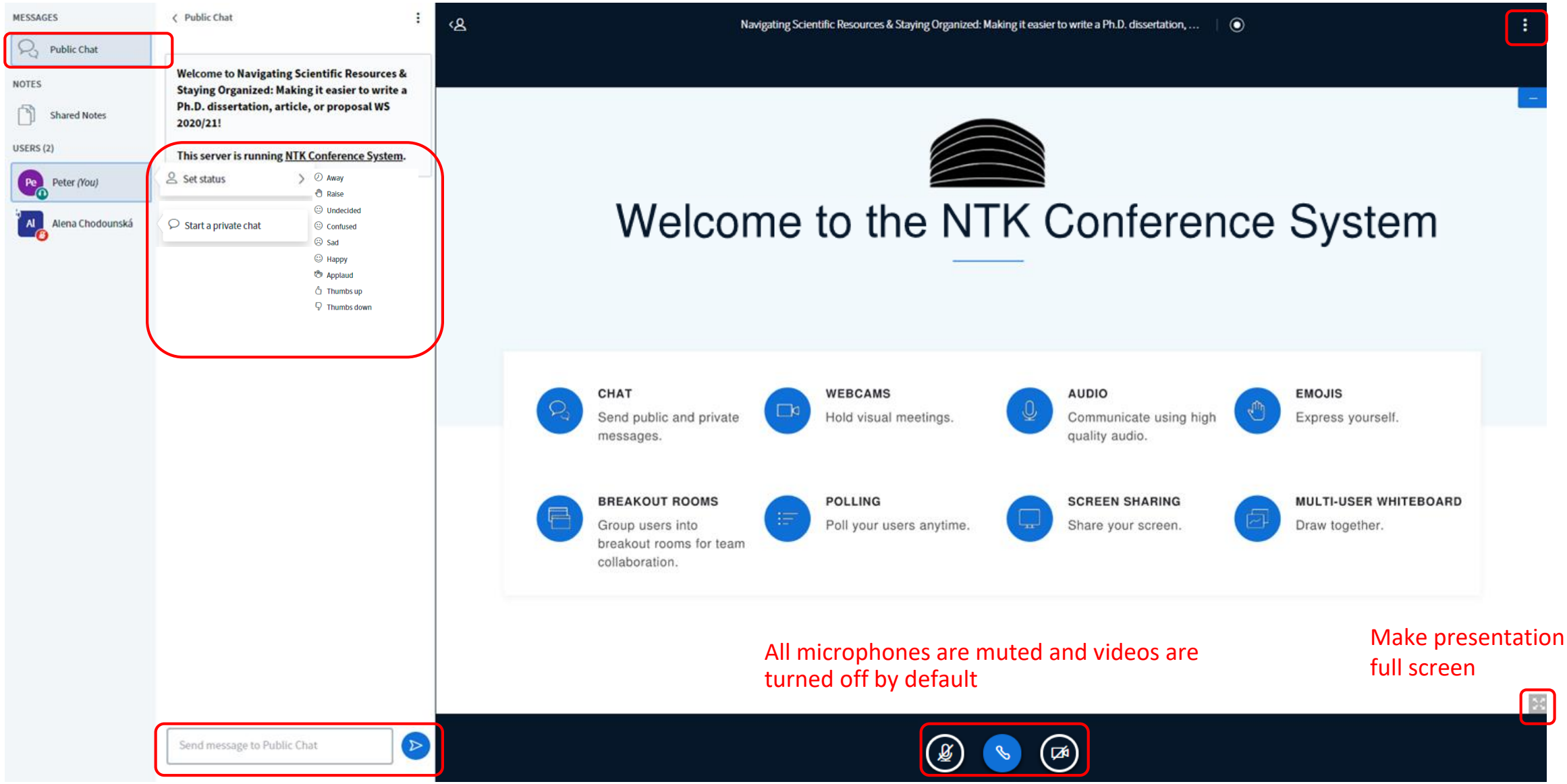
Academic Integrity & Online Presence



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Academic Integrity & Online Presence

Olga Martinová, Naděžda Firsová

May 6, 2021
National Library of Technology

Outline

- Ethics in science
- Academic and research integrity concepts
- Ethics: institutions, publishing
- Why are ethics so important in science?
- Avoiding problems
- Academic reputation & communicating research results
- Author identifiers

How working in science and ethics overlap?

Can you think of some behaviors/practices which are considered unethical in science?

