

# Akademische Autor\*innenschaft

## Was heisst das?

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26.01.2021

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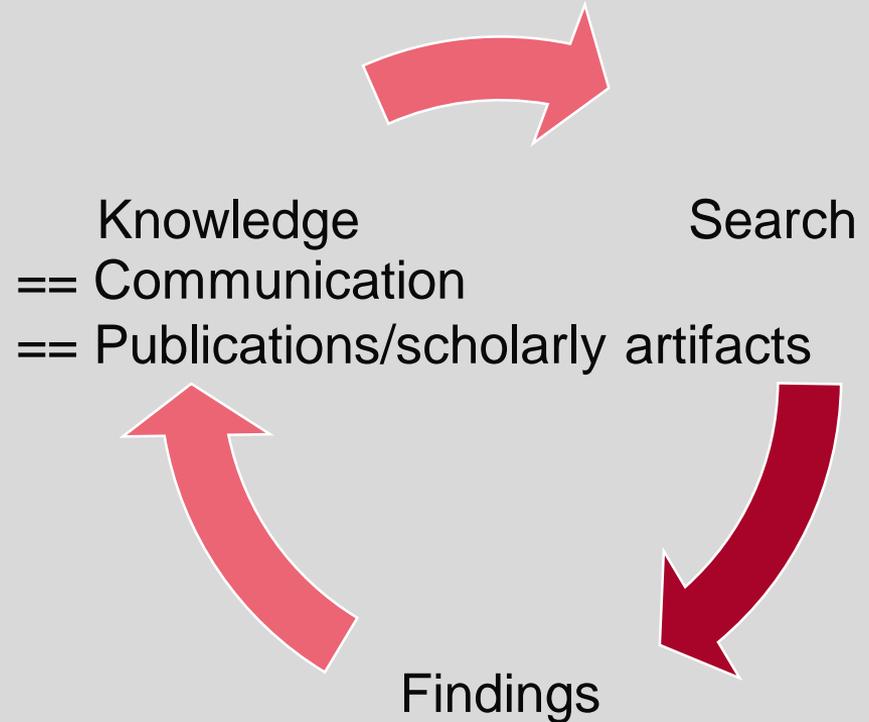
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# (Scientific) Research

## Human Research Act

HRA Art. 3, a: «*Research* means method-driven search for generalisable knowledge”



# The talk

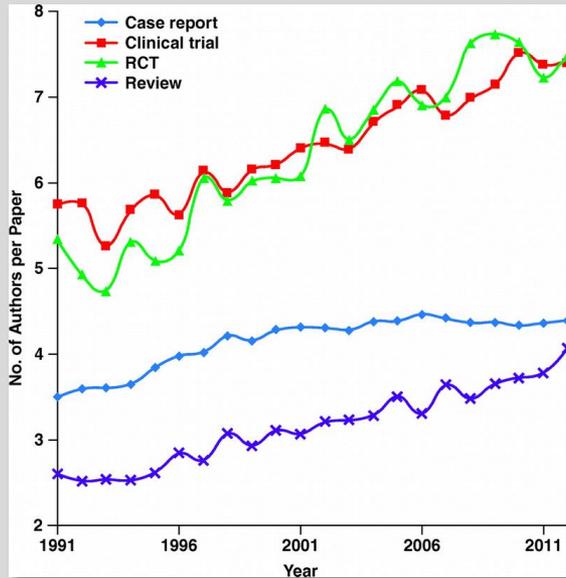
## Menu

- Context (empirical data)
  - Number
  - Concentration
  - Gender
- Authorship criteria
- Contributorship
- Accountability
- Responsible authorship (research misconduct)

