

Open Science to Increase Reproducibility in Science

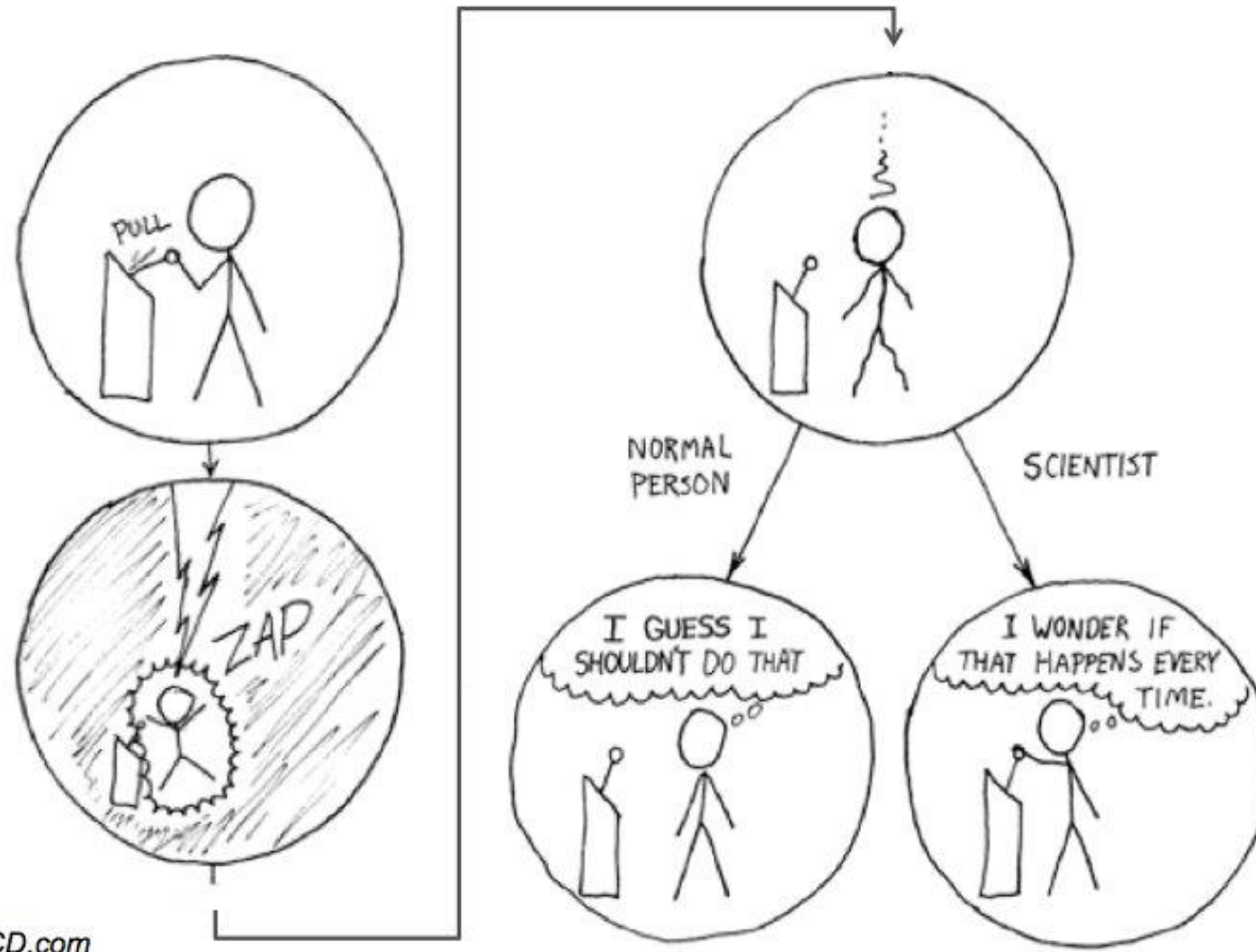
*Summary by Patrick Onghena
3 February 2023*