Ethics in science

Breaches of academic/scientific/research integrity, scientific/research misconduct:

- Falsification
- Fabrication
- Plagiarism

- Questionable/detrimental research practices (violating other standards - e.g., conclusions without data, misleading/wrong statistics, misinterpretation, publishing issues)

Research Misconduct and Detrimental Research Practices

Ethics in science

Ongoing discussion on many other issues

- Scientific dilemmas, responsibility as a researcher (Cambridge Analytica), pseudoscience
- Evaluation of research: validity/limitations of metrics, self-citation, measuring impact (bibliometry: only research community impact, what about society?), financing (2017+)
- Peer review: closed/double blind/open
- Publishing industry: publishers and subscription policies (Project DEAL), predatory journals, copyright, conflict of interest (author/reviewer, competing interests)
- Open access, open data, open science, sharing data, reproducibility
- Collaboration: authorship (e.g., gift, ghost), workplace relations (e.g., misusing seniority, favouritism)

Academic and research integrity concepts

The European Code of Conduct for Research Integrity: principles

- **Reliability** in ensuring the quality of research, reflected in the design, the methodology, the analysis and the use of resources
- **Honesty** in developing, undertaking, reviewing, reporting and communicating research in a transparent, fair, full and unbiased way
- **Respect** for colleagues, research participants, society, ecosystems, cultural heritage and the environment
- **Accountability** for the research from idea to publication, for its management and organisation, for training, supervision and mentoring, and for its wider impacts

The Office of Research Integrity: Introduction to the Responsible Conduct of Research

Ethics: universities and other institutions

Universities

- CTU: Code of Ethics, Ethics Comission
- UCT: Code of Ethics of UCT Prague and Ethics Comittee
- UK: Code of Ethics, faculties: Rules of Study

- Dissertation thesis: declaration

Other institutions

- IOCB: Code of Ethics for Researchers of the Czech Academy of Science
- CEITEC: Code of Scientific Conduct and Research Integrity
- American Geophysical Union: The Responsibilities and Rights of Scientists
- National Institutes of Health: Grants & Funding: Policy & Compliance

Ethics: publishing, journals

Journals: Instructions for authors/reviewers (sometimes hard to find)

Examples of guidelines and policies:

- Elsevier: Policies and Ethics for Authors, Publishing Ethics
- ScienceDirect: Ethics of Science
- Springer: Publishing Ethics for Journals, Editorial Policies
- Wiley: Guidelines - Publishing Ethics

Specific journal: International Journal of Solids and Structures

Why are ethics so important in science?

Back to the bigger picture...

Why are ethics so important in science?

Science and scholarly communication – based on trust

- Building on (and depending on) the knowledge/information provided by others in order to move the frontier further

On Being a Scientist: https://www.nap.edu/read/12192/chapter/1

Consequences of unethical behavior in science

- For author: damage to career (and diminishing author's other work and work of his/her colleagues)
- For university/research institution: its reputation
- For other scientists: could be misled/waste of time (readers, editors, reviewers)
- Country/world: credibility of science and scientists, great part of research is publicly funded

Avoiding problems

Designing research

- What and how: possible ethical issues in planned research (e.g., environment protection, geoethics, working with personal data/human participants/cells)
- Why: reasons for the research (benefits vs. possible misuse)
- Solid research design and data management plan: to avoid possible mistakes, archive information, enable data validation and replicability of results

- When **preparing a grant application or designing your research,** ethical issues should be thought through (humans, animals, personal data)

  Horizon 2020: Ethics Self-Assessment Step by Step >>Note: Horizon Europe will include mandatory ethics assessment as well

Throughout the research process

- Proper recording, analyzing, and storing of data (FAIR Data Management)
  - Aiming for replicability of research methods
- Collaboration with colleagues: respect, safety, acknowledgement (authorship)
- Research and scientific method: being systematic and creative, involving scepticism a critical appraisal (JBI – checklists), avoiding bias (cognitive, socio-cultural)

… the errors might occur nevertheless – Phosphine gas in the cloud decks of Venus

Reporting research: writing

- Working carefully with references, avoiding **plagiarism**
- Self-citation: only when necessary
- Avoid **data fabrication** and **falsification** (including image manipulation)
- Try to be accurate, clear, and transparent
- Responsible reporting (e.g., data protection, working with humans and animals)

Plagiarism

"**Plagiarism** is using other people's work and ideas without giving proper credit to the original source, thus violating the rights of the original author(s) to their intellectual outputs."

Ethical issue: intellectual dishonesty

Legal issue: copyright violation (theft of the intellectual property)

- Definition: several types of plagiarism
- Committee on Publication Ethics (COPE): How should editors respond to plagiarism?

Definition taken from section 3.1 of:

ALEEA – All European Academies. *The European code of conduct for research integrity*: *Revised Edition* [online]. 2017-03-24 [cit. 2017-12-01]. Available <https://www.allea.org/wp-content/uploads/2017/05/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017.pdf>

Plagiarism

Thanks to the development of **anti-plagiarism (text duplication) software**, it is easily found

- Universities: use it to check the theses
- Journals: use it routinely for submitted articles
- Turnitin, Odevzdej.cz, Similarity Check, iThenticate

How to avoid plagiarism

- Be meticulous when writing and working with citations
- Before submitting text, run through text duplication/anti-plagiarism software

Falsification and fabrication

"**Falsification** is manipulating research materials, equipment or processes or changing, omitting or suppressing data or results with justification."

"**Fabrication** is making up results and recording them as if they were real."

