career researchers can learn more about research integrity and research assessment

“So, there's always some small communities in different universities, journal clubs, et cetera, where you can raise these issues. And if there's none in your institution, I would say it's really worth, maybe, starting one.”

[44:58] if the system is changing (fast enough)

“[...] it seems impossible. But this system is also a system because it's made of people. And now that the people are starting to change, we're starting to change the cultures for real.”

Guest biography

This episode's invited guest is **Noémie Aubert Bonn**, PhD. Noémie successfully finished a MSc degree in psychology and psychiatry in Montreal (Canada). However, after experiencing the competitive environment and the “publish or perish” mentality, Noémie completed a second master in bioethics in which she focused on research integrity (Erasmus Mundus Master of bioethics coordinated by KU Leuven (Belgium)). In 2015, Noémie started her PhD at Hasselt University (Belgium) where she investigated different stakeholder's perspectives on the impact that research assessments have on research practices and integrity. Now, working as a postdoctoral research Fellow at Hasselt University and Amsterdam UMC, she continues her work on this topic. This includes her participation in the European Commission project SOPs4RI, which aims at promoting research integrity by developing a toolbox and providing it to research institutions and funders. Shortly after this podcast was recorded, Noémie also extended her research commitment with a maternity cover at Research England – UKRI, working on several projects in the Future Research Assessment Programme (FRAP).

List of resources

[10:04] Noémie participates in the European Commission project SOPs4RI which aims to create a toolbox providing guidelines and procedures to promote research integrity. This toolbox is being developed with a special focus on research institutions and funding agencies. Find out more here: <https://sops4ri.eu/>

[13:33] The h-index is a standard scholarly metric that quantitatively measures the productivity of individual scientists. Here, the number of publications and the number of times their author is cited is put into relation to each other. If you would like to know more about the h-index score, we recommend these two publications:

Hirsch, An index to quantify an individual's scientific research output. *PNAS*. 2005 Nov 102 (46) 16569-16572. <https://www.pnas.org/doi/full/10.1073/pnas.0507655102>

Waltman and van Eck, The inconsistency of the h-index. *Journal of the American Society for Information Science and Technology*. 2011 63(2), 406 – 415. <https://doi.org/10.1002/asi.21678>

[14:37] Rijcke, Wouters, Rushforth, Franssen, and Hammarfelt, Evaluation practices and effects of indicator use—a literature review. *Research Evaluation*. 2015 25(2), 161-169. <https://doi.org/10.1093/reseval/rvv038>

[32:20] While 85% of postdoctoral researchers want to stay and continue working in academia, only < 3% manage to do so in the end and are being offered a tenure-track position. Read more about this here:

Weijden, Teelken, Boer and Drost, Career satisfaction of postdoctoral researchers in relation to their expectations for the future. *Higher Education*. 2016 72:25-40. <https://doi.org/10.1007/s10734-015-9936-0>

[35:10] Alberts, Kirschner, Tilghman, and Varmus, Opinion: Addressing systemic problems in the biomedical research enterprise. *PNAS*. 2015 112 (7), 1912-1913. <https://doi.org/10.1073/pnas.1500969112>

Alberts, Kirschner, Tilghman, and Varmus, Rescuing US biomedical research from its systemic flaws. *PNAS*. 2014 111(16), 5773-5777. <https://doi.org/10.1073/pnas.1404402111>

Alberts, Are our universities producing too many PhDs? *Trends in Cell Biology*, 1999 9(12), M73-M75. [https://doi.org/10.1016/S0962-8924\(99\)01686-4](https://doi.org/10.1016/S0962-8924(99)01686-4)

[~37:05] The phenomenon that supervisors show less attention to their PhD students after being told that they will leave academia is based on personal experiences from Noémie and several other early career researchers. This was also looked at in the following publication:

Woolston, Graduate survey: A love–hurt relationship. *Nature*. 2017 550, 549-552. <https://doi.org/10.1038/nj7677-549a>

[38:29] Plan S is an initiative to foster open access to scientific publications by stating fundamental principles of open access publishing. It was launched in 2018 and is supported by cOAlition S, an international consortium of funding agencies, research performing organizations, the European Commission and the European Research Council. Visit <https://www.coalition-s.org/> to learn more about Plan S

[40:40] De Herde, Björnmalm and Susi, Game over: empower early career researchers to improve research quality. *Insights*. 2021 34 (1):15. <http://doi.org/10.1629/uksg.548>

[43:01] ReproducibiliTea is an initiative that helps researchers to create local journal clubs. Members come together to discuss publications and issues on open science, reproducibility, and research improvement. The initiative was co-founded by PhD students Sophia Crüwell, Amy Orben, and Sam Parsons in 2018. Find out more and check if a ReproducibiliTea journal club is in your area: <https://reproducibilitea.org/>

[43:48] The UK Research & Innovation (UKRI) organization brings together seven Research Councils as well as Innovate UK and Research England. This national funding agency provides investment and support across all academic disciplines from natural sciences to economics, social sciences, and the arts and humanities. Learn more about UKRI: <https://www.ukri.org/>

[44:04] The Research on Research Institute (RoRI) is an international consortium of funders, academics, and technologists. The goal is to improve the way research is funded, practiced, communicated, and evaluated to achieve a more impactful, open, robust, and inclusive research culture. Follow this link if you would like to know more: <https://www.researchonresearch.org/>

[45:47] The San Francisco Declaration on Research Assessment (DORA) is an international initiative that ultimately aims to eliminate bias in the assessment of researchers and their research. The idea is that research should not be assessed via surrogate measures such as the Journal Impact Factor, but on its own qualities. For this several principles are included in the Declaration. Learn more about the DORA principles here: <https://sfdora.org/>

Other useful links and resources additionally provided by Noémie

<http://bulliedintobadscience.org/>

<https://casrai.org/credit/>


<https://publons.com/about/home/>


<https://www.phdnet.mpg.de/outreach/podcast>

You can find out more about the ‘Doing Science Differently’ Podcast-team under <https://www.bihealth.org/en/quest/projects/spokes/think-tank-members>.

Sponsored by: SPOKES Wellcome Trust Funded Think Tank. For more information visit <https://www.bihealth.org/en/quest/projects/spokes>.

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