Title:	TU Dublin Guidelines for Authorship Agreements				
RESOP003		Version:	1.1	Author:	Steve Meaney

Introduction

Disagreements around authorship[1] remain a key challenge in academia and a significant trigger for research misconduct investigations. In addition, failure to appropriately recognise genuine contributions and bias against women and/or junior authors with regards to authorship attribution have been recognised[2].

A clear delineation of who is and is not an author at an early stage in the research work is a key action which can be taken to support responsible authorship practices, and avoid a more *ad hoc* approach which marginalise or not recognise the involvement of certain individuals in the outputs. An authorship agreement is a formal document which outlines, in advance of the research, innovation and scholarly activity taking place:

- details of who will be included as the author of the research, innovation and scholarly output and their contribution to the output,
- the specific order of authors,
- who will be the corresponding or senior author,
- who will be recognised via acknowledgement rather than authorship
- if any delegated approaches are to be used (e.g. for consortia).

It is a key tool to manage expectations in relation to outputs. An authorship agreement should be considered as a living document, as the inclusion of new collaborators or changes to the team or project may require updates. Note that it is distinct from the agreement that one or more authors may sign with a publisher in relation to the dissemination of the output.

Principles of Authorship

As noted in RESOP-00X (Criteria for Authorship) the following criteria[3] must <u>all</u> be met for a person to be considered an author at TU Dublin:

i. A meaningful or substantial creative or intellectual contribution to the output must be made, in one or more of the following areas: conception and/or design, data collection and/or interpretation,
ii. A direct contribution must be made to the preparation and review of the intellectual content of the output,
iii. The person must approve the final output;
iv. An acceptance of responsibility and accountability for the whole output, both at point of initial dissemination as well as in relation to future queries related to the accuracy, veracity or integrity of the output.

Note that there is a distinction between a contributor and an author, i.e. a contribution may be involved in a project but they may not meet all of the criteria noted above.

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[1] As per the TU Dublin Authorship and Publication policy, an author includes (but is not limited to) all creators, artists, performers, innovators, researchers and scholars who have solely, or as part of a collaborative effort, lead to a research, innovation or scholarship output
[2] See: https://www.nature.com/articles/d41586-021-01574-y
[3] Derived from the ICMJE, GPP3 and the 'Vancouver' protocol.

Core concepts for consideration in relation Authorship Agreements

Agreement of senior and/or corresponding author(s)

The identification of the senior and/or corresponding author varies considerably across disciplines. A corresponding author would typically directly engage with the publisher or other dissemination vehicle to address the administrative and technical aspects, e.g. supporting submission and peer review. The senior author is normally the driving force behind the output, providing the essential framework within which other authors can act and is generally listed as the last author. Although in many fields the senior author acts as the corresponding author, this is not a formal requirement. Some fields view the corresponding author role as developmental, e.g. for a postgraduate student, and encourage and mentor more junior members of the team to act as the corresponding author. In this case, the student may be both a lead author and a corresponding author. Regardless of the approach to be taken, it is important to define who will take on these roles as part of the authorship agreement to manage expectations around contributions.

Agreement of lead author

In a simple sense, the lead author of an output is the one who has had the main direct and primary contribution to the output, e.g. a postgraduate student who is reporting work that they have done in relation to 'their project'. This does however become more nuanced in the context of team-based efforts where the efforts of multiple individuals may overlap in complex ways, e.g. two post-doctoral researchers working on a larger project where each set of results supports the other and where the distinction between individual projects may be less clear. As the average number of authors on an output increases, the identification and selection of the lead author becomes ever more challenging. The authorship agreement approach enables a formalised capture of the different contributions in a way that helps to make visible what will happen at the conclusion of the project – this expectation management helps to avoid future disagreements concerning authorship. It would be expected that the senior academic involved in the research, innovation or scholarly activity would guide the discussion around lead authorship in an open and transparent manner.

Recognising equal contributions within the authorship list

In several fields the notion of equal contributors (or joint authorship) is commonplace and the two or three authors may be noted as having an equal contribution to a specific output. There is no barrier to adopting this approach and indeed it may address some of the issues noted above in relation to complex project lead authorship. As noted above the senior academic should guide this discussion and ensure that all potential equal contributors/joint authors are appropriately considered.

Use of author contribution statements

Several different approaches are used in different written for a to capture specific contributions to the output, for example the CREdiT approach used by many print journals. These provide structured frameworks to record the specific contributions of each author to the output, but which do not replace the core criteria for authorship which must be met. Their purpose is to promote transparency around the level and scope of an individual's contribution to the output. As practices vary between publishers and venues for dissemination, no one approach is mandated. However, an author contribution statement should be included with outputs whenever it is possible to do so and the details of this should be captured in the authorship agreement.