- Video: Data Fabrication and Falsification

… sums up of some of the most well-known examples of research misconduct and description of different types of misconduct

- The Office of Research Integrity (ORI): Case Summaries

Definitions taken from section 3.1 of:

ALEEA – All European Academies. *The European code of conduct for research integrity*: *Revised Edition* [online]. 2017-03-24 [cit. 2017-12-01]. Available <https://www.allea.org/wp-content/uploads/2017/05/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017.pdf>

Image manipulation

- Inappropriate enhancement of the image: e.g., removing/moving/ adding/obscuring specific features, duplication rotation, plagiarism
- Small adjustments: might be acceptable (but always check with the journal and note in the description)

- ORI: Tips for presenting Scientific Images with Integrity

  Guidelines for Best practices in Image processing
- Examining images techniques: ORI, Forensic Droplets
- Examples (cell biology)
- The Misleading graph

Falsification and fabrication

How to avoid

- Be meticulous when working with data, do not tamper with results
- Keep the (raw) data, have a documented research plan
- Double-check your work (by yourself and your colleagues): on discovering mistakes
- Aim towards replicability; currently, replication studies are the main detection mechanism
- Get familiar with the journal's policies on data management for images (if/what image enhancement is acceptable; report any modifications)

U.S. Department of Health & Human Services

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Home » Case Summary: Potts Kant, Erin N.

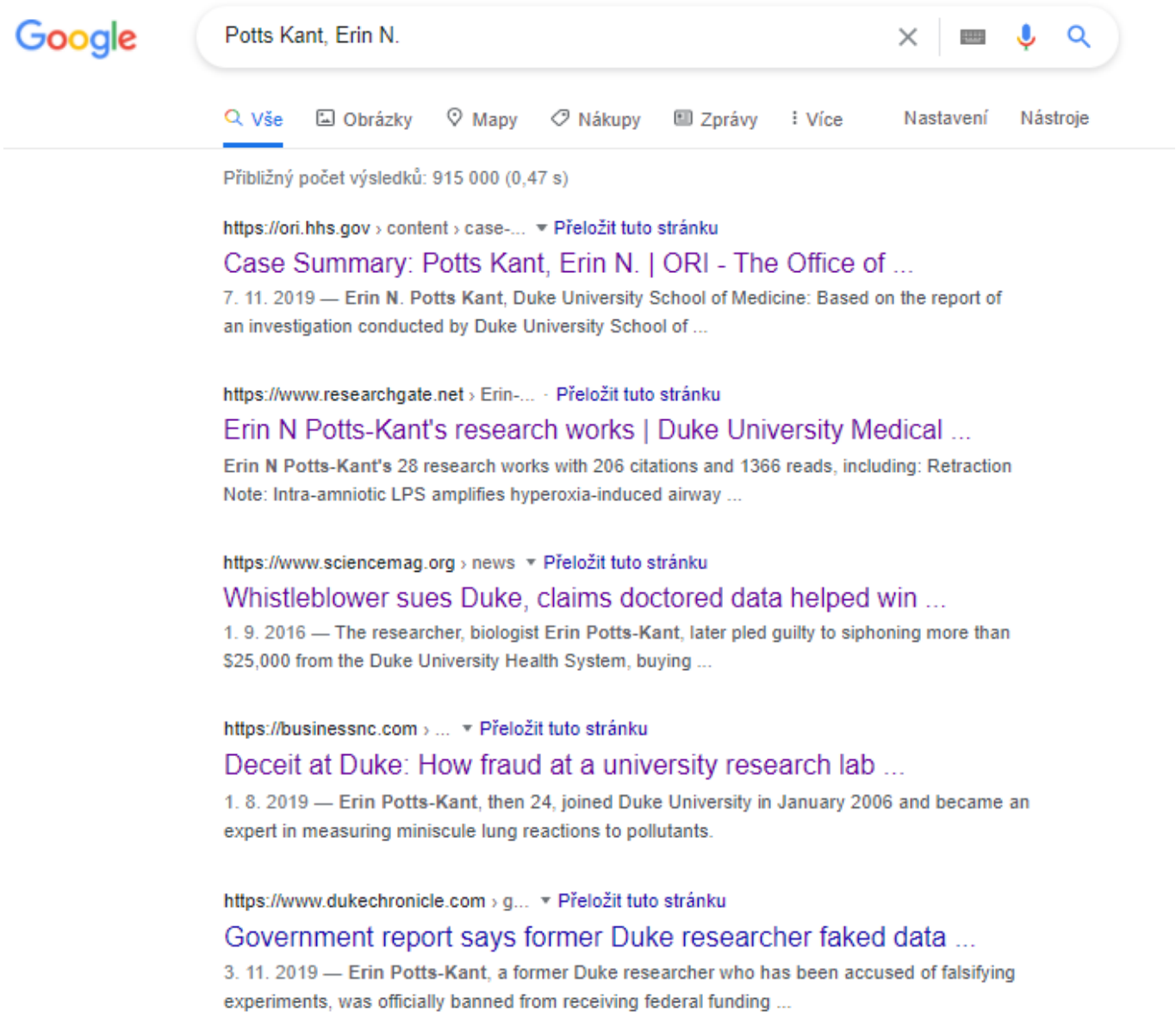
Printer Friendly

Case Summary: Potts Kant, Erin N.

