

Who owns data produced in a research lab?

What part of a student's thesis do they "own"?

How do I start a conversation about authorship?

Who can use student work produced for a course?

Who owns the computer program I developed?

Publically Funded Institutions

McMaster University, Hamilton Health Sciences and St. Joseph's Healthcare Hamilton are publically funded institutions with mandates to discover, communicate and preserve knowledge. All faculty members and researchers are encouraged to communicate discoveries and inventions to the public. Researchers who receive tri-agency funding should review and be aware of any publication requirements from the funding agency, including the Tri-Agency Open Access Policy on Publications.
link to: www.science.gc.ca/default.asp?lang=En&n=F6765465-1

Authorship

Research Data

Inventor

Copyright

Commercialization

Patents

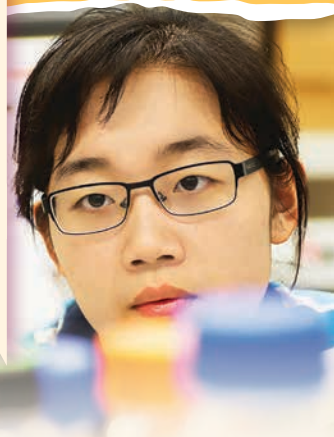
Fair Dealing

Ownership of Work

First Author

Integrity

Second Author



AUTHORSHIP

Publication is connected to career advancement and often recognized as the coin of the realm. Biagioli (1999) wrote “Like a coin, authorship has two sides: credit and responsibility. One receives professional credit from his/her publications and takes responsibility for their contents.”

The determination of who should be an author on a publication rests with the authors. Unsurprisingly, confusion and conflicts can occur around determining who is an author of a publication. The **order of authors** is at the discretion of the authors, however a discipline may have an accepted practice which may be outlined in related journals. Authorship conversations become important when conducting interdisciplinary research as researchers from different disciplines may have different expectations regarding order of author.

Much has been written regarding **how to determine authorship** by individual researchers, by citation guides and by journal editor associations. The question of authorship can become quite complex in research labs where many individuals including graduate students, lab technicians, post-docs and multiple faculty members are producing many multi-authored publications. Increasingly, journals are asking authors to define what each author did for the article. The International Committee of Medical Journal Editors (2015) provide 4 criteria to determine authorship:

- Substantial contribution to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or revising it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- 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

As a practical way to determine authorship, Winston (1985) developed a widely accepted procedure to assist with the determination of authorship. APA has adapted Winston's paper into a helpful worksheet:

www.apa.org/science/leadership/students/authorship-determination.pdf

Individuals who contribute but do not reach the level of author should be recognized in an acknowledgement section.

Inappropriate authorship includes:

Gift authorship is when author credit is given to a person who had little involvement in the project but who are listed as a sign of tribute, e.g. listing the chair of the department.

Guest authorship is when author credit is given to a person who had little involvement in the project with the hope of increasing the chance of publication.

Ghost authorship is when an author who made a significant contribution is not listed, e.g., authors for hire, medical writers, pharmaceutical employees, etc.



It is important to have conversations about authorship as early as possible and to review that conversation throughout the process. If work doesn't progress as expected or if people's roles change, authorship should be discussed again. The difficult decisions often require the most conversation; deciding if someone's contribution merits authorship or simply acknowledgement, and author position on the article, e.g., who is first author. Ideally, there should be no surprises and everyone involved should understand how the final list of authors was determined.

Sandwich Thesis:

A sandwich thesis is a thesis consisting of peer-reviewed scholarly works (e.g., journal articles) which may already be published or are being prepared for publication.

- The author of the thesis should be the main contributor to the articles
- The thesis must document the contributions of each author in any multi-authored articles
- To include copyright material in the thesis, the student must obtain written permission from the copyright holder and any co-authors

Many more details regarding sandwich theses are outlined in the Guide for the Preparation of Master's and Doctoral Theses found on the School for Graduate Studies website.



