Academic conduct: truth in reporting and conflict of interest

Konstantinos Ameranis and Dina Bashkirova
Content

- Allocation of credit
- Plagiarism
- Conflict of interest
- Dishonesty in academic report
- Data privacy and use of human subjects in research
Allocation of credit

Q1: In what case we should add someone to the list of authors?

Q2: Who is the main contributor: the author of an idea or the person who implements it?

From David S. Touretzky’s slides
Allocation of credit

A co-author should have made direct and substantial contributions to the work (but not necessarily the paper).

Contributions may be:

- Key ideas
- Implementation
- Experiments / collection of data
- Data analysis
- Writing the paper

From David S. Touretzky’s slides
Allocation of credit

A co-author should have made direct and substantial contributions to the work (but not necessarily the paper).

Contributions may be:

- Key ideas
- Implementation
- Experiments / collection of data
- Data analysis
- Writing the paper

**Important note:** co-authors share responsibility for scientific integrity of the paper.

From David S. Touretzky’s slides
Plagiarism

- **Direct plagiarism**: Word-for-word borrowing from an unacknowledged source, whether intentional or not.

- **Mosaic plagiarism**: Mosaic plagiarism occurs when a writer reuses a mix of word, phrases, and ideas from a source without indicating which words and ideas have been borrowed and/or without properly citing the source.

From [this website](https://www.grammarly.com)
Direct plagiarism example

Writer A:

Long ago, when there was no written history, these islands were the home of millions of happy birds; the resort of a hundred times more millions of fishes, sea lions, and other creatures. Here lived innumerable creatures predestined from the creation of the world to lay up a store of wealth for the British farmer, and a store of quite another sort for an immaculate Republican government.

Source:

In ages which have no record these islands were the home of millions of happy birds, the resort of a hundred times more millions of fishes, of sea lions, and other creatures whose names are not so common; the marine residence, in fact, of innumerable creatures predestined from the creation of the world to lay up a store of wealth for the British farmer, and a store of quite another sort for an immaculate Republican government.

From this website
Mosaic plagiarism example

Writer A:

Only two years later, all these friendly Sioux were suddenly plunged into new conditions, including starvation, martial law on all their reservations, and constant urging by their friends and relations to join in warfare against the treacherous government that had kept faith with neither friend nor foe.

Source:

In ages which have no record these islands were the home of millions of "Contrast the condition into which all these friendly Indians are suddenly plunged now, with their condition only two years previous: martial law now in force on all their reservations; themselves in danger of starvation, and constantly exposed to the influence of emissaries from their friends and relations, urging them to join in fighting this treacherous government that had kept faith with nobody -- neither with friend nor with foe.

From this website
There is no reason not to cite

- Avoid getting a negative reaction from the reviewers whose contribution is not acknowledged;
- Demonstrate your knowledge and awareness of what is happening in the field;
- Make new friends;
- Encourage others to cite your paper in return.

From David S. Touretzky’s slides
Conflict of interest and responsibilities of a reviewer

1. Do a fair share of reviewing
2. Return the manuscript if you are not qualified for reviewing
3. Judge objectively the quality of the manuscript
4. **Avoid potential conflict of interest:** return the manuscript or disclose the conflict to the editor
5. Do not review the manuscript if you have a personal or professional connection to the author
6. Treat manuscripts as confidential
7. Provide adequate support for your judgements (min emotions, max reason)
8. Know the literature
9. Turn in the review promptly
10. Do not use the ideas and results of the manuscript without author’s permission

From [here](#)
Dishonesty in academic research

There are plenty of examples of dishonesty in academic research

- Cherry picking of results/score functions/output
- P-hacking
- Hwang Woo-suk
- Haruko Obokata
- Schön scandal
- Momentous sprint at the 2156 Olympics?
- Female hurricanes are deadlier than male hurricanes
P-hacking example

Please divide into two groups and open this webpage. You are two competing groups of social scientists and you need to show that the U.S. economy gets better when Democrats or Republicans are in power respectively.

In order to do that, you need to find the right combination of parameters (2) so that the p-value is below 0.05.

Have fun.
Hwang Woo-suk

Hwang Woo-suk was a professor of theriogenology and biotechnology in Seoul National University and was considered to be one of the pioneering researchers in the field of stem cell research.

In 2004 and 2005 he reported that he had created human embryonic stem cells by cloning. Shortly after, he got charged with having committed ethical violations by using eggs of his graduate students and from the black market, and for cloning humans.

One year later, it was found out that most of his research on stem cells had been faked.

In 2009, Hwang Woo-suk was sentenced to two years suspended prison sentence.
Haruko Obokata

In 2014 Haruko Obokata published two Nature papers claiming that letting mice spleen cells to rest in a weak acidic bath for half an hour will revert them to a predevelopmental state, much like STEM cells.

Weeks after the publication troubling reports started coming in about lack of reproducibility and similarity of some images with those in Haruko’s doctoral thesis.

On June 4, 2014 Obokata agreed to retract both articles published earlier that year.

On August 5, 2014, Obokata's mentor and co-author Yoshiki Sasai committed suicide.
Schön scandal

Schön's field of research was condensed matter physics and nanotechnology. He worked in Bell Labs, NJ on replacing conventional semiconducting elements with crystalline organic materials. In 2001 he was listed as an author on an average of one newly published research paper every eight days.

Some of Schön's experiments contained the same noise. More research showed further data duplication. In May 2002 Bell Labs started an investigation. On September 25, 2002, the committee publicly released its report. The report contained details of 24 allegations of misconduct.

From Wikipedia, the free encyclopedia
Momentous Sprint at the 2156 Olympics?

According to four researchers, at the 2156 Olympics women are going to finish the 100-meter dash faster than the men in a projected 8.079 seconds for women versus 8.098 for men.

The researcher’s used the best times from each Olympic Game in the past 100 years and fitted a linear least squares model. They then extended the two lines until after they meet in 148 years after the publication of that paper.

Although they focused on gender gap, it is much more exciting to focus on the 2636 Olympic Games when times less than zero will be observed.
Momentous Sprint at the 2156 Olympics?

From Nature
Female hurricanes are deadlier than male hurricanes

According to four researchers, a hurricane with a female name may be much more deadly than the same hurricane with a male name. To support this claim they looked at 94 Atlantic hurricanes that landed on the United States. Furthermore they performed experiments to determine how "masculine" or "feminine" each name is and reactions to hurricanes. According to the researchers the reason for this phenomenon is the fact that people do not take female hurricanes as seriously.

Pay attention to the metric used: Fatalities. The only objective data used are the 94 hurricanes, out of which Sandy and Katrina were far deadlier than the rest. Ignoring these outliers yields a dataset that doesn’t support the hypothesis. Furthermore, none of the researchers had any background in meteorology.

From Nature
Conclusion

When is a paper malignant vs just “bad”?

Science is based on peer review. We are the gatekeepers.

Science is not just means to an end.
Bibliography

- https://www.bowdoin.edu/dean-of-students/judicial-board/academic-honesty-and-plagiarism/examples.html
- https://pubs.acs.org/doi/abs/10.1021/ar00042a600
- https://fivethirtyeight.com/features/science-isnt-broken/#part1
- https://i.ytimg.com/vi/9vzIP9HOQ2E/maxresdefault.jpg
- https://xkcd.com/285/
- http://relationsinternational.com/wp-content/uploads/2016/02/cDwk9fQ-300x158.jpg
- https://en.wikipedia.org/wiki/Sch%C3%B6n_scandal
- https://www.pnas.org/content/111/24/8782.full
- https://www.nature.com/articles/431525a.pdf