Erin N. Potts Kant, Duke University School of Medicine: Based on the report of an investigation conducted by Duke University School of Medicine (Duke), an admission from the Respondent, and additional analysis conducted by ORI in its oversight review, ORI found that Erin N. Potts Kant engaged in research misconduct in research supported by U.S. Public Health Service (PHS) funds, specifically National Heart, Lung, and Blood Institute (NHLBI), National Institutes of Health (NIH), grants HL105702, HL005009, HL058795, HL036982, HL044984, HL062472, HL067021, HL067281, HL067669, HL068072, HL073896, HL077291, HL077763, HL079915, HL081285, HL081763, HL082504, HL084123, HL084917, HL085655, HL086887, HL087094, HL090146, HL090265, HL098099, HL091140, HL091335, HL091642-02, HL092994, HL073907, and HL111151; National Institute of Allergy and Infectious Diseases (NIAID), NIH, grants AI081672, AI089756, AI068822, AI056101, AI067798, AI074751, AI050021, AI058161, AI064789, and AI052201; National Institute on Environmental Health Sciences (NIEHS), NIH, grants ES020426, ES007943, ES011961, ES012496, ES016836, ES012717, ES015675, ES016126, ES016347, ES016659, and ES020350; National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), NIH, grants DK050814, DK077159, and DK077307; National Cancer Institute (NCI), NIH, grants CA142842 and CA092656; National Center for Research Resources (NCRR), NIH, grants RR005959 and RR024127; and National Institute of Child Health and Human Development (NICHD), NIH, grant HD043728.

Affected data were included in grant applications ES023609, ES016126-07, ES023283, ES019585, ES016347, ES016659, ES020350, ES020426, ES017219, and ES016836 submitted to NIEHS, NIH; grant applications HL099800, HL091642-02, HL111151, HL107590, HL092994, and HL105702 submitted to NHLBI, NIH; grant applications AI081672-06, AI067798, AI052201, and AI081672 submitted to NIAID, NIH; and grant application NS084893 submitted to the National Institute of Neurological Disorders and Stroke (NINDS), NIH.

ORI found that Respondent engaged in research misconduct by knowingly and intentionally falsifying and fabricating research data included in one hundred and seventeen (117) figures and two (2) tables in thirty-nine (39) published papers, three (3) manuscripts, and two (2) research records.



Google

Potts Kant, Erin N.

Vše | Obrázky | Mapy | Nákupy | Zprávy | Více | Nastavení | Nástroje

Přibližný počet výsledků: 915 000 (0,47 s)

https://ori.hhs.gov › content › case-... ▾ Přeložit tuto stránku

Case Summary: Potts Kant, Erin N. | ORI - The Office of ...

7. 11. 2019 — **Erin N. Potts Kant**, Duke University School of Medicine: Based on the report of an investigation conducted by Duke University School of ...

https://www.researchgate.net › Erin-... · Přeložit tuto stránku

Erin N Potts-Kant's research works | Duke University Medical ...

Erin N Potts-Kant's 28 research works with 206 citations and 1366 reads, including: Retraction Note: Intra-amniotic LPS amplifies hyperoxia-induced airway ...

https://www.sciencemag.org › news ▾ Přeložit tuto stránku

Whistleblower sues Duke, claims doctored data helped win ...

1. 9. 2016 — The researcher, biologist **Erin Potts-Kant**, later pled guilty to siphoning more than $25,000 from the Duke University Health System, buying ...

https://businessnc.com › ... ▾ Přeložit tuto stránku

Deceit at Duke: How fraud at a university research lab ...

1. 8. 2019 — **Erin Potts-Kant**, then 24, joined Duke University in January 2006 and became an expert in measuring miniscule lung reactions to pollutants.

https://www.dukechronicle.com › g... ▾ Přeložit tuto stránku

Government report says former Duke researcher faked data ...

3. 11. 2019 — **Erin Potts-Kant**, a former Duke researcher who has been accused of falsifying experiments, was officially banned from receiving federal funding ...

https://ori.hhs.gov/index.php/content/case-summary-potts-kant-erin-n

Reporting research: publishing

- Choice of journal (**predatory journals**)
- Read and follow the authorship guidelines/style guides/manuals (requirements: format, referencing, preprints policy, image publication, and so on)
- Authorship: proper acknowledgment of colleagues (journal policies), ghost/gift authorship is considered ethical issue as well
- Avoid duplicate/concurrent submission and publication, copyright infringement (www.howcanishareit.com, ResearchGate – copyright controversy)

Predatory journals

How to avoid

- Beware of the spam emails (e.g., speedy publication offers): there are also predatory conferences and predatory publishers of books
- Characteristics of predatory journals
- Check Beall's list
- Check "White lists": WoS, Scopus, Publons, Directory of Open Access Journals (DOAJ), including (temporarily) excluded journals: WoS, Scopus
- Check with your supervisor/librarian/colleague

- Tools and Tips: https://thinkchecksubmit.org/, 8 Ways to Identify…
- Predatory journals: no definition, no defence

Articles: rejection and retraction

- Rejecting papers before publication (review, anti-plagiarism software)