COPYRIGHT

Copyright is a type of **intellectual property protection** for specific types of tangible works (e.g., such as literary, artistic, dramatic, musical). Generally, the author of the work is also the copyright owner and that person is said to hold the copyright in the work. In other words, the author has the right to control if and how the work will be produced, copied, performed, etc. However the author of a work can also be different from the owner, as is the case in many employment situations, where the employer would be the owner of the copyright produced by the employee. The McMaster University Joint Intellectual Property Policy states that copyright of traditional teaching materials, such as lecture notes, laboratory manuals, articles, books, artifacts, works of visual art, maps, charts etc., is owned by the faculty member unless certain exceptions apply. It is recommended that faculty familiarize themselves with the McMaster University Joint Intellectual Property Policy found on MILO's website.

With respect to publishing a work, such as an academic paper, journals often require authors to assign the copyright to the journal. If an author is required to assign their work rather than license it to a journal, this means they are **transferring ownership** of the copyright to the journal. Effectively, this means the author no longer owns the copyright; the journal would. Ownership can be important to an author as it affects what an author may or may not be able to do with work. For example, once copyright is assigned, the author will not be able to publish the work again without permission from the journal. Journals often grant authors certain limited rights, e.g., the right to present the paper at conferences, etc., however each journal will have a slightly different copyright agreement, retained rights and permissions process.

Publishing work in stages; it is not uncommon to publish or present work in stages through the evolution of the research, e.g., research design, preliminary findings, final findings, etc. If publishing work in stages, it is important to disclose in the article and to the journal what parts of the work have been previously published or presented.

Authors are strongly encouraged to read the **copyright agreement** and be aware of the permissions process and/or retained rights for the journal. If an author has any questions related to copyright, they are asked to contact copyright@mcmaster.ca

Publishing works through **open access** affects copyright differently than traditional journal publishing. In open access, often done through a Creative Commons license, the author generally retains the copyright and grants the publisher a non-exclusive license to publish, meaning both the author and the publisher have rights. A Creative Commons license allows the author or creator to retain the copyright and allows others to copy, distribute and make non-commercial use of the work.

Ensuring open access after publication is now a requirement of certain funding agencies. For example, the Tri-Agencies have a condition which requires grant recipients to ensure any peer-reviewed journal publications arising from Agency-supported research are freely accessible within 12 months of publication. For more information, please go to:

<http://library.mcmaster.ca/scholarly-communication/open-access>

Copyright is not only important for faculty but is equally important for students, particularly graduate students writing a "sandwich" thesis. A **sandwich thesis** is when published articles are expected to be re-produced in the student's thesis and the student will then grant a license to McMaster University and the National Library of Canada. Students should view the permissions information from the journal(s) about how to gain permission to re-use copyright material and should contact the journal(s) with any questions.

Fair dealing is an exception in the *Copyright Act* which allows you to use other people's copyright for the purpose of research, private study, news reporting, criticism, education, parody or satire, provided that what you do with the work is 'fair'. Whether something is 'fair' will depend on the circumstances. Courts will normally consider factors such as:

- the purpose of your dealing (Is it commercial or research / educational?)
- the amount of the dealing (How much was copied? The whole work or only small, insignificant portions?)
- the character of the dealing (What was done with the work? How often was the work used? If it was distributed, how many people received it?)
- alternatives to the dealing (Was the work necessary for the end result? Could the purpose have been achieved without using the work?)
- the nature of the work (Is there a public interest in its dissemination?)
- the economic impact on the work (Is the copyright owner deprived of legitimate economic benefit because of the dealing?)

In addition, if you want to copy a work for the purpose of criticism or review, you must mention the source and author of the work for it to be considered fair dealing.

If you are using the work for research, private study, criticism, news reporting, education, parody or satire and your use of the work is reasonable in the circumstances, taking into account the above factors, you should be covered by the fair dealing exception.

McMaster adopted a **Fair Dealing Policy** to provide guidance to faculty members, instructors and staff members on when copying and communicating a copyright-protected work would fall within the fair dealing exemption.

