



# **From researcher to author: research integrity and publication ethics**

A publisher's perspective

23 November 2023

**SPRINGER** NATURE

## About Springer Nature

180 years of history in publishing

### A couple of key figures

- 3000+ journals
- 400.000+ published articles
- 13.000 books
- 90.000+ editors
- 750.000+ reviewers
- 9000+ employees in 45 countries



palgrave  
macmillan



nature  
portfolio  
SCIENTIFIC  
AMERICAN.

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## And a bit about me...

Head of Research Integrity, Resolutions at the Springer Nature Research Integrity Group

### A couple of key points and figures

- Background in philosophy
  - 10 years at Springer Nature
  - 7 years in research integrity
  - 13 people in my team
  - *A lot of* research integrity cases (I've lost count!)
  - +/- 3000 retractions (guesstimate, also lost count)
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- I'm on the trustee board of the Committee on Publication Ethics (COPE)



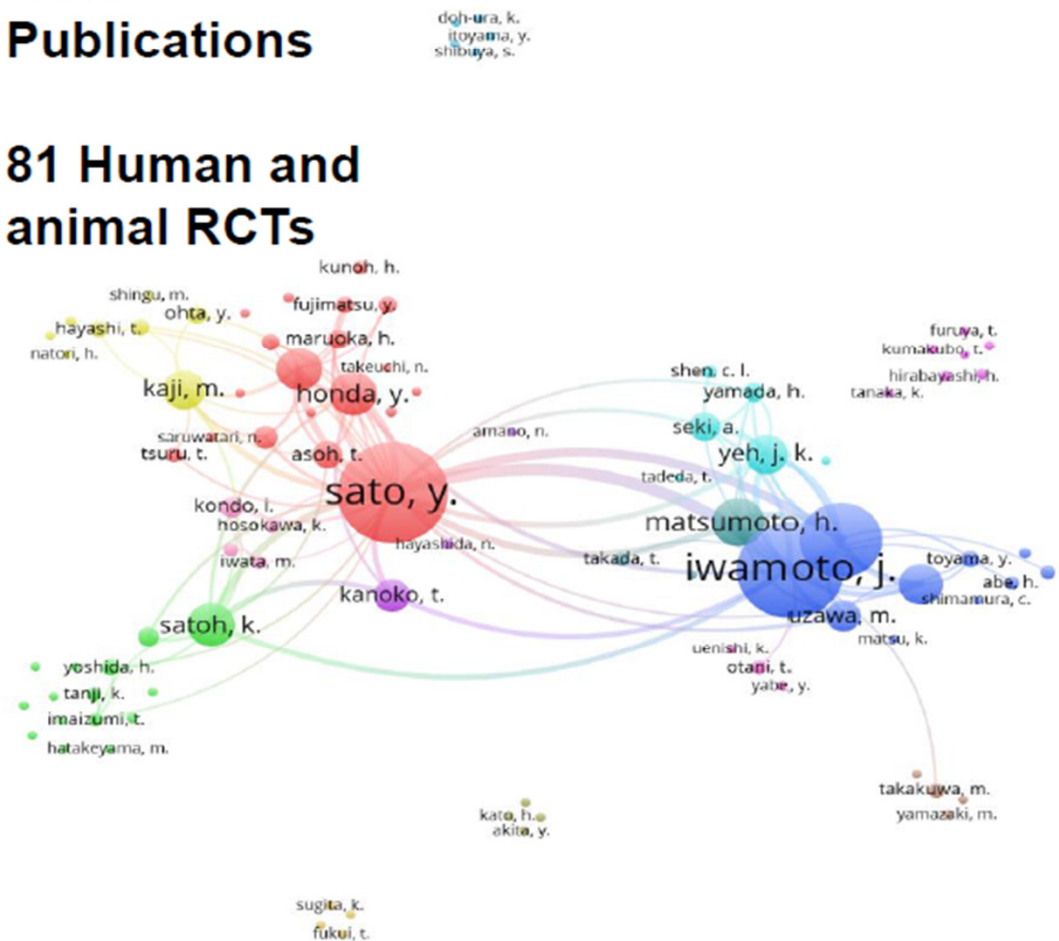
## Permeation of a single trial report



Sato Y, Honda Y, Iwamoto J, Kanoko T, Satoh K. Effect of folate and vitamin B12 on cognitive function in elderly patients with stroke: a randomized controlled trial. JAMA. 2005;293(9):1115-1121.

