

Academics strike back against bad science

Oliver Moody,
Science Correspondent

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The Times



Corina Logan says defiance has cost her grants and a big job

DIETER LUKAS

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For one young scientist, the moment of truth came when she was presented with a pre-written template for her study and told to fill the results out in the gaps.

For another, it was when she was told that the editor of a leading journal would prefer to

publish “sexy” articles even if they were not reliable.

Fed up with the relentless pressure to produce reams of jazzed-up findings, a group of junior researchers at the University of Cambridge are fighting back with a campaign called Bullied into Bad Science.

The movement has now spread to universities around the world, including Bristol, Oxford, University College London and the University of California, Los Angeles. More than 50 academics have signed up so far.

Each has a story of being told by senior colleagues that their career would be on the line if they did not keep up a steady flow of eye-catching results in top journals, where their articles cannot be read without an expensive subscription.

The imperative to publish or die leads to a tide of rushed, exaggerated and sometimes downright false research, according to the campaign’s organisers.

One of Bullied into Bad Science’s biggest

concerns is the discrimination against “ethical” open-access journals that make publicly funded science freely available to anybody who wants to check the results.

Corina Logan, a Leverhulme early career zoology research fellow at Cambridge, who founded the group, said she had been turned down for grants and a big job at another university because of her refusal to play the publication game. “We don’t have to be pressured,” she said. “Stop pressuring us, especially when we are making choices that are good for science and good for academia. We might have inherited this crazy, broken structure that supports bad science, but we don’t have to perpetuate it.”

The campaign has won an influential ally in David Spiegelhalter, a statistician at Cambridge who told the Royal Statistical Society this week that most studies contained inflated claims.

“To be honest, the journal model is an archaic, Victorian scientific process that frankly is not particularly fit for purpose in the modern age of mass science,” Professor Spiegelhalter said.



discoveries and these are unnecessarily incentivised by the publication process. If we were starting the whole scientific publication process now we would not choose the current method.”

In an ideal world, researchers would get on with doing thorough science and release their results only when they are ready and in a place where all the world can see them free of charge. The world of science often falls short of that ideal, according to Laurent Gatto, a senior research associate in biochemistry at Cambridge who is another of the movement's leaders. “There's pressure to publish, publish a lot, and publish in some journals that are considered better,” he said.

“The side-effect is that both scientists that submit as well as editors that accept papers are likely to cut corners to get the sexiest research in these glamorous journals.”

In rare cases, the skewed incentives lead academics to cheat the system. In the past week Frank Sauer, a US biochemist, was given a five-year ban from receiving US government grants

after doctoring images in the world's two top-ranked journals, *Nature* and *Science*, while Erin Potts-Kant, formerly of Duke University, North Carolina, admitted faking data that may have landed her team several hundred million dollars in federal funding.

Usually, however, the effects are much more subtle. One scientist, speaking anonymously, said they had been effectively forced to pay \$6,000 to publish work in a more prestigious journal. Another was told by a supervisor that making their science open access would not be “good for your stats”. The researcher said: “It’s all very disheartening. I played the game several times. I don’t any more.”

Bullied into Bad Science has in its sights the senior academics and university officials who choose which researchers to hire or fund on the basis of how many papers they have published and in what journals – sometimes without reading the articles in question.

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Icarus 35 minutes ago

Any chance that similar pressure applies to global warming "research"?

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Grumpy Old Man 20 minutes ago

@Icarus If you are chasing the money Climate Change Research is the way to go.

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GAURAV AGRAWAL 36 minutes ago

Evidence based medicine has changed for the worse from it's ideal inception from Bradford-Hill due to the need to show superiority of a new treatment over another.

Sadly for many scientist they have to 'tow-the'line' if they want a job at a big institution (where inevitably there is a higher chance of receiving funding).

However this then means their original ideas are squashed to follow the dept's thoughts and hence no new thinking is introduced. All a bit of a shame really

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Nick Tilley 44 minutes ago

Good to see that we still have students interested in science not fame or cash...

We need to see Universities address the generation of staff who see money as motivation rather than innovation and progress in understanding.

