

## NTU Authorship Guidelines

### Introduction:

Scientific and learned publications are the ‘currency’ of academic life, especially in engineering, medicine, the natural and the social sciences. Other areas of scholarship tend to publish through books and monographs rather than journal publications where different customs may apply.

There are various guidelines for best practice in authorship – the area that probably causes most disputes and also accusations of plagiarism in all its guises. NTU is no exception to this tendency.

NTU is committed to the highest standards of research integrity which can only be achieved by good research practice. Therefore, failure to follow such good practice in terms of authorship has to be a cause for concern.

However, we need to recognise that different traditions may apply in different disciplines. For example, in some there is a strict alphabetical order in multi-author works rather than the normal assumption that the key author is the first named when the order is non-alphabetical.

Much of what follows is taken from ‘The COPE Report 2003’ by Tim Albert and Liz Wager. They, in turn, draw substantially on the International Committee of Medical Journal Editors (ICMJE) guidelines issued in 2001 and updated in 2013. COPE is the acronym of the Committee of Publication Ethics which is a grouping of more than 5000 editors of scientific and learned journals covering all disciplines. However, most authorship guidelines are similar in tone and content – a good example being those of the IEEE.

Authorship is also one of the more complex issues with which research students have to deal as they lack the experience or status to deal with difficult issues which may arise in authorship. This causes considerable unhappiness and frustration and may also engrain bad habits for the future.

### Who should be an author?

ICMJE states

“Authorship credit should be based **ONLY** on:

1. **SUBSTANTIAL** contributions to: conception or design of the work, or the acquisition, analysis or interpretation of data for the work; and
2. **DRAFTING** the work or **REVISING** it **CRITICALLY** for important intellectual content; and
3. Final approval of the version to be published; and
4. 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 involves not only credit for the work but also accountability”

In NTU we consider that Conditions (1), (2) and (3) and (4) must **ALL** be met. Acquisition of funding, the collection of data, or general supervision of the research group, by themselves, **DO NOT JUSTIFY** authorship.

The IEEE has almost identical wording as follows:

“IEEE affirms that authorship credit must be reserved for individuals who have met each of the following conditions:

- a. Made a significant intellectual contribution to the theoretical development, system or experimental design, prototype development, and/or the analysis and interpretation of data associated with the work contained in the manuscript;
- b. Contributed to drafting the article or reviewing and/or revising it for intellectual content;
- c. Approved the final version of the manuscript as accepted for publication, including references.“

The Materials Research Society (MRS) and the American Physical Society have similar author guidelines.

Albert and Wager argue that authorship is part of honesty in reporting science and that failure to observe commonly accepted guidelines is a **POSSIBLE FORM OF RESEARCH MISCONDUCT**.

Albert and Wager continue by saying that “People generally **LIE** about authorship in two ways.

\_ by putting down names of people who took little or no part in the research (gift authorship)

\_ by leaving out names of people who did take part”

In more detail, the first is by including names of people who contributed very little if at all to the research being reported, which is called **GIFT or COMPLIMENTARY** authorship. This is when the Chair of the School or another authority figure or group leader is included as a means of currying favour with that person.

The second is the reverse which is by **EXCLUDING** people who may have made substantial contributions which is known as **GHOST** authorship. Ghost authorship may also be used when a professional writer is used but not named as an author. This is most frequently seen in the ‘autobiographies’ of sportspeople and celebrities which hit the bookshelves with increasing frequency. ICMJE states that “All persons designated as authors should qualify for authorship and all those who qualify should be listed”.

This latter aspect of authorship has been an area of concern in biomedicine and pharmaceutical research.

It should be remembered that **ALL authors take RESPONSIBILITY** for a paper’s contents. If anything is amiss, and misconduct shown, then all the authors take **EQUAL** responsibility. Thus, accepting complimentary authorship may be a ‘poisoned chalice’ for people.

Many journals now include a list of the contributions of each named author. Even if this is not a requirement, it is good practice to include such information in the paper and leave the decision whether this should be published to the Editor. Others who should not be given authorship but may

be acknowledged could be people such as one's former supervisor or other members of a former research group who may have made minor contributions. Many people may contribute some aspect or another to the work being reported and these should be properly and **FULLY ACKNOWLEDGED**. For example, someone may contribute a chemical analysis. Readers need to know who did this work but it probably does not justify authorship. It is under the acknowledgements section that mention may be made of Chairs or other authority figures. It is also here that one acknowledges the funding source and this should **ALWAYS** be included. It may be a condition of some funding agencies and it also creates transparency should there be any conflict of interest.