# Growing number of authors

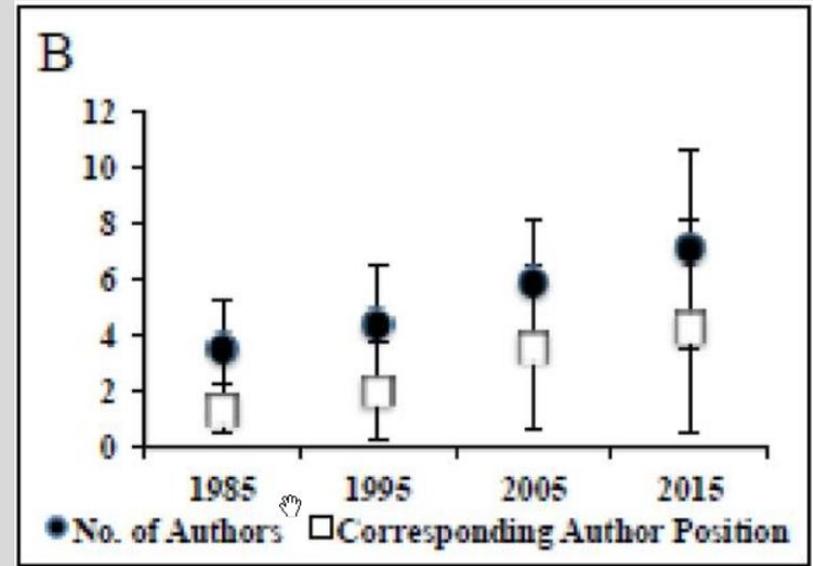
## Two examples

### Articles from radiologists



1991-2012; 142,576 articles

### Bone



1985-2015; 899 articles

*Chow DS et al. 2015; Khan F et al. 2018*

# Why more and more authors?

## Possible explanations

- Inflation
  - Increased academic pressure
  - Gift authorship
- Increased complexity
  - More collaborations
  - More complex study designs

## Explanations on authorship growth

### Tilak G et al. 2015

*Our findings suggest that increasing research complexity is an inadequate explanation for authorship growth. Instead, growth in authorship appears inflationary.*

(1960-2010; 3 high impact journals  
6x150 articles)

### Brunson JC et al. 2017

*We show ... that the publishing journal is a better predictor than many properties of the articles themselves.*

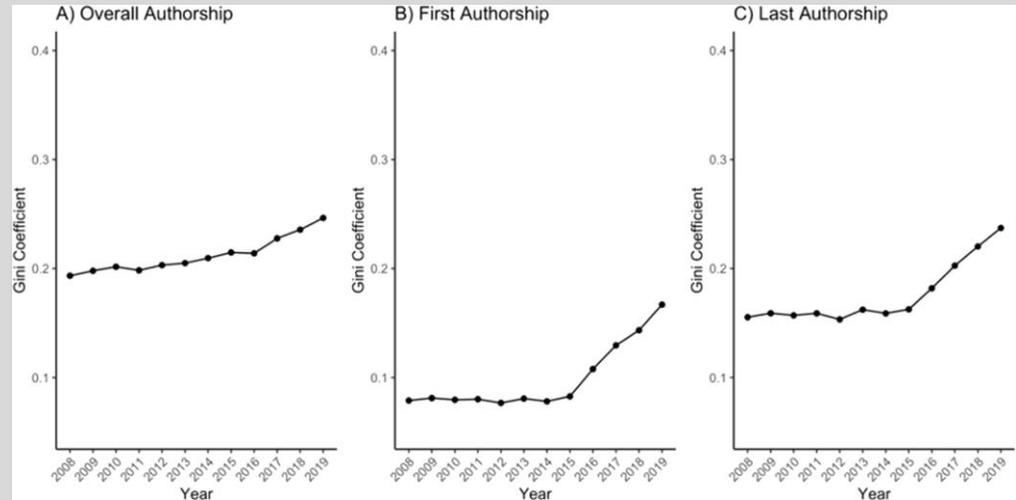
*Coauthorship growth is likewise multifactorial and increasingly associated with research competition.*

(1999-2007; 283 journals; 589,681  
articles)

