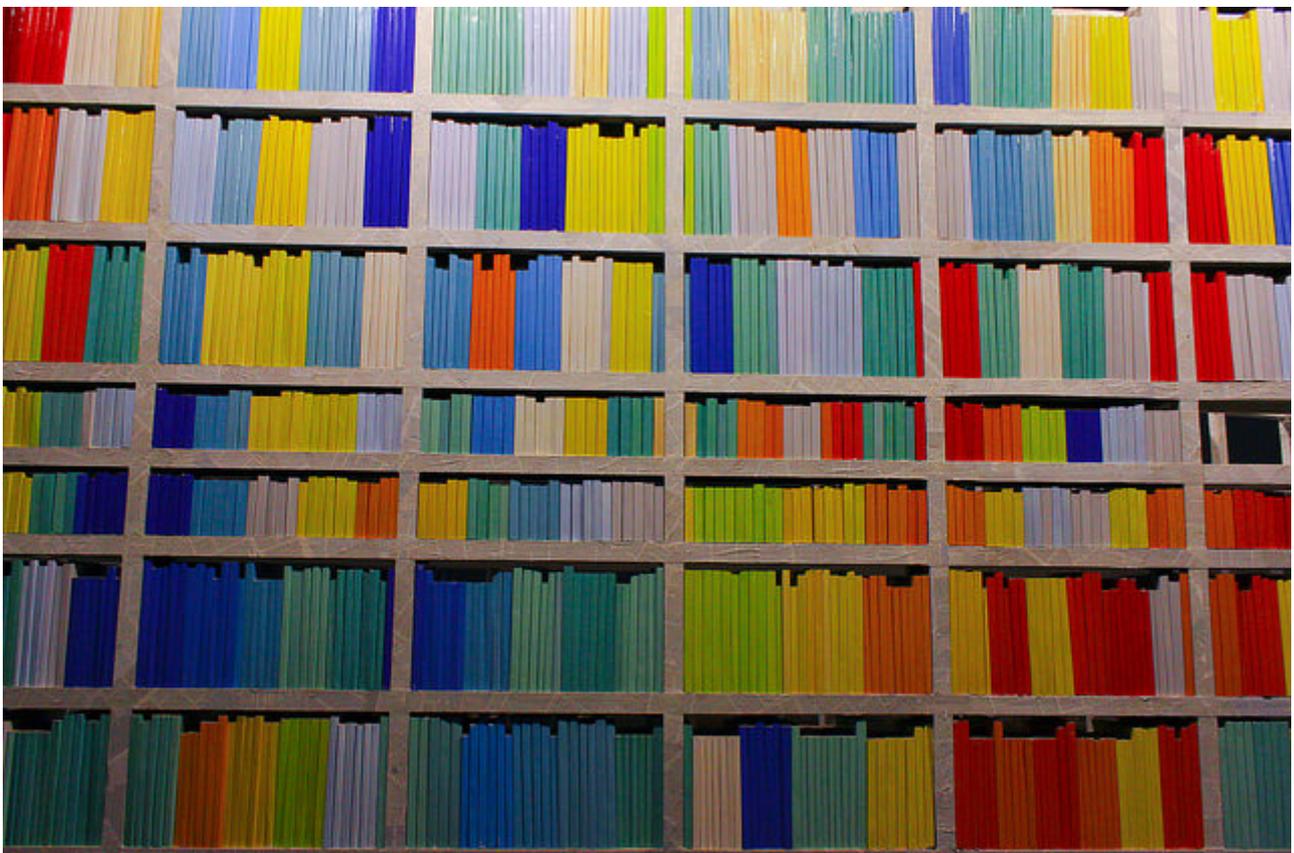


In May 2017, the 5th World Conference on Research Integrity will take place in Amsterdam. It will provide an opportunity to discuss concrete actions that can be adopted by funding agencies and scientific journals to improve the overall quality and integrity of research. In this opinion piece, Lex Bouter, professor of methodology and integrity at VU University Medical Center in The Netherlands sets the scene for the conference.