Copyright Agreement

Intellectual Property Protection

Open Access

Sandwich Thesis

Fair Dealing Policy

Fair Dealing

Transferring Ownership

Publishing Work In Stages

INTELLECTUAL PROPERTY

What is Intellectual Property and Who Owns It?

Intellectual property (IP) at McMaster University, Hamilton Health Sciences and St. Joseph's Healthcare Hamilton is governed by the Joint Intellectual Policy which defines IP as "databases, audio-visual, electronic circuitry, biotechnology and genetic engineering products, computer software recorded in any format, inventions, discoveries and all other products of research...".

The Joint Intellectual Property Policy is a flexible policy which allows either the University or the faculty creator (at their request) to take ownership of and the lead in commercializing technologies created at the university or affiliated hospitals, provided the ownership is not already governed by a research contract with a third party. Depending on the situation, there are three typical IP scenarios; University-owned, researcher-owned or industry owned, each of which may have a different commercialization path.

With regards to intellectual property management, MILO (McMaster Industry Liaison Office) provides advice and support to the university and affiliated hospitals communities on the protection of intellectual property and commercialization of research discoveries. They will manage the patent process, market the intellectual property, negotiate and manage licensing agreements, assist in securing additional funding to help further develop the invention, and help with startup company creation.

- **Going to do research off-site?**
- Understand and protect your intellectual property rights by having MILO negotiate a Visiting Researcher Agreement.

Who is an inventor?

An inventor is a person who has contributed intellectual input to one of the claims of a patent. A patent application may be filed naming one or more inventors. A person who works under the direction of another and does not contribute any original thought to the claimed invention, i.e., "works as a technician" to confirm an invention, must not be named as an inventor. Professional collaborators may or may not contribute to the inventive concept being claimed and great care should be taken in deciding who should be named as an inventor. It is important to understand that inventorship is a legal matter, not a collegial matter – not all co-authors of a publication need be co-inventors. Collaborators not deemed to be co-inventors can, however, be recognized through some sharing of the net proceeds from the invention. If you are in doubt as to inventorship, MILO should be consulted and a professional opinion obtained.



- **Are you the Principal Investigator (PI) with a sponsored research contract? Does the contract limit ownership or place conditions on publication? If so, it is VERY important that all students, postdocs and lab staff fully understand these limits and conditions before joining your project.**

Prior Art and Public Disclosure

Prior art, as it relates to patent law, is usually defined as any information that relates to your invention that has been publicly disclosed in any form before the filing date of your patent application. Prior art includes all written and electronic publications in scientific journals, conference abstracts and handouts, poster presentations, books, newspaper articles, blogs or websites; in any country and language. Prior art also includes orally presented material, such as discussions at conferences, disclosures to competitors or customers, certain disclosures to colleagues in a field, and other public statements.

Thus, an inventor may under certain circumstances create prior art against themselves (thereby jeopardizing patent rights) by publicly disclosing an invention prior to the filing of a patent application. It can become difficult to protect your invention outside Canada and the U.S., (where there is one year from the date of public disclosure to file for a Canadian or U.S. patent) once it is published in a journal or presented at a conference. In order to obtain foreign patent protection, a patent application must be submitted before publication. If the market for your invention is global, this is an important consideration as you plan publications. After filing a patent application, you can exhibit or publish your work without the loss of patent protection for the material in the application.

- **Hiring an external group to perform research for you? Speak with MILO about having the appropriate agreement in place to govern the rights of any intellectual property development.**

OWNERSHIP OF STUDENT WORK*

In Canada, the author is the immediate owner of the copyright in an original work, except when the author is employed to create such material. "Copyright" is an exclusive property right to publish, produce, reproduce, translate, broadcast, adapt or perform a work, as defined in the Copyright Act (R.S.C., 1985, c.C-42, as amended).