There are those with world changing ideas out there starved of cash by the powerful interests that provide research funding for their own ends.

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Adrian Bamford 1 hour ago

Great cause - keep market forces away from academia.

2 ★ Recommend ← Reply

GAURAV AGRAWAL 38 minutes ago

@Adrian Bamford A wishful ideal however the role of pharmaceutical in the US means this will be impossible, given their private healthcare and being the number 1 research centre in the world - most trials are funded by them (as they cost the earth).

★ Recommend ← Reply

Phlegethon 2 hours ago

Academically coerced purple publishing is a fast growing problem that needs dealing with, so bravo for this movement. The up front fee discourages good science from financially poor authors and vice-versa; both, though, are driven by the "publish-or-perish" mantra on their way to a University chair. I have

threatened to withdraw a paper on being sent an invoice by the journal, but on both occasions an "exception" was rapidly made, the demanded fee waived and the two papers were published on merit.

4 ★ Recommend [← Reply](#)

Zenocrate 4 hours ago

Journals may be perceived as of the devil's party but they are not alone. Ben Goldacre's Bad Pharma is concise, angry and persuasive on this topic.

3 ★ Recommend [← Reply](#)

Magneum 1 hour ago

[@Zenocrate](#) His book titled 'It's more complicated than that' is also worth reading.

1 ★ Recommend [← Reply](#)

Mikep 4 hours ago

I'm an academic, and can confirm that the pressure to publish big papers is a large concern for many. This said, there are some counter arguments here. Firstly, most big universities pay the open access charge now, as a matter of course. This means that even expensive journal papers will be accessible to everyone. When this is not done, many venues allow you to release a post review version for free, and many do anyway on arXiv and biorXiv.

The big question unanswered here, though, is how these academics aim to justify their work and pay. We would all love to stop publishing so often and get on with the work we love, but we receive about £4b of UK taxpayer money each year, we need to justify this. It's untrue and very unfair to say academics have it easy, it's a hard job, but all jobs require some measure of performance by which they justify themselves.

4 ★ Recommend ← Reply

TRILBY MILLS 4 hours ago

There should be no such thing as either "bad" or "good" science, science should be properly conducted and methodologically sound. Then it can be judged to be significant or not, but this is also difficult as significance can only be truly judged in hindsight. At present publishing in peer review journals is used as a surrogate for quality. This is not always true. Journals themselves are judged by another surrogate metric for quality, the citation index. This was designed to help libraries choose which journals to stock, but now is used to judge not only the journal but also the individual researchers performance. This is wrong. Finding alternatives is hard though!

★ Recommend ← Reply

andre 4 hours ago

The politicised science of global warming is a prime example.

4 ★ Recommend ← Reply

Alex Ogle 4 hours ago

The trouble is that, without high-profile papers being published to garner interest, funding would soon dry up.

The real trouble is the non-scientific community (read: Everyone else) who do not understand anything and would rather get their scientific analysis through poorly composed media articles than directly. The moment these bastions of truth are met with poorly published, but sensationalised, papers from lesser institutions, they will find that funding

disappears.

The same is true of technology start-ups: so many bad ideas but dress them up in marketing paraphernalia and they suddenly drain a load of capital that could better be used elsewhere.

1 ★ Recommend ↩ Reply

Ian Burgess 5 hours ago

Publish or perish has been part of academia especially in the USA for years.

2 ★ Recommend ↩ Reply

Long-time Skeptic 6 hours ago

This problem is very well known.

No-one knows how to change it, there are vast sums of money being made from it, and some careers enhanced. All the senior scientists and research directors have come up through the ranks under it so they don't like it being questioned.

HR directors like it for hiring and promotions because publication counts and impact factors are objective measures, so no legal risk of favouritism/sexist/racism lawsuits.

1 ★ Recommend ↩ Reply

Ken Broadbent 6 hours ago

The science reporting in The Times is risible.

3 ★ Recommend ↩ Reply

Stanley Cohen 1 hour ago

@Ken Broadbent

No, Ken, it's not that good.

2 ★ Recommend ↩ Reply

Magneum 7 hours ago

Time for a few sting operations? Undercover reporters at the ready...

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