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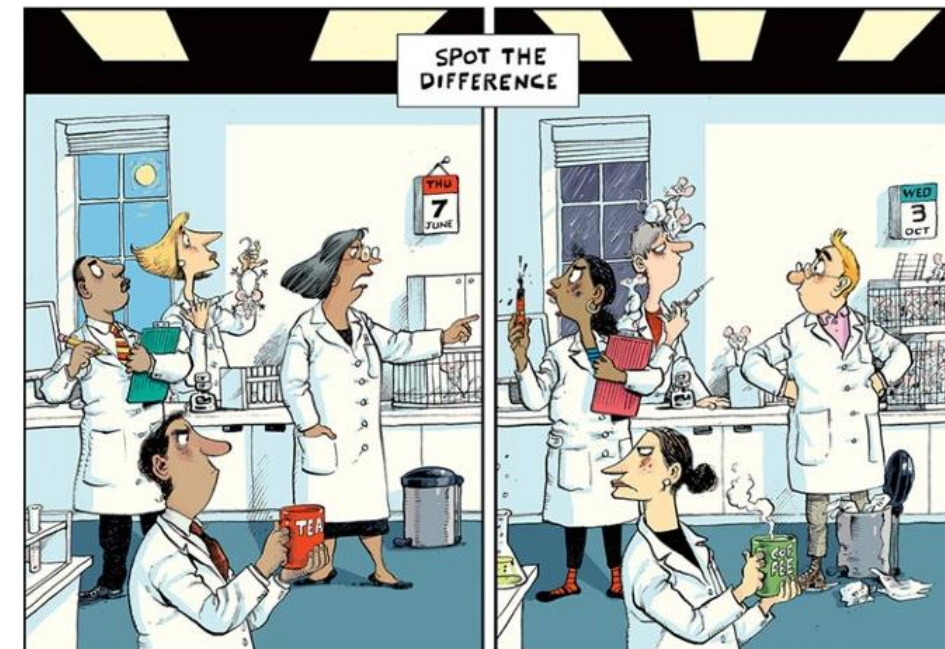
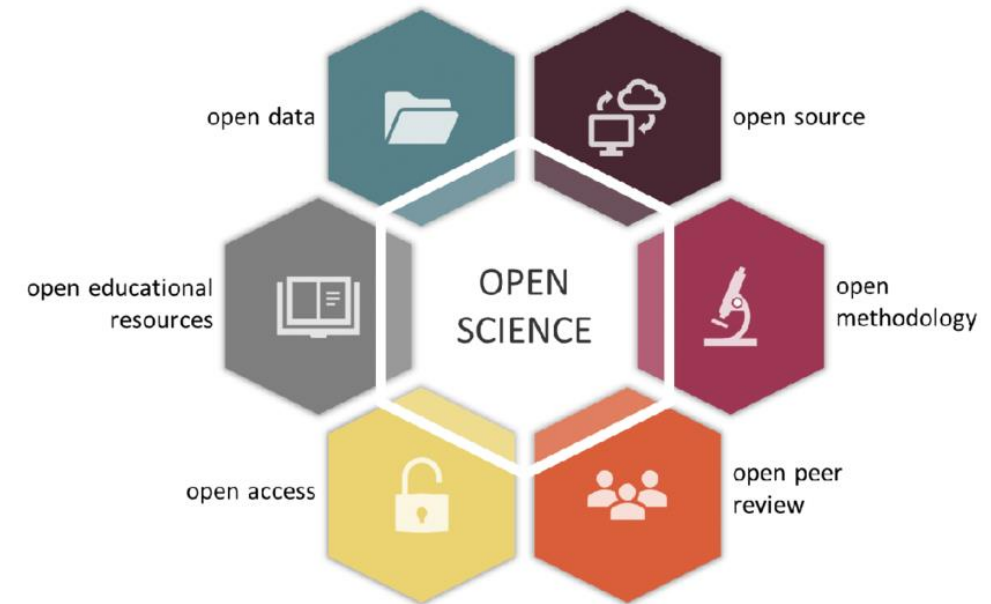
Scientists vs. normal people



