

## **Knowledge management report: Papers and publishing**

### **1. Understanding papers and authorship (For academic support staff)**

Papers are a primary output of the Institute of Molecular Biosciences, and one of the ways in which the Institute is evaluated by the University. In this activity the underlying principles of papers and authorship were presented to the target audience of academic support staff. The information was given in both English and Thai to make sure there was complete understanding. The presenters were Prof. Duncan R. Smith and Dr. Poochit Nonejuie. A paper was described as a complete description of a research study, which may have taken months or years to complete. Each paper carries a list of names (the authors). It was presented that there are guidelines as to who can be considered as an author on a paper. While each journal has its own specific guidelines, the majority of journals use the International Committee of Medical Journal Editors (ICMJE) recommendations. These recommendations list four conditions for authorship credit, namely:

Criteria #1: Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND

Criteria #2: Drafting the work or revising it for important intellectual content; AND

Criteria #3: Final approval of the version to be published; AND

Criteria #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.

It was emphasized that authors must meet all four criteria. It was further noted that criteria 1 contained the term “substantial contribution”, and this was explained in more detail. The meanings behind each of the criteria were explained one by one. It was explained that routine laboratory tasks (such as growing cells) was not sufficient to meet the criteria, and the overall concept of “intellectual contribution” was introduced and explained. Routes by which supporting staff could meet the criteria were presented. One area of concern was that criteria#2 was difficult for support staff due to the language difficulties. Assistant Professor Narison Kitiyanant raised the question of whether support staff could write their portion in Thai, with subsequent translation by the PI. It was felt that this would be acceptable and would allow support staff to meet the criteria.

All attendees were directed to the NRCT research guide for publications (<http://www.nrct.go.th/e-publish1/ebook/research-guide/#p=1>) for further reading.

## **Knowledge management report: Papers and publishing**

### **2. Ethical publishing (For academic staff)**

Papers are a primary output of the Institute of Molecular Biosciences, and one of the ways in which the Institute is evaluated by the University. Papers are also a way in which academic staff are evaluated for annual performance reviews as well as in promotion events. In this activity the underlying ethical principles of the publication process were presented to the target audience of academic staff. The presentation was given by Professor Duncan R. Smith. The presentation started with introducing the concept that scientists have an ethical duty to publish the results of their research. Unreported research is wasted, and the Ethical duty to publish the results of research is even higher when the study involves human volunteers, or specimens from human volunteers. It was noted that publishing is surrounded by a web of standards, regulatory, guideline, ethical and legal and that authors were bound by these guidelines - whether they were aware of them or not. Failure to follow standards is classed as "Research misconduct", which can have serious professional effects ranging from loss of the paper (retraction) to dismissal from ones position. Attendees were directed to each journals "Instructions to authors" which would have clear statements on ethical issues surrounding publication. The definition of research misconduct as defined by the Royal College of Physicians of Edinburg was given: "any behavior by a researcher, whether intentional or not, that fails to scrupulously respect high scientific and ethical standards. Various types of research misconduct include fabrication or falsification of data, plagiarism, problematic data presentation or analysis, failure to obtain ethical approval by the Research Ethics Committee or to obtain the subject's informed consent, inappropriate claims of authorship, duplicate publication, and undisclosed conflict of interest". It was further pointed out that the U.S. Federal Policy on Research notes that research misconduct is defined as fabrication, falsification or plagiarism in proposing, performing, or reviewing research, or in reporting research results. The presentation focused on the following specific areas: (i) Fabrication, falsification and problematic data presentation or analysis, (ii) Regulatory issues (human and animal), (iii) Plagiarism and duplicate publication, (iv) authorship issues, and (v) conflict of interest.

#### **(i) Fabrication, falsification and problematic data presentation or analysis**

Fabrication is the construction and/or addition of data, observations, or characterizations that never occurred in the gathering of data or running of experiments. Fabrication can occur when "filling out" the rest of experiment runs, for example. Claims about results need to be made on complete data sets (as is normally assumed), where claims made based on incomplete or assumed results is a form of fabrication.

Falsification is the changing or omission of research results (data) to support claims, hypotheses, other data, etc. Falsification can include the manipulation of research instrumentation, materials, or processes. Manipulation of images or representations in a manner that distorts the data or "reads too much between the lines" can also be considered falsification. Examples of inappropriate image manipulation were provided, and instruction on how to correctly splice images was presented. It is NOT appropriate to: Splice together different images to represent a single experiment, change the brightness and contrast of only a part of the image, make any change that conceals information, use the clone tools to hide information, show only a very small part of the photograph so that additional

information is not visible. For data storage, attendees were advised that raw data should be stored for a period of at least 7 years.