- **Retraction** of already published papers
  - Reasons: both misconduct and honest mistakes
  - Different journals might use different ways to mark retracted articles, (not) provide reasons
  - COPE – [Retraction guidelines for scholarly publishing]

https://www.ncbi.nlm.nih.gov/pubmed/22088800

Retraction studies

An in-depth analysis of papers retracted in the Web of Science *Proceedings of the 19th International Conference on Science and Technology Indicators* (pp. 337-344)
Thed van Leeuwen, Marc Luwel (2014)
Web of Science (?-2014) - 2479 retracted articles 22.1% Fraud 21.2% Errors 12.4% Fraud by 1 author 11.5% Duplicated / concurrent publishing 8.0% Plagiarizing 6.2% No motivation given 5.3% No approval by competent authority for experiments 4.4% Classification errors in journal or WoS 4.4% Independent review 2.7% Incomplete consultation between authors/ listed a author without consent 1.8% Errors by editiors

Misconduct accounts for the majority of retracted scientific publication
Ferric C. Fang, R. Grant Steen, Arturo Casadevall (2012)
PubMed - 2047 retracted articles, English only 21,3% Error 43.4% Fraud, suspected fraud 14.2% Duplicate publication 9.8% Plagiarism

Retractions: the good, the bad, and the ugly

Sources: stay updated

- Retraction Watch: database
- Committee on Publication Ethics (COPE): Flowcharts
- The Office of Research Integrity
- Wikipedia: List of scientific misconduct incidents
- Věda a výzkum: Akademická Integrita, komentáře

Academic reputation & communication of research

Do you have an ORCID?

- Yes
- No

Academic online presence

- Do you understand what an ORCID is and why it is important?
- Are you easy to find online? What happens when you Google your name?
- Do you have a webpage at your Faculty/Department that contains your brief biography?
- Do you have an up-to-date academic CV? Is it available online?
- Which online profiles do you have? (LinkedIn page, GoogleScholar profile, or a ResearchGate profile, other)

Academic online presence - tools

- Author identifiers (ORCID, ResercherID (Publons), Scopus ID)
- LinkedIn
- Academic profiles (Google Scholar, Publons)
- Academic social media (ResearchGate, Academia.edu)
- Academic website
- Academic CV (examples of academic career materials)
- Searching results
- Other social media