From XKCD.com

Main ideas

- Open Science practices are valuable in themselves, but sometimes they are only a means to an end (e.g., reproducibility)
- *In the latter case, what are the effects, in terms of reproducibility, of changing to Open Science practices?*
- Open Science practice = behavior,
→ changing scientific practices = behavior modification



Objectives

1. To understand the underlying drivers and effective interventions that increase reproducibility at funding, publishing, university, and researcher-level
2. To develop and test effective, evidence-based solutions for the reproducibility crisis across various stakeholders in policy and research practice



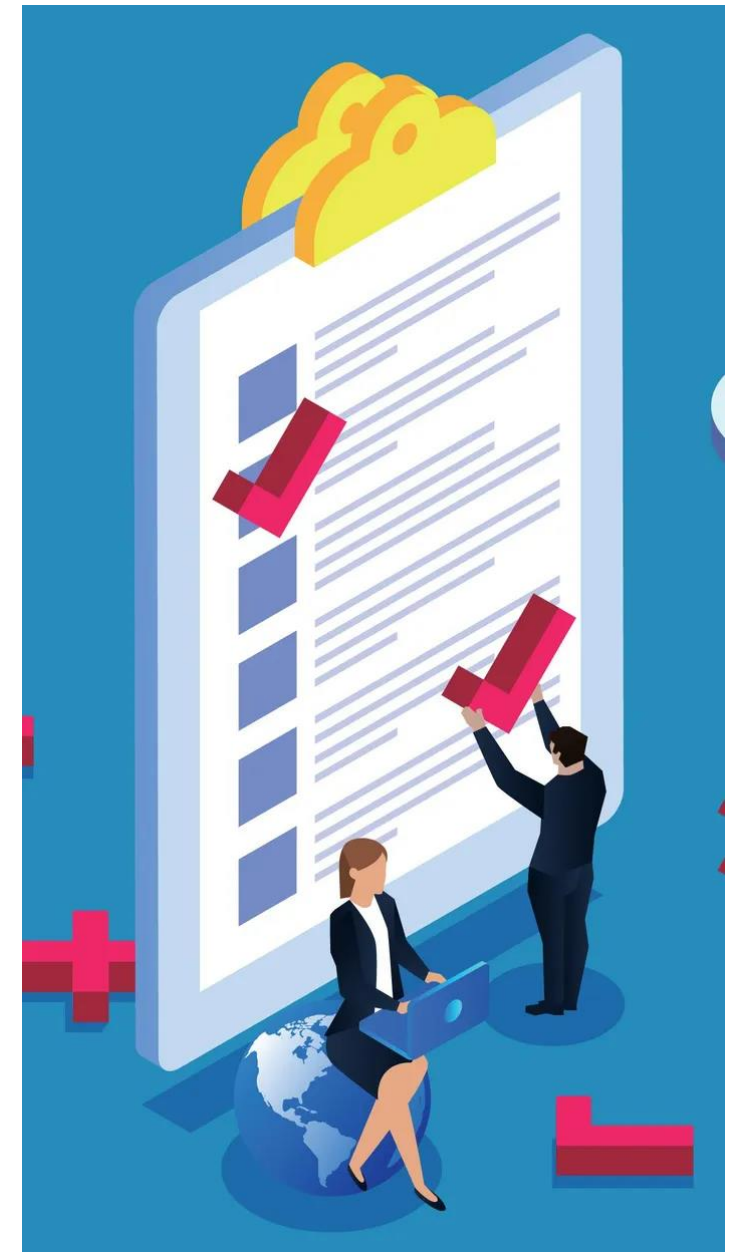
Objectives

3. To embed reproducibility in the strategy and design of research projects
4. To create a collaborative community of stakeholders that will aid in educating and implementing better reproducible research practice



