

Research Ethics



TECHNISCHE
UNIVERSITÄT
DARMSTADT



0011011100010111 **Cryptoplicity**

Cryptography & Complexity Theory
Technische Universität Darmstadt
www.cryptoplicity.de

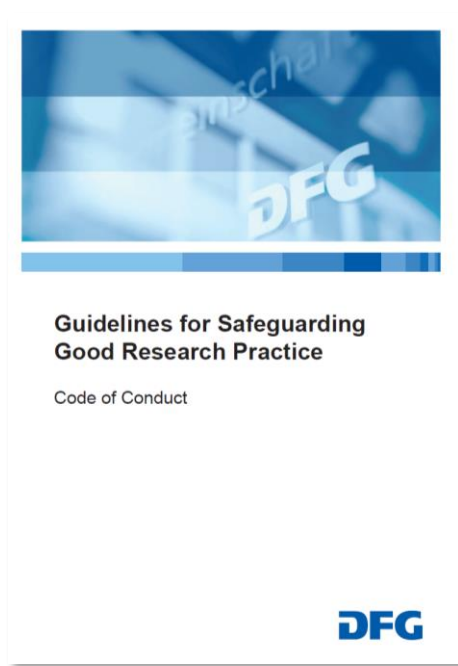
May 2020

Marc Fischlin

Good Scientific Practice

Scientific Misconduct

Sources

 The cover of the DFG Guidelines for Safeguarding Good Research Practice features a blue header with the DFG logo and the title in white. Below the header, the text 'Guidelines for Safeguarding Good Research Practice' and 'Code of Conduct' are printed in black. The DFG logo is also present at the bottom right.	<u>DFG - Guidelines for Safeguarding Good Research Practice</u> September 2019	
		2017 <u>Allea - The European Code of Conduct for Research Integrity</u>
		 The cover of 'The European Code of Conduct for Research Integrity' has a blue background with the word 'integrity' repeated in various sizes and orientations. The title is in white, and 'REVISED EDITION' is at the bottom.

(interleaves requirements
and procedures)

Both documents (and other codes) are usually very similar in spirit

Cornerstones of Good Scientific Practice

Reliability

- quality of research, design, methodology, and analysis
- use of resources

Honesty

- fair, transparent, full, and unbiased treatment
- in undertakings, reviewing, communication,...

Respect

- for colleagues' work
- for participants, environment, society,...

Accountability

- for management and organization,
- for training, supervision, and mentoring,
- for wider impacts

Example Implications

Reliability

dropping experiment failures
infringes with quality assurance

Honesty

withholding results from publication
is in conflict with transparency

Respect

plagiarism disrespects
contributions of others

Accountability

irresponsible behavior towards students
contradicts responsibility

Some Types of Misconduct

Fabrication results made up & marked as real

Falsification manipulating results
(e.g., omitting failed experiments)

Plagiarism using ideas of others w/out credits

+ self-plagiarism; withholding research results; exaggerating importance of results;
expanding bibliography unnecessarily; degrading role of authors;
allowing sponsors to jeopardize independence; accusing others maliciously;...

Accountability/Responsibility? (I)

„Kunst und Wissenschaft, Forschung und Lehre sind frei.
Die Freiheit der Lehre entbindet nicht von der Treue zur Verfassung.“
Article §5(3), Constitutional Law of Germany

Arts and science, research and teaching a free of constraints.
This freedom does not dispense with allegiance to the constitution.

(first sentence analogously in Article 13 of
EU Charter of Fundamental Rights)

Accountability

Accountability/Responsibility? (II)

„Fundamental“ view point

science is the search for truth

scientists are only amenable to
truth establishment and objectivity

„Societal“ view point

scientists bear responsibility
for the impact of their findings
to society

(if the impact is foreseeable)

Source: „Die Verantwortung der Wissenschaft“, Farim Bschrir, 5.März 2018, www.philosophie.ch

Accountability/Responsibility? (III)

„Forschung, Lehre und Studium an der Technischen Universität Darmstadt sind ausschließlich friedlichen Zielen verpflichtet und sollen zivile Zwecke erfüllen; die Forschung, insbesondere die Entwicklung und Optimierung technischer Systeme, sowie Studium und Lehre sind auf eine zivile Verwendung ausgerichtet.“

Grundordnung TU Darmstadt, Präambel 4.k), 2015

Research, teaching, and studies at TU Darmstadt are exclusively committed to peaceful objectives and should satisfy civil purposes; research, especially the development and optimization of technical systems, as well as studies and teaching are geared towards civil deployment.