There is an increasing tendency for multi-author papers and papers may include many authors. There are no absolute rules on numbers but the advice of Albert and Wager is clear – if only those authors who really qualify for such status are included then there is already a control measure in place.

Author order is another major bone of contention. Normally the first author listed is the person who made the largest contribution. Frequently but not always this person is also the 'Corresponding author' – in other words, the person who liaises with the Editor and handles all enquiries and also ensures that referees' revisions are duly made and the manuscript revised. The journal *Nature* has a policy which clarifies the corresponding author's role in managing the manuscript's author list: prior to submission, the corresponding author "ensures that all authors are included in the author list, its order has been agreed by all authors, and that all authors are aware that the paper was submitted".

*Nature Chemical Biology* states "More generally, we urge all principal investigators to establish and communicate clear authorship guidelines in their research groups and institute transparent mechanisms for resolving conflicts. We strongly suggest that collaborative research teams explicitly discuss authorship at the outset of multi-group projects. Even with good planning, all parties must realize that new results may alter the scope of a scientific study, and the peer review process may shift the focus of manuscripts or require additional experiments to address technical concerns. Evolving projects and manuscripts may alter working author lists, so principal investigators need to be attentive and renew authorship discussions as key project milestones are reached. Clear expectations and open dialogue will not prevent all authorship misunderstandings, but they should provide channels necessary for resolving them."

It is normally advised that the author order should be agreed between those involved at the very outset in order to avoid future disputes. Putting this agreement in writing may be necessary in some circumstances. In fact, publication policy should be one of the matters discussed at the outset when a research project is being planned.

Finally, most journals now frown on 'self-plagiarism', sometimes now known as 'text recycling'. Some may accept some common text between papers and provide size limits in terms of words in common. However, it is generally not a good idea to reproduce your previously published text and if it is to be used then it should be cited as one would with the work of others.

Finally, it should be remembered that copyright usually resides with the publisher (although this may be changing with open access journals) so authors should be aware that even diagrams and illustrations are covered under such agreements.

For research students and research staff it is an absolute 'must' to get authorship defined and author order sorted out at the start of writing up for a publication.

**Conclusion:**

***Authorship is a complex and sensitive matter but if these guidelines are followed then most of the problems associated with poor practice relating to authorship in research and learned publication will be avoided.***

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## **Annex 1: Examples of best practice taken from *Nature***

### **Methods**

*Paragraph describing methodology:*

### **Acknowledgements**

*Example:*

This work was supported by the National Science Foundation (grant reference numbers) and a xxxxxxxxxxxx Fellowship at the UoX. We thank the many authors who contributed their data for the purpose of this analysis. We appreciate technical assistance from CM, PL and SMc. We thank JM, SE, CB and SP for comments.

### **Contributions**

*Example 1:*

K.K.M. and E.S.J. designed research, K.K.M., E.S.J. and J.J.W. performed research, K.K.M., J.J.W. and J.M.C. analysed the data, and K.K.M. led the writing of the paper with substantial input from E.S.J., J.J.W. and J.M.C.

*Example 2:*

All authors assisted in writing of the manuscript. J.H. analysed data, wrote the manuscript, designed all experiments and implemented all experiments with assistance from P.S., A.F.H., B.R.C., J.M.S., P.H., B.A.P., K.N.S., F.F., L.S. and F.K.W. K.S.M., M.C. and T.A.G. performed histological analyses and assisted with corresponding study designs. G.L.M. and R.M.B. performed eicosanoid analysis and generated E-prostanoid receptor knockout mice, and C.H.S. assisted with *Alox5* mice and experiments. D.T.S. and E.F.S. assisted with experimental design and data analyses. L.M.P. designed and performed experiments, analysed and evaluated all data, and wrote the manuscript.

### **Competing financial interests**

*Example 1:*

The authors declare (no) competing financial interests.

*Example 2:*

J.H. and L.M.P. have filed patent applications based on these findings.

### **Corresponding author**

*Example:*

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