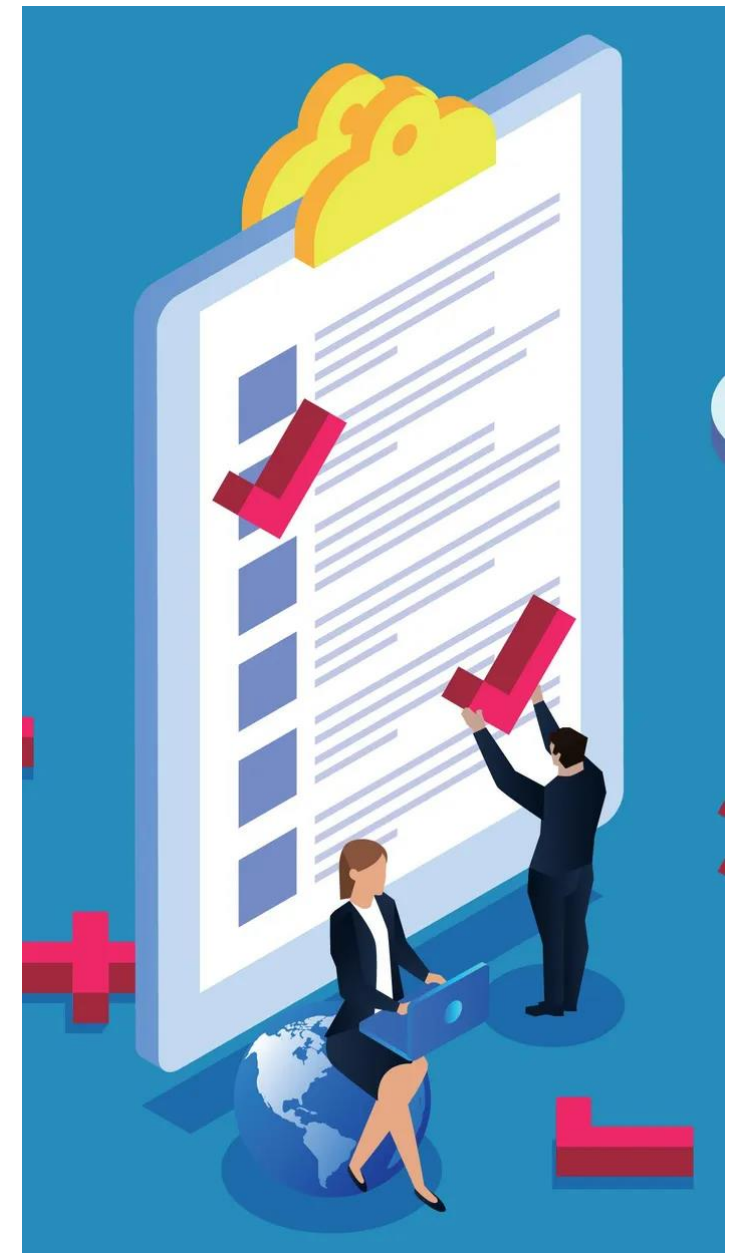
Methods

1. **Systematic literature reviews, evidence mapping, policy audits, interviews, and focus group discussions with stakeholders**
2. **Randomised Controlled Trials, dashboards of indicators of reproducible research practices, and guidance for judging reproducibility**



Methods

3. Informing researchers and convincing funders and journals to include measures and preconditions on reproducibility in their assessment of project proposals and articles
4. Using our results to create guidelines and training on how researchers can embed reproducibility in the design of their research; Quality audits at project and output level to test these novel practices



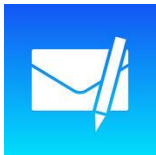
Thank you!



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