# Authorship concentration

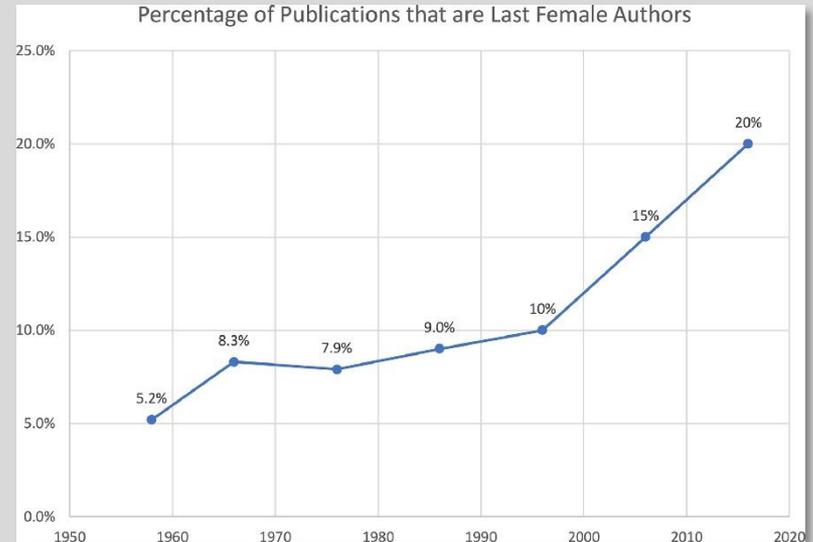
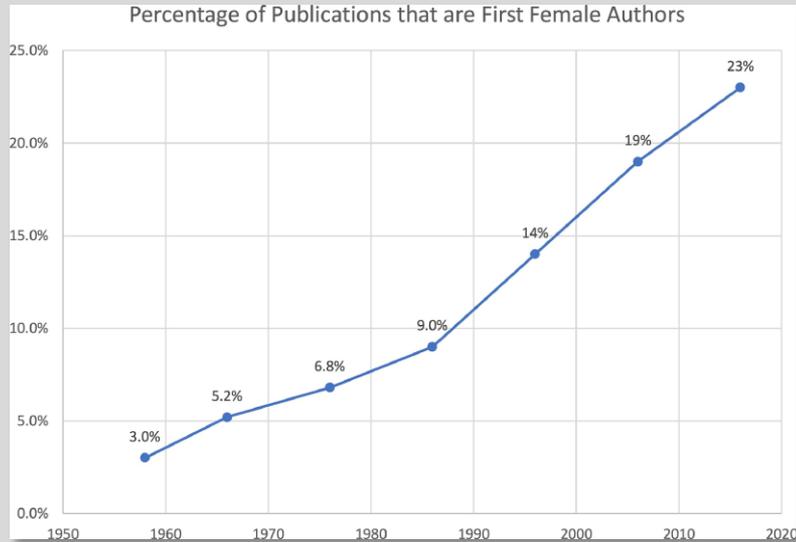
312,222 articles; 936,574 individual authors

*Overall, these data suggest a growing inequality in authorship across authors publishing in high-impact academic medical journals, especially among the highest impact journals.*