**(ii) Regulatory issues.**

Studies undertaken using human subjects/samples or with animals must have the appropriate Ethical committee clearance. In Thailand, these are legal issues. For journals, you will be required to include an Ethics statement and some journals require Ethics approval number, while some journals require contact details of Ethics Committee.

**(iii) Plagiarism and duplicate publication.**

Plagiarism: is representing the words or ideas of someone else as your own. If you must use someone else's words, put the text in quotation marks. It was noted that many journals now use iThenticate to screen manuscripts for plagiarism, and examples were shown. Duplicate publication is defined as “publication of a paper that overlaps substantially with one already published, without clear, visible reference to the previous publication”. Submission of a paper written and published in one language to a journal in a second language is considered an attempt at duplicate publication. Simultaneous publication is sending the same manuscript to two or more journals for review at the same time. This is specifically prohibited by all journals. Note that this implies “in whole or in part” - you cannot have the same data submitted to two journals, even in different formats.

**(iv) Authorship issues.**

The International Committee of Medical Journal Editors (ICMJE) recommendations were presented. These recommendations list four conditions for authorship credit, namely:

Criteria #1: Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND

Criteria #2: Drafting the work or revising it for important intellectual content; AND

Criteria #3: Final approval of the version to be published; AND

Criteria #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.

Authors must fulfill all four criteria.

Authorship structure was explained as was the role of the corresponding author (\*)

John A. Majority-work, Peter B. Somework, Alfred C. Lesswork and Philip D. Labhead\*

It was noted that the corresponding author does not need to be the last author.

Inappropriate authorships: Guest, Gift and Ghost authors was explained. Guest (honorary, courtesy, or prestige) authorship is defined as granting authorship out of appreciation or respect for an individual, or in the belief that expert standing of the guest will increase the likelihood of publication, credibility, or status of the work. Gift authorship is credit, offered from a sense of obligation, tribute, or dependence, within the context of an anticipated benefit, to an individual who has not contributed to the work. Ghost authorship is the failure to identify as an author, someone who made substantial contributions to the research or writing of a manuscript that merited authorship, or an unnamed individual who participated in writing the manuscript. Ghost authorship may range from authors for hire with the understanding that they will not be credited, to major contributors not named as an author.

Under-credited authors are authors whose contributions to the work are not fully recognized. The example of under-crediting students was given, and it was pointed out that Graduate student mentors have a higher ethical responsibility to ensure that students get appropriate credit for their work.

Authorship disputes. Authorship disputes are VERY common in science. The best way to prevent authorship disputes is to have a written, signed agreement before starting any project or collaboration or get such an agreement at the time of manuscript preparation and before submission. However, it was noted that this can be difficult to do practically.

#### **(v) Conflict of interest.**

According to the ICMJE guidelines "A conflict of interest exists when professional judgment concerning a primary interest (such as patients' welfare or the validity of research) may be influenced by a secondary interest (such as financial gain). Perceptions of conflict of interest are as important as actual conflicts of interest." ICMJE further states that "Financial relationships (such as employment, consultancies, stock ownership or options, honoraria, patents, and paid expert testimony) are the most easily identifiable conflicts of interest and the most likely to undermine the credibility of the journal, the authors, and of science itself. However, conflicts can occur for other reasons, such as personal relationships or rivalries, academic competition, and intellectual beliefs. Authors should avoid entering in to agreements with study sponsors, both for-profit and non-profit, that interfere with authors' access to all of the study's data or that interfere with their ability to analyze and interpret the data and to prepare and publish manuscripts independently when and where they choose." A COI does not necessarily preclude publication, but it should be declared.

#### **Ethics of reviewing (paper grant or other)**

In suggesting reviewers for your paper your nominations SHOULD NOT be: People that you have published within the last 5 years, not current collaborators, not from your same Institute or University, your friend or your friends friend or family. The nominations SHOULD be: Experts in their field, have an Institutional email address, preferably from another country.

Your obligations as a reviewer. Any paper, grant or other document you are asked to review is STRICTLY confidential. You may NOT disclose or discuss the contents with another person. You may NOT use the information for any purpose (until after publication). You must deal with the matter in

a timely manner. You MUST recuse yourself if there is a conflict of interest (e.g. from a competitor or rival). You should not keep copies of the application after you have returned your report.

### **Suggested further reading**

<http://www.nrct.go.th/e-publish1/ebook/research-guide/#p=1> (NRCT guidelines on authorship in Thai)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2544445/> (paper by Kevin Strange on authorship)

<https://pubpeer.com/recent> (repository of papers with questions as to data integrity)

<http://retractionwatch.com/> (Blog covering retractions and giving more details)

<https://publicationethics.org/> (Website of the Committee on Publication Ethics, useful case studies)

<https://forbetterscience.com/> (website of Leonid Schneider, a scientific journalist who focuses on misconduct cases)