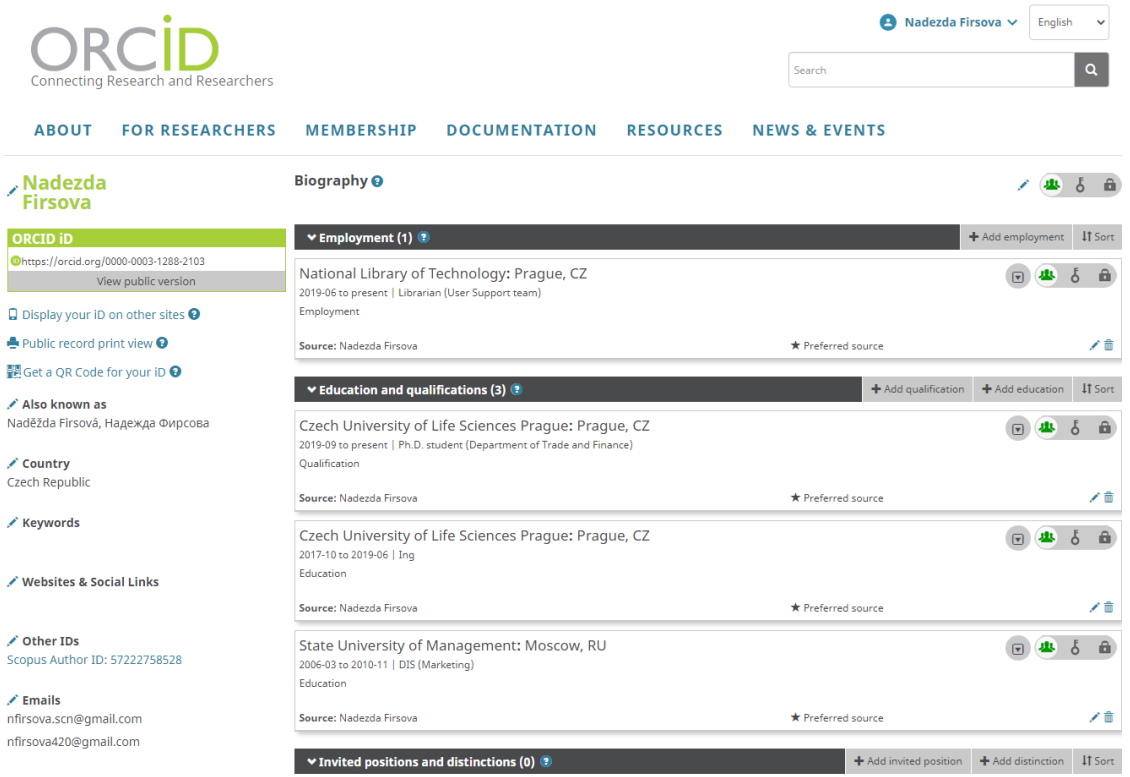
Author identifiers

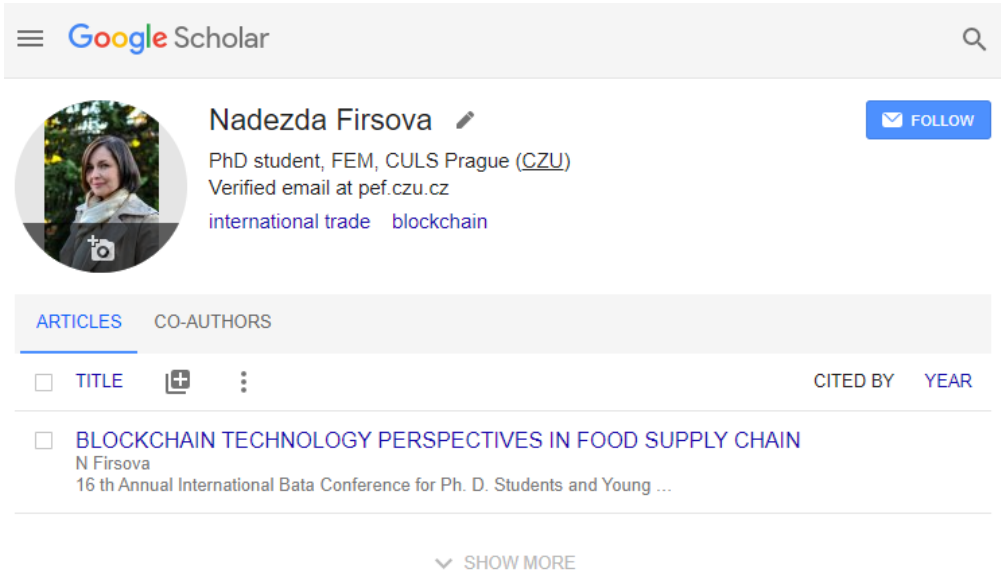
Features	**ResearcherID** (Publons)	**Scopus ID**	**ORCID** (Open Researcher & Contributor ID)
How to get author identifier?	Author profile will be created automatically with your first publication in WoS. You can then claim the profile with Publons and manage it similarly to ORCID. ResearcherID is created with a Publons account.	Author profile will be generated automatically if you have at least one publication in Scopus. Merging and changing an author profile is possible via request in your Scopus profile.	Create your profile at orcid.org. You can join all your author IDs in ORCID.
How to link your publication with your ID?	You can manually import your citations from Web of Science.	Imported automatically from Scopus.	You can import from several platforms (WoS, Scopus, arXiv) or add manually.
Supporting platforms	Web of Science	Scopus	Open non-profit initiative

- Link all papers published under different variants of your name.
- Distinguish papers written by other authors with the same name.
- Create your author profiles.

ORCID

- ORCID (**O**pen **R**esearcher and **C**ontributor **ID**)
- Features: ORCID identifier registration, profile administration, and searching for other researchers
- Free of charge
- Link your ORCID profile to your institutional or social media profiles and use several options to sign into ORCID