**>220 Publications**

## 81 Human and animal RCTs



# Research integrity: what can go wrong?

Even more, on an industrial scale...

## Paper mills

- 'Service provider that writes research articles for paying customers
- Data may be fabricated, plagiarized or taken from existing data repositories
- 'Service' may include submission and revisions to a journal
- May involve fake reviewers and selling of authorship
- The latest challenge: AI generated papers!




# Research integrity: what can go wrong?

## Next level: AI generated images

OPINION | VOLUME 3, ISSUE 5, 100509, MAY 13, 2022

### Deepfakes: A new threat to image fabrication in scientific publications?

Liansheng Wang • Lianyu Zhou • Wenxian Yang • Rongshan Yu  

Open Access • DOI: <https://doi.org/10.1016/j.patter.2022.100509> •  Check for updates



Source: © 2022 Liansheng Wang et al

These esophageal cancer images are deepfakes that were created by a generative adversarial network

# We're no stranger to paper mills

Numerous cases over the years

Paper mills have been targeting Springer Nature journals across various fields

- Biomedicine, particularly cancer research
- Computer science
- Mathematics
- And geosciences

## Retraction Watch

Tracking retractions as a window  
into the scientific process

## Journal about 'ambient intelligence' retracts more than 50 papers at once

Perhaps the *Journal of Ambient Intelligence and Humanized Computing* needs to look for a different kind of smarts.



Springer Nature geosciences journal retracts 44 articles filled with gibberish



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# We know the rules, but so do they

Paper mills are getting more sophisticated

## Handling cases, spotting trends and patterns

- New type of paper mill gets flagged
- We clean up the literature
- Adding automated additional checks in QC
- ...
- ...
- ...
- Rinse and repeat?



# Fully committed to protect the literature

But more automation may not always be the answer

## Prevent: invest in tools, share data and insights

- Technology backed prevention measures
- Collaboration within STM Solutions

## Correct: invest in specialists, streamline workflows

- Correcting the literature, retracting articles involves human specialist intervention
- Recent experience has proven there is room for improvement to be better and more effective to correct the literature on a large scale
- It's possible to move fast *and* be COPE compliant!



## Fix the literature

### What actions do we take?

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- Corrections
- Editor's notes and Expressions of Concern
- Retractions
- Report to institutions and other stakeholders
- Retractions should be considered a neutral tool to correct the literature
- Adhere to the COPE retraction guidelines
- Be as open and transparent as possible

**Retraction ≠ punishment**

# DOING RETRACTIONS AT SCALE

Retractions are public, might as well talk about it

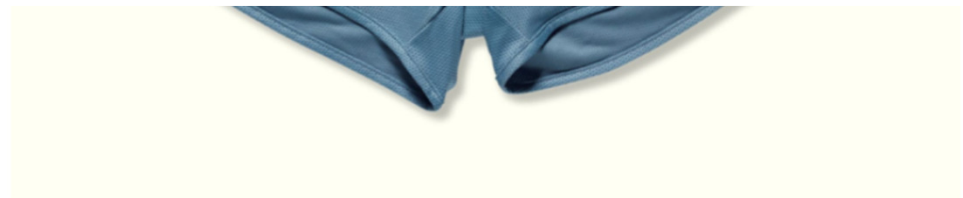
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## Science Publisher Retracts 44

~~Denies for Being Utter Menace~~

**Springer Nature slaps more than 400 papers with expressions of concern all at once**



## SIZING UP THE PROBLEM

From 44 to 400 articles to many retractions

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**A large number of problematic articles, including compromised guest-edited issues**

Several concerns were identified, including but not limited to:

- Incoherent text and/or ‘tortured phrases’
- Irrelevant citations
- Compromised peer review and/or compromised editorial process

# Raising awareness: when researchers become authors

## How publishing research teaches researchers about research integrity and publication ethics

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### Normative function of editorial policies

What if your research can't be considered for publication?

- Editorial policies follow generally accepted guidelines and best practices
  - How publishing and doing research with integrity amplify each other
  - Check COPE, ICMJE, ESA, editorial policies before you start research, not after!

2

### Educational aspect of correcting the literature

Corrections, Expressions of Concern and retractions protect the integrity of the record

- Post publication editorial action is also educational for both editors and authors
  - Retractions can show potential pitfalls to avoid
  - Complicated cases itself serve as learning points for editors and authors
  - Publisher can ensure consistency, provide support and resources for editors

# Taking the lead in research integrity as a publisher

## Keeping the literature safe

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**THANK YOU**

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