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What funding agencies and journals can do to prevent sloppy science



How best to improve research transparency and accountability is still up for debate

[Surveys](#) suggest that gross breaches of research integrity are probably quite rare, while lesser offences seem to be alarmingly more common. On the aggregated level, these questionable research practices – in short: sloppy science – may do more harm than the three forms research misconduct can take: fabrication, falsification and plagiarism.

In biomedicine, some argue, the '[research waste](#)' may be as large as 85%, due to irrelevant study questions, poor research methods and selective reporting. [John Ioannidis](#) elegantly explains how we can make clinical research [more useful](#) and [more true](#). These insights will likely be an important consideration in the current revision of the [European Code of Conduct for Research Integrity](#).

A recent [ScienceEurope report](#) explains what can be done to foster responsible conduct of research and to prevent sloppy science. Next to scientists and their institutions, funding agencies and scientific journals clearly have an important role to play.

Funding agencies' role

Funding agencies should make sure that institutions receiving grants have adequate processes for dealing with putative breaches of research integrity, provide good training in responsible conduct of research, and have adequate quality control, including internal audits. They should also require that funded research has transparency 'from protocol to publication' and complies with the principles of '[open access](#)' and '[open data](#)'.

Furthermore, funding agencies ought to demand that grant proposals make clear why the study question is relevant for the envisioned end-users and show that the research question has not already been answered, using a recent systematic review. With a clever combination of eligibility criteria and postponing the last payment until all conditions have been met, funding agencies can be really effective in changing the behaviour of scientists and their institutions.

Finally, it's important that there is a healthy balance between innovation and replication in the portfolio of granting programs and that funders also [invest in research on research integrity](#).

Journal's input into the debate

Scientific journals should first and foremost prevent selective reporting by making sure that the decision to accept or reject a manuscript does not depend on the results of the study, but solely on the relevance of the research question and the soundness of the methods used. [Registered reports](#) is a promising way to ensure this, because the decision is made before data collection and data analysis.

Journals also have a key role to play in enforcing more transparency by demanding registration and publication of the study protocol, data analysis plan, data set and a full report on all results. The [Transparency and Openness Promotion guidelines](#) provide a matrix to clarify journal policy regarding the various aspects of transparency.

Finally, journals need to move from double-blind prepublication peer review to an open debate on the merits of a report that continues after publication. [F1000research](#) offers an interesting example by immediate publication after submission and by also keeping the rejected manuscripts on public file. Disrupting innovation comes from initiatives like [Retraction Watch](#) and [PubPeer](#).

Transparency and accountability

An important forum for reflection and debate on ways to improve research practices are the world conferences on research integrity. The next one will be in Amsterdam in May 2017. The [5th World Conference on Research Integrity \(WCRI\)](#) will be organised around the interlinked themes of transparency and accountability, building on the premise that the honesty and reliability of research are best served by openly sharing all aspects of research and by taking personal responsibility for it.

The conference program will explore the challenges of promoting transparency and accountability and the consequences of the failure to do so, with the overall goal of developing an evidence-based agenda for addressing the various lapses of integrity that seem to have become an endemic problem in research today.

Previously, the world conferences on research integrity have produced two consensus documents: the [Singapore Statement on Research Integrity](#) and the [Montreal Statement on Research Integrity in Cross-Boundary Research Collaborations](#).

One goal of 5th WCRI will be to develop the Amsterdam Agenda for Promoting Transparency and Accountability. This is initially envisioned as an action-oriented one-page statement drawing attention to the urgent need to fight questionable research practices. Next to the above-mentioned actions that funders and journals can take, the Amsterdam Agenda will recommend what research institutes, professional organisations and international governments can do. Early 2017 a web-based survey will be conducted among 5th WCRI participants. A draft of the Amsterdam Agenda will be made available during the months before the conference. And there will be ample opportunity for discussion and debate with a view to improving and focusing the final document.

European scientists, funding agencies and journals have a responsibility to improve the relevance, quality and integrity of research. I very much hope to welcome you to the 5th World Conference on Research Integrity.

[Lex Bouter](#)

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