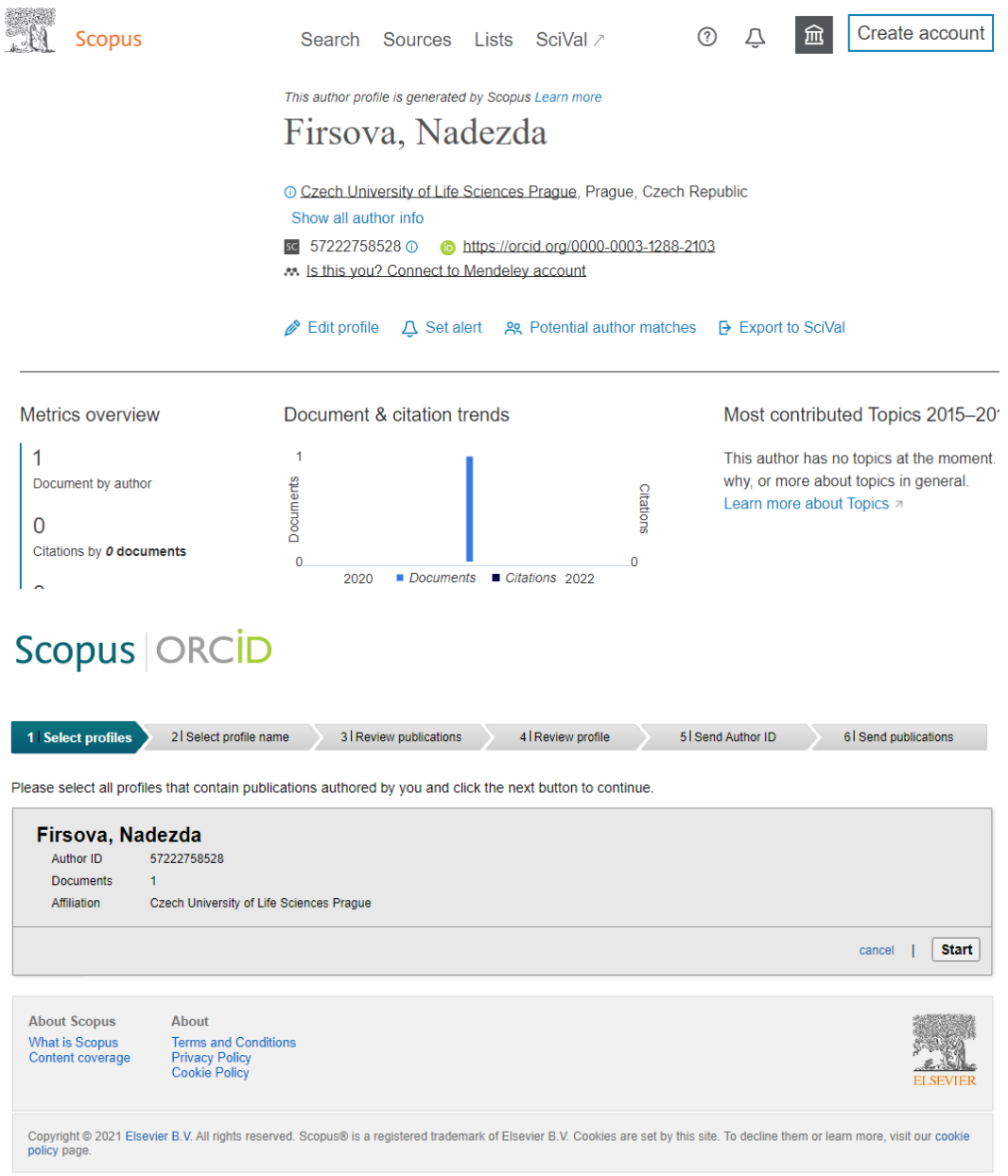




Example of ORCID profile and Google Scholar profile

ORCID

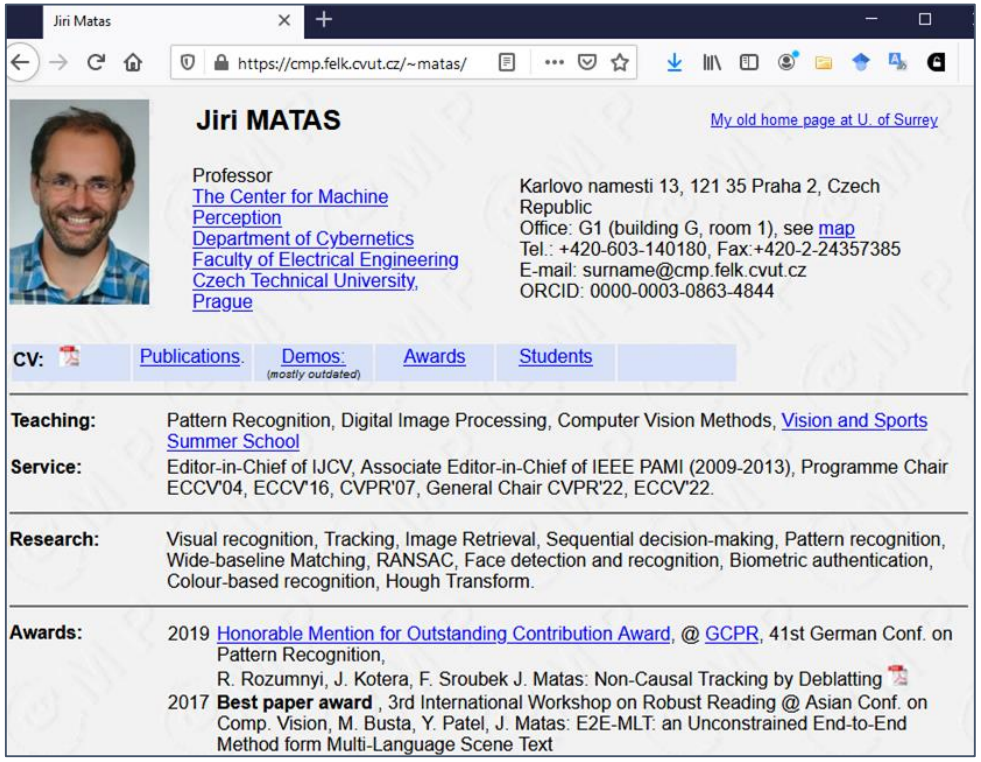
- Associate your Scopus ID with your ORCID profile
- Use "trusted organizations" to do so
- Be aware of the ORCID Trust program:
  - Individual Control
  - Reliability
  - Accountability
  - Integrity

