Responsible, ethical and fair authorship

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UKRIO Introduction to Research Integrity    

#UKRIOwebinar
“Publications, priorities, the order of the authors, the choice of the journal, the collegiality and the brutal competition, academic tenure, grantsmanship, the Nobel Prize, Schadenfreude – these are the soul and baggage of contemporary science.”

“My Jean Ardley changed her name from Yardley to climb up the alphabetical ladder of authors. So did a scientific acquaintance of mine – jumping some twenty letters to move to the front by a stroke of a judge’s pen.”

From Cantor’s Dilemma, by Carl Djerassi (Afterword)
“And underlying these worries was yet another: that scientific articles have been hijacked away from their primary role of communicating scientific discovery to one of demonstrating academic activity.”

Pressured to publish in high-impact journals ("told that if it wasn’t Nature or Science it wasn’t worth publishing … was actively prevented from publishing valid, good science in lower impact journals")

Unable to reproduce a former post-doc’s results, was blamed and the paper submitted to a lower-impact journal than planned

Harassed by supervisors to modify data to make papers look better for publication in prestigious journals

Coerced into conducting flawed research

http://bulliedintobadscience.org/
uncovered a flourishing academic black market involving shady agencies, corrupt scientists, and compromised editors

- Papers for sale (catalogue), data for sale (real or faked)
- Ghostwriters available to write papers
- Authorship for sale (even at provisional acceptance)
Authorship can bring big rewards

US$50,000

*Cash for papers: putting a premium on publication* (*Nature*, 2006: 441, 792)

“With great fanfare, Sichuan Agricultural University held a ceremony two weeks ago to announce that it was awarding a 13.5-million yuan prize (US$2 million) to a group of its researchers, for a publication in the journal *Cell*.”

Editorial questions the wisdom of paying bonuses and allocating grants based on individual research papers, and of awarding cash day after publication.

*Don’t pay prizes for published science* (*Nature*, editorial, 7 July 2017)
Switched the lead-author with a co-author who is more senior, in order to increase the likelihood of publication
HSS 10%, STM 23%

Switched my main institutional affiliation to a secondary institutional affiliation in a different region of the world, in order to increase the likelihood of publication
HSS 7%, STM 17%

@irenehames  #UKRIObreakdown
Amber McKenna, MS(MDToBe) 🐸

@soon2beMDinPink

So I'm being told it is inappropriate for a med student to be 1st author on a paper and therefore the fellow/PI needs to be 1st author. Is this true? B/c this fellow has said I could be 1st author since Jan and I’ve put over 200 hour of time in and have done ALL the writing.

7:20 PM - 22 Oct 2018

79 Retweets 636 Likes

Pure bullshit.

1:42 AM - 24 Oct 2018

6 Likes
In the last few weeks since I vented on here about being left of a paper I thought I should’ve coauthored, I’ve had no less than 15 people write & say something similar is/has happened to them. Nearly all were ECRs; the majority were women.

8:13 PM - 22 Apr 2019
144 Retweets 520 Likes

>75 folks have now chimed in. Journals/editors insist it’s a matter for universities. That ignores non-university scientists. And organizations refuse to investigate unless both parties are staff/students. This is one of the most fundamental parts of science careers. It’s broken.

7:12 AM - 24 Apr 2019
22 Retweets 55 Likes
What qualifies someone for authorship?

**General rule:** *all individuals named as authors should qualify for authorship, and all those who do qualify should be listed (should be no ‘guest’ or ‘ghost’ authors).*

- Generally based on substantial (intellectual) contribution to work conception/design; data acquisition/analysis/interpretation; drafting/revising work critically for important intellectual content

- Getting funding or general supervision or administrative support alone do not justify authorship

- *Being head of the department or institute doesn’t qualify for authorship*
Authorship guidelines

- Are many, from brief statements to very prescriptive requirements
- ICMJE (International Committee of Medical Journal Editors)
  - four criteria have to be met for authorship, otherwise individuals should appear in the acknowledgements
  - considered by many to be too rigid, limited and open to abuse
- McNutt et al (2018) *PNAS*, **115**, 2557-60 – have adapted the ICMJE guidelines to encourage broader adoption, e.g. creation of new software counts, actual writing no longer a requirement, approval of submitted version as well as any substantially modified versions that involve an author’s contribution to the study
  - Also outline what is expected of corresponding authors – role involves considerable responsibility and effort
Guidelines are useful, but …

- Need to be understood, can be a challenge to put into practice (can be ambiguous – language and punctuation)

- Not always clear to researchers what normal practice is – don’t assume even the most basic knowledge (group leader/senior researcher responsibilities)

- Helpful when discussing authorship, when following journal submission requirements (journals may use them without discretion), junior researchers can point to them when needed
With authorship comes responsibility

... for the integrity of the work

... for accountability

... for resolving authorship disputes

- When disputes arise, manuscripts are ‘put on hold’ - whole group, collaborators and others suffer

- Not the editor’s/journal’s role to resolve disputes – up to researchers and their institutions
Authorship conventions vary between disciplines and cultures

- What does the order of the authors mean?
- What contribution qualifies for authorship?

Because of differences:

- publication credit can be misunderstood
- evaluation in hiring, promotion and funding decisions can be difficult
- author disputes can arise
17. **Publication.** Collaborating partners should come to agreement, **at the outset and later as needed**, on how publication and other dissemination decisions will be made.