Acknowledgement of contributions to the output

As noted above not all contributors to an output will meet the criteria for authorship and should not be included as an author of an output, e.g. via guest or gift authorship, both of which represent poor authorship practice. Rather, the role of such individuals should be recognised in the relevant section of the output, either in a dedicated contributor section or in an acknowledgement section. Examples of such contributions may include provision of samples, reagents, required materials, code, datasets, technical advice or funding without other substantial contributions as noted above. In some cases, individuals who provide access to existing datasets may require an agreement that they are included as authors on any analysis of these data as a condition of granting access to the data. However, the provision of data does not meet the requirements for authorship noted above and these individuals should be regarded as contributors rather than authors. A similar situation applies for the provision of access to facilities or technologies, without additional contribution. A record should be maintained of all contributors to an output and the authorship agreement provides a mechanism for this.

Approval of content prior to submission and/or dissemination

In many cases, the formal approval of an output by all of the authors is relatively straightforward and does not cause any issues. Indeed, in many journals there is a requirement that authors formally approve the content as part of the submission process. However, in the context of large collaborations including perhaps hundreds or even thousands of authors it is impracticable if not impossible to assure that all authors can meet criteria three above, i.e. that they have approved the final output. In these situations, a representative approval process may be used, whereby one team member (typically the senior academic of the team) approves on behalf of all members. Note that while one approval is included, there is an expectation that the views and input of all members are considered as part of this process. This approach should be captured in the authorship agreement at the outset of the collaboration to provide clarity and certainty of the process by which approval of the output will be communicated.

On some occasions, a team member may not be contactable (e.g. if they are statutory leave, extended sick leave) during a period when an output is being finalised for dissemination. A proxy-based approach may be used in this case, whereby a designated alternate is formally noted in the authorship agreement. Notwithstanding the potential for revision of an authorship agreement, an author should not be removed from via a by-proxy process.

An approach for authors who do not engage with the approval process should also be specified in the authorship agreement, i.e. by providing a realistic and generous timeframe for input and approval before noting a tacit approval by that author due to lack of response. Note that this is distinct from an author who is non-contactable, as described above.

Affiliation of authors

In many higher education institutions an individual may have an affiliation to more than one School, Department, Research Centre or Institute. All such affiliations and associations should be recorded in the output, noting that the contribution to the output should be significant (i.e. as per principles i and ii above) and not represent a 'gift affiliation'. A structured approach should be taken as follows:

- The unit (e.g. School) which employs the author or where a student is registered should be noted as the primary affiliation,
- All research hubs, institutions or centres involved in the work should be listed in alphabetical order,

Additional affiliations (e.g. emeritus or adjunct) should only be included where the activity in that position is directly relevant to the output, rather than for perceived prestige reasons. The details of the specific affiliations should be included in the authorship agreement, including those of any non-academic authors.

Applicability in context of consortia or collaboration

While all reputable collaborative partners would be expected to have clear policy and procedures in place concerning authorship and publication, it is not feasible to apply the policies of one institution to all. In such cases, it would be expected that the regulations of the institution of the senior author would apply, noting that in the absence of a suitable policy at this institution, the TU Dublin approach must be followed.

Authorship agreement template

Version[1]:		Date:	
Responsibility and for updates[2]			
Process for review/updates[2]			
Storage and availability of document[3]			

Type of research, innovation or scholarly output	
Working title of output	
Anticipated route of, or venue, for dissemination	
Proposed authors, in sequence	
Author contributions to output[4]	
Affiliations of authors for purposes of the output	
Senior author	
Corresponding author	
Other contributors; list for acknowledgements[5]	
Approach to non-responsive authors	
Approach for non-contactable authors	
Approach to resolving authorship related conflicts	

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[1] Initial agreement should be version 1.0. All version should be incremented in whole number steps.

[2] This should note who will have responsibility to make updates to this agreement and how they will be approved.

[3] It is recommended that online storage, to which all authors have access, is used due to inbuilt version tracking capability.

[4] This should specify how the authors will meet the four key criteria for authorship. If a structured framework is to be used this should be detailed in this section.

[5] The contribution of these individuals and the rationale for their inclusion should be stated, as well as if they have agreed to be acknowledged.

Confirmation of agreement[6]					
Name		**Signature**		**Date**	
Name		**Signature**		**Date**	
Name		**Signature**		**Date**	
Name		**Signature**		**Date**	
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Name		**Signature**		**Date**	
Name		**Signature**		**Date**	

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[6] Add rows as required.