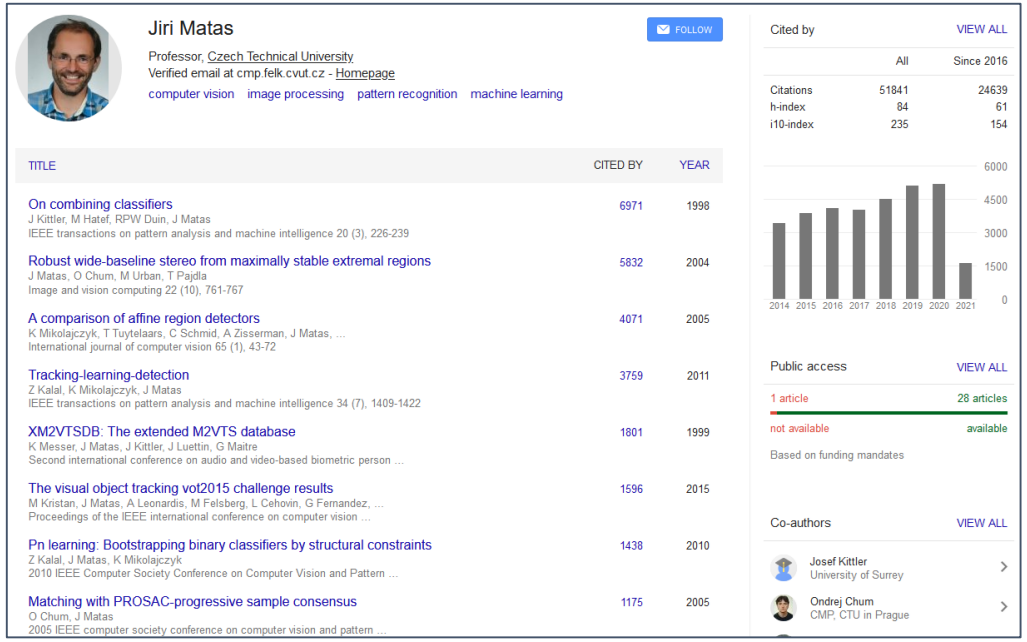


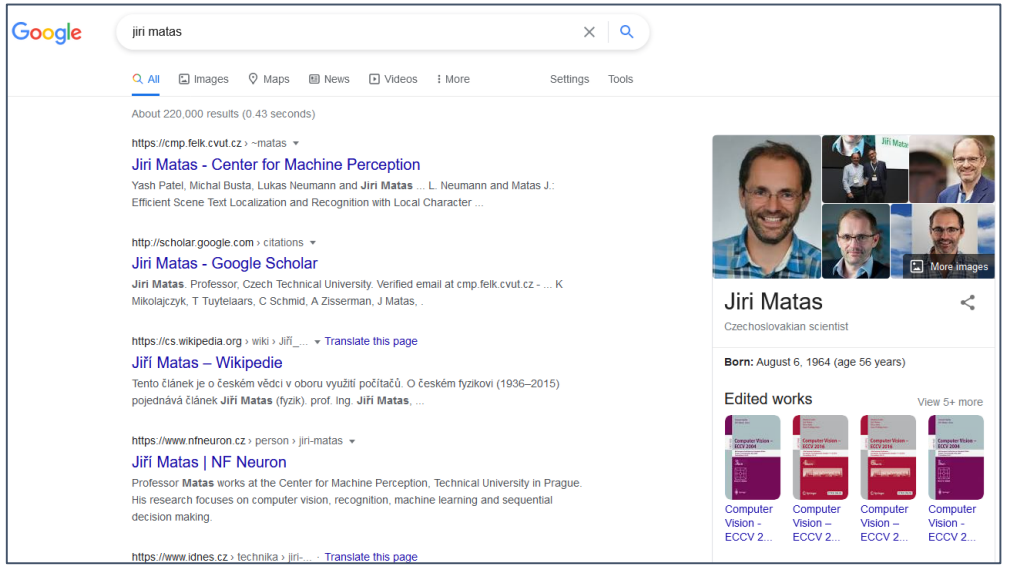
Example of Scopus ID profile and linking Scopus ID to ORCID

Academic profile example #1: Prof. Jiri Matas, FEE CTU

- Google Scholar Profile & Google results
- Academic webpage
- ResearchGate







Academic online presence: tips & tricks

- Put effort into proper ORCID profile setting (it can help you with visibility and maintaining an up-to-date publication list)
- Create your academic CV and keep it up-to-date
- Choose relevant online profiles or social media and take care about them (up-to-date, be thoughtful about nicknames and content you share)
- Keep in mind that a social networking site is not an open access repository
- Be aware about results of your name searching via Google, GoogleScholar, and Bing (or other search engines)
- Cross-link and check consistency with profile pictures and variations of your name

Inspired by Library of Washington University in St. Louis research guide *There is no I in Research: Scholarship lessons for undergraduates: Identity, Research and Scholarship in the Digital Age*

Summary

- Ethics in science: the most common breaches of academic integrity are fabrication, falsification, and plagiarism
- Beside these, there are many other ethic issues one comes across when working in academia + the “borders” and possibility of charges are likely to develop through time
- Be aware of your institutional and journal/grant requirements
- The best way to avoid problems is to be meticulous when working with data and resources, to aim for replicability of research (dealing with data, reporting research), to stick to the rules of the scientific method, and to be respectful towards your colleagues, society and environment
- Use online tools to enhance your presence as a professional
- Choose relevant online profiles and social media tools and maintain them

Get Assistance

Schedule a remote consultation:

- Please don't be shy; our team includes doctoral students who know the issues you face.
- We also provide consultations about creating a comprehensive search strategy and organizing yourself as you begin a specific writing project.

Useful links:

- STEMskiller - comprehensive skills set map for early career researchers
- LaTeX support
- Bibliometric services
- Subject guides

Contacts

Naděžda Firsová

nadezda.firsova@techlib.cz

Olga Martinová

olga.martinova@techlib.cz

tel. + 420 778 453 026

Thank you

Questions?