18. **Authorship and Acknowledgement.** Collaborating partners should come to agreement, **at the outset and later as needed**, on standards for authorship and acknowledgement of joint research products. The contributions of all partners, especially junior partners, should receive full and appropriate recognition. Publications and other products should state the contributions of all contributing parties.

(3rd World Conference on Research Integrity, 2013; [https://wcrif.org/guidance/montreal-statement](https://wcrif.org/guidance/montreal-statement))
Increasing number of authors

Who did what?
CRediT – Contributor Roles Taxonomy

- high-level taxonomy used to represent the roles typically played by contributors to scholarly output
- 14 contributor roles
- roles describe each contributor’s specific contribution
- increased transparency and accessibility of research contributions
- launched 2014, being widely adopted

http://credit.niso.org/
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td>Conceptualization</td>
<td>Ideas; formulation or evolution of overarching research goals and aims</td>
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<tr>
<td>Data Curation</td>
<td>Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later reuse</td>
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<tr>
<td>Formal Analysis</td>
<td>Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data</td>
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<tr>
<td>Funding Acquisition</td>
<td>Acquisition of the financial support for the project leading to this publication.</td>
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<tr>
<td>Investigation</td>
<td>Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection</td>
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<tr>
<td>Methodology</td>
<td>Development or design of methodology; creation of models</td>
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<tr>
<td>Project Administration</td>
<td>Management and coordination responsibility for the research activity planning and execution</td>
</tr>
<tr>
<td>Resources</td>
<td>Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools</td>
</tr>
<tr>
<td>Software</td>
<td>Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components</td>
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<tr>
<td>Supervision</td>
<td>Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team</td>
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<tr>
<td>Validation</td>
<td>Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs</td>
</tr>
<tr>
<td>Visualization</td>
<td>Preparation, creation and/or presentation of the published work, specifically visualization/data presentation</td>
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<tr>
<td>Writing – Original Draft</td>
<td>Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation)</td>
</tr>
<tr>
<td>Writing – Review &amp; Editing</td>
<td>Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre- or post-publication stages</td>
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Authorship ‘visualisation’

Neuropixels 2.0: A miniaturized high-density probe for stable, long-term brain recordings

* Co-first authors
† Corresponding authors: nicholas.steinmetz@nih.gov, edward.moser@motorcycleổi.org

Author Contributions

References

From J. Simon Wiegert @SimWieg tweet 6 December 2020: “I think we should be much more precise in labeling what was contributed by whom. I started putting these tables in our manuscripts for that reason (inspired by @AnneEUrai, @SteinmetzNeuro).”

‘Connecting research and researchers’

- a persistent identifier (ORCID iD) for researchers and scholars
- connects iDs with professional information, research activities — eg, affiliations, grants, publications, peer reviews

https://orcid.org/
Avoiding/minimizing authorship disputes

In research groups and collaborative projects:

1. Have a clear authorship/contributorship policy

2. Discuss and document individual contributor roles and provisional authorship early on, ideally at start of project

3. Review contributions as work progresses, revise roles and authorship until manuscript submission

4. Keep a descriptive authorship contribution list

5. Document the reasons for author/contributor additions and deletions, get agreement from all

6. Make sure all authors see and approve final manuscript

Available on figshare [http://dx.doi.org/10.6084/m9.figshare.96831](http://dx.doi.org/10.6084/m9.figshare.96831)
Ethics discussions in research groups

A good example of how one group leader approached this – *Dynamic Ecology* blog, 1 April 2014

- “… there was such a palpable hunger for talking about the subject that it made me very happy we had taken the time and I plan to repeat this”

- “So even if you think your lab has no problems – no especially if you think your lab has no problems – just do it. Go ahead and schedule a discussion of scientific ethics in your lab. You’ll be glad you did. I certainly was!”

- “Am I just slow and you already have ethics discussions in your lab? How do you do it?”

http://dynamicecology.wordpress.com/2014/04/01/scientific-ethics-discussions-in-labs/
Institutions – how they can help

- Create awareness of issues, potential problems and abuse; promote good practice – *aim to create a culture of ethical and responsible authorship*

- Educate, train, support – at all career stages; aim to avoid problems occurring/escalating

- Have efficient and consistent procedures and arbitration processes for resolving disputes, referrals, accusations of misconduct/unethical practice

- Encourage adoption and use of ORCID and introduction of CRediT

- Encourage (early) discussions in research groups and between collaborators
Authors – check your manuscripts carefully

... for things that shouldn’t be in them:

- before submission
- after revision
- at proof stage
- including the supporting materials
“Original version published on 12 July 2014 has been replaced due to inclusion of an author's note not intended for publication.”

“Although association preferences documented in our study theoretically could be a consequence of either mating or shoaling preferences in the different female groups investigated (should we cite the crappy Gabor paper here?), shoaling preferences are unlikely drivers of the documented patterns both because of evidence from previous research and inconsistencies with a priori predictions.”
What was meant?

*Organometallics* 2013 paper - note from PI to first author was left in the supporting information and published:

“… please insert NMR data here! where are they? and for this compound, *just make up an elemental analysis*…”

After editorial review:

“*There was no evidence in any of the materials received that indicated falsified analyses.*”
What Researchers Think About the Culture They Work In
Wellcome Trust report, Jan 2020

Figure 1:
Words that researchers would use to describe research culture
*Survey, n = 2339 – research community, UK and international.*

Figure 21:
Words that researchers would use to describe an ideal research culture
*Survey, n = 4079-4110 – research community, UK and international.*
Make authorship an ongoing dialogue, from the start of a project until publication
More information on the UKRIO website  https://ukrio.org/

Thank you for listening!

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