Authorship

Authorship?

Who eventually becomes a co-author of a publication?

Whoever contributed **significantly to intellectual content!**

Crypto Community:

- often, no ranking according to importance of contribution
- authors usually just in alphabetical order
- very different from other disciplines, even within CS or Security!!!
- „black sheeps“ usually become known quickly

Honorary Authorship vs. Plagiarism

Honorary Authorship:

Put person's name on publication
without this person having contributed significantly

Much harder to substantiate than plagiarism



Source: www.wikipedia.de

Honary Authorship is Misconduct

“Ehrenautorschaft ist in der Regel wissenschaftliches Fehlverhalten und dennoch in einigen Fachkulturen weit verbreitet. Die Ehrenautorschaft ist leicht, viel zu leicht zu handhaben. Sie ist wie Ladendiebstahl im Selbstbedienungsladen und genauso wenig wie dieser ein Kavaliersdelikt.“

*Prof. Dr. Ernst-Ludwig Winnacker,
former President of the German Research Foundation DFG, Annual Meeting, 2003*

Honary authorship is usually scientific misconduct and, still, it is prevalent in some communities. Honary authorship is easy, much too easy. It is like shoplifting in a self-service store and, just like this, it is not a trivial offense.

Types of Honorary Authorship

- | | |
|---------------------|--------------------------------------|
| Gift authorship | - get on other person's future paper |
| Honorary authorship | - superior („coercive authorship“) |
| Guest authorship | - boost acceptance chance/visibility |

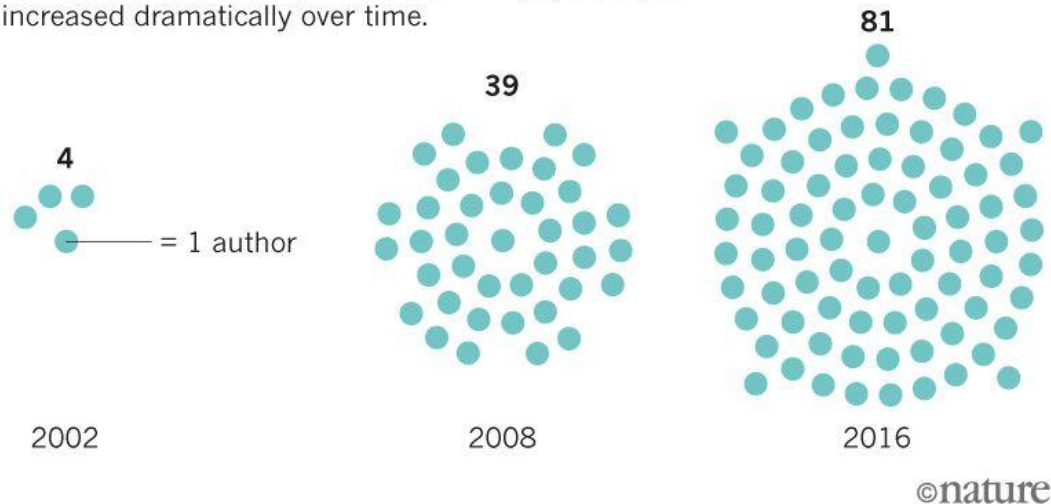
“All three types of authorship are at best opportunistic and at worse scientific misconduct.”

Harvey, L. Gift, honorary or guest authorship. Spinal Cord 56, 91 (2018).

A Growing Problem

HYPERPROLIFIC AUTHORS PROLIFERATE

Numbers of authors with more than 72 papers a year increased dramatically over time.



Thousands of scientists publish a paper every five days
John P. A. Ioannidis, Richard Klavans & Kevin W. Boyack
Nature **561**, 167-169 (2018)

„...Eine Ehrenautorschaft, bei der gerade kein solcher Beitrag geleistet wurde, ist nicht zulässig. Eine Leitungs- oder Vorgesetztenfunktion begründet für sich allein keine Mitautorschaft...“

Publication Guidelines, TU Darmstadt, February 2020

An honorary authorship where no such contribution is made, is not permissible. A managing or supervisory function in itself does not substantiate co-authorship.

Responsibility of Authors

Recommendation of German Research Foundation:

“Authors of scientific publications are always jointly responsible for the content.”

In particular, you should not simply rely on the reputation of senior co-authors!



Hwang Woo-Suk

Source: www.britannica.com



Jan-Hendrik Schön

Source: www.handelsblatt.de