# Gender gap?

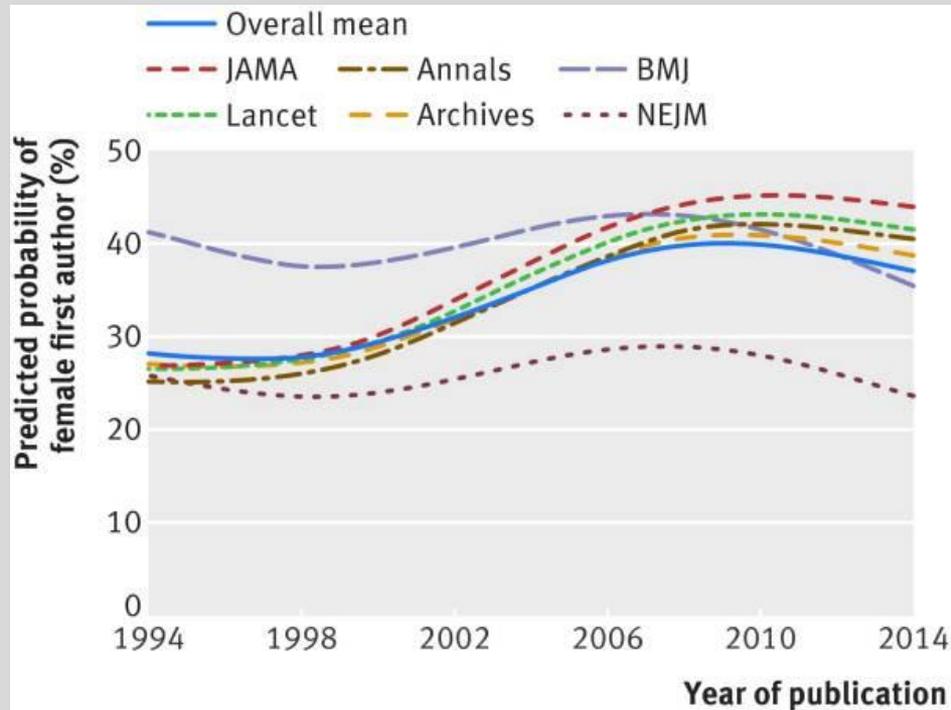
## Example from Am J Cardiol



1958-2006; 1 journal; 4,329 articles

# Gender gap

3758 articles from high impact journals



# Functions of authorship

- Transparency → who did what (contributorship)
- Accountability → who is responsible
- Credit/Evaluation → (academic) promotion/scientific recognition
- Satisfaction → ambition/narcissism
  - FUN!** → desires to socialize with others
  - creativity

## ICMJE & Council of Science Editors

1. Substantial contribution (to conception and design or acquisition of data or analysis and interpretation of data)
2. And drafting the article or revising it critically for important intellectual content
3. And final approval of the version to be published
4. And agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved (since Aug 2013)

## ICMJE

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  2. **And** drafting the article or revising it critically for important intellectual content
  3. **And final approval** of the version to be published
  4. **And** agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved
- Authorship relates to intellectual contribution, not the amount of work put into the study or money (not) received

# Authorship criteria

McNutt MK et al. 2018

*Each author is expected to have made substantial contributions to the conception OR design of the work; OR the acquisition, analysis, OR interpretation of data; OR have drafted the work or substantively revised it;*

*AND to have approved the submitted version (and any substantially modified version that involves the author's contribution to the study);*

*AND to have agreed both to be personally accountable for the author's own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and the resolution documented in the literature.*

# Authorship criteria



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## Other guidance

- Swiss Academies of Arts and Sciences
  - Swiss Med Wkly. 2015; 145: w14108. doi: 10.4414/smw.2015.14108.
- University of Bern
  - Reglement über die wissenschaftliche Integrität ([https://www.unibe.ch/unibe/portal/content/e152701/e322683/e325102/e323176/se\\_rgl\\_wissenschaftliche\\_integritaet\\_ger.pdf](https://www.unibe.ch/unibe/portal/content/e152701/e322683/e325102/e323176/se_rgl_wissenschaftliche_integritaet_ger.pdf))

# Contributorship

BMJ 2012; e157

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## LETTERS

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HONORARY AND GHOST AUTHORSHIP

**Let's simply scrap authorship and move to contributorship**

Richard Smith *chair*

## Why?

- Not all who contributed substantially might be “authors”
- Just being an author is not really transparent
- More generic (can be applied to all scholarly artifacts i.e. also non-publications)
- Technical issues
- See for example: Vasilevsky N et al. 2020  
(<https://data2health.github.io/contributorship/v/0de13d0e20145aa2f1501905cb845245fc8a30f2/>)

## Why?

- “... the real problem lies in defining what represents a “substantial” contribution ...” (Alfonso F et al. 2019)
- Generally, these persons in a clinical research study do not qualify as authors
  - Recruitment of patients
  - General data collection
  - Obtaining samples
  - Acquisition of funding
  - General (!) supervision

## How?

- Taxonomy → Contributor Roles Taxonomy (CRediT) with 14 typical roles (controlled vocabulary) (<https://casrai.org/CRediT/>)
- Contributor Attribution Model (CAM) Specification (National Center for Data to Health, CD2H) (<https://contributor-attribution-model.readthedocs.io/en/latest/introduction.html#background-and-motivation>)
- FORCE11 Working Group (<https://www.force11.org/group/attributionwg>)

# Contributor Roles Taxonomy

## CRedit

- Conceptualization – Ideas; formulation or evolution of overarching research goals and aims.
- Data curation – 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 re-use.
- Formal analysis – Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data.
- Funding acquisition - Acquisition of the financial support for the project leading to this publication.
- Investigation – Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.
- Methodology – Development or design of methodology; creation of models.
- Project administration – Management and coordination responsibility for the research activity planning and execution.
- Resources – Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.
- Software – Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.
- Supervision – Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.
- Validation – Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.
- Visualization – Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.
- Writing – original draft – Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).
- Writing – review & editing – 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.

## ESC Editors' Network

- ***Responsibility** is defined as the moral obligation to ensure that a particular task is adequately performed*
- ***Accountability** denotes the duty to justify a given action to others and to respond for the results of that action*

*Claiming that each individual author is held morally responsible in every case that misconduct is detected would appear unreasonable considering the complexity of current research. Rather, the fourth criterion suggests that each author must cooperate to clarify misconduct-related issues if the paper is called into question.*

# Responsible authorship

## Research misconduct



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- Honorary authorship
  - Gift (as a sign of respect or gratitude (rolling as special case))
  - Guest (as a means of increasing chances for acceptance or the apparent quality)
  - Coercive (senior forces junior (sometimes anticipatory obedience))
- Ghost authorship (someone who contributed substantially but is not an author)

# Prevalence of honorary authorship



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- Geographic variation (first author origin)
  - North America (UK) lower (19% or 23% versus >30% and up to 55% of articles (Eisenberg RL et al. 2014; Marušić A et al. 2011))
- No differences across medical disciplines (Aliukonis V et al. 2020)

# Ghost authorship???

A possible example (N Engl Med 2018; 379: 1313-21)

*The NEW ENGLAND JOURNAL of MEDICINE*

ORIGINAL ARTICLE

## Phase 2 Trial of Selective Tyrosine Kinase 2 Inhibition in Psoriasis

Kim Papp, M.D., Ph.D., Kenneth Gordon, M.D., Diamant Thaçi, M.D., Ph.D.,  
Akimichi Morita, M.D., Ph.D., Melinda Gooderham, M.D., Peter Foley, M.D.,  
Ihab G. Girgis, Ph.D., Sudeep Kundu, Ph.D., and Subhashis Banerjee, M.D.

ABSTRACT

*... The trial was sponsored by Bristol-Myers Squibb, which designed the trial, provided the trial drug and placebo, conducted blinded safety monitoring, developed the analysis plan, analyzed the results, and funded professional writing assistance. A contract research organization (ICON, Dublin) conducted the trial under the direction of the sponsor, and medical writers paid by the sponsor wrote the first draft of the manuscript. All the authors had full access to the trial data, reviewed and approved the manuscript before submission, and vouch for the adherence of the trial to the protocol, the completeness and accuracy of the data and analyses, and the reporting of adverse events. There were confidentiality agreements between the authors and the sponsor.*

# International Committee of Medical Journal Editors authorship criteria



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- Substantial contributions to conception and design, or acquisition of data, or analysis, or interpretation of data
- AND drafting the article or revising it critically for important intellectual content
- AND final approval of the version to be published
- AND agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

# Let's remind us of the list of authors

## Non-industry authors yellow

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Phase 2 Trial of S  
Inhibition

Kim Papp, M.D., Ph.D., Kenneth  
Akimichi Morita, M.D., Ph.D., Me  
Ihab G. Girgis, Ph.D., Sudeep Kur

...  
ABSTRACT

And where are the ICON people?  
The author?  
The other people from BMS?  
The people that actually worked with  
participants at the study sites

# Prevalence of ghost authorship

Follow-up of the classical study (JAMA 1998; 280: 222-4)

- 896 articles in high impact journals (1996 and 2008)
- 622 corresponding authors responded
- 7.9% (2.1% to 11.0% by journal) in 2008  
11.5% in 1996

## Three recommendations

- Encourage a culture of ethical authorship (discuss publication ethics openly)
- Start discussing authorship when you plan your research
  - Specific section in the protocol
  - Specify criteria (what is ‘substantial’ based on roles (not names))
  - Specify how authorship is determined (trial organization!)
- Decide authorship before you start each article

Thank you  
for your attention!

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