Student Work:

1. Exams, reports & papers done for a course; the student retains ownership of the copyright, if the work is eligible for copyright (see sandwich thesis information). The University owns the original physical document and receives a royalty free, non-exclusive license to make copies of the work for academic purposes within the University and to circulate as part of the University collection.
2. **Finished thesis;**
 - i) The student normally holds the copyright to the written thesis (see sandwich thesis information). The student is required to sign a license to the University library, with PhD students signing an additional license to the National Library.
 - ii) The ideas in the thesis will often arise from interaction with others, perhaps solely the thesis supervisor or perhaps with a larger research team. The ideas in the thesis (including advances in theory, data, patentable ideas or commercial exploitation of the work) may be the exclusive property of the student or the rights may be shared with the supervisor (or research group) and the University. If the work has been supported in part by research grants or contracts, there may be other conditions affecting any patent or commercial exploitation.



Graduate students and supervisors may be interested in reading "A Graduate Student's Guide to Determining Authorship Credit and Authorship Order" by the APA Science Student Council found at:

www.apa.org/science/leadership/students/authorship-paper.pdf

3. Computer programs:

- i) Any software development that draws upon other software owned or licensed by the University must follow the terms and conditions of the license or purchase.
- ii) When a student develops software at the direct request of a supervisor and under supervision, it is assumed there is joint ownership of the intellectual property rights. It is recommended the individuals involved co-author a working paper documenting the software.
- iii) When a student develops software on his/her own, e.g., for an independent project, copyright remains with the student. As a condition of using University computing facilities, the student is required to grant the University a royalty-free license to use the software. This includes the right of the University to distribute copies of the software to McMaster faculty, staff and students for the University's administration, education and research activities but does not include the right to use the software for commercial purposes or to distribute the software to non-McMaster people.
- iv) If a computer program is created as part of employment duties, e.g., by a Teaching Assistant, the program is the property of the employer.

4. Research Data

- i) When the data are acquired as part of a joint or collaborative effort, such as one relying on the equipment within a laboratory, they are not solely the property of the student although the data may appear in the student's completed thesis. Such data are the joint property of the student and the research supervisor, either of whom has the right to make the data available to other individuals as well. Both the student and supervisor are responsible for ensuring that proper acknowledgement of the contributions of the student, supervisor, and other members of the research team is made when the data are released in any other form.
- ii) When the data are acquired through the student's individual effort, and without the use of the university laboratories or funding, then the data are usually the property of the student. Exceptions may occur (e.g., when the student collects data using research instruments developed by the supervisor or by another person or agency) and it is difficult to set absolute guidelines in advance for these exceptions. In such instances the right to ownership and/or use of data may be shared among the parties involved. It is recommended that students and supervisors make clear agreements in advance concerning the ownership and use of data collected in this fashion.

5. Equipment

If University resources have been applied to the construction or design of equipment, it is not the property of the student, but of the University. Ownership of newly constructed equipment may also be specified in a research contract that has supported the work.

* Taken directly from McMaster's Ownership of Student Work policy which can be found at:
www.mcmaster.ca/policy/faculty/Research/OwnershipOfStudentWork.pdf
and should be read in conjunction with the Joint Intellectual Property Policy which can be found at:
www.mcmaster.ca/policy/faculty/Research/JointIntellectualProperty.pdf

RESOURCES



Publication of Electronic Thesis

The Graduate Calendar (section 2.8.3) states: Every successfully-defended thesis for a Master's or a Ph.D. degree shall be published substantially as it was approved at the thesis defense, including any changes mandated by the defense committee, through the University Library's MacSphere and the Library and Archives of Canada. To this end, as a final requirement of the degree, each student must sign a license enabling such digital publication, and must upload the thesis to MacSphere in electronic form. Note that the student may request postponement of digital publication for up to one year at the time of uploading the thesis to MacSphere, and all such requests will be automatically granted. E-publication delays normally would be requested for the shortest amount of time required to facilitate publication with external organizations, to protect any right to immediate commercial gain, or to permit a patent application to be completed.

Please contact the Thesis Coordinator in the School for Graduate Studies for more information.

MILO (McMaster Industry Liaison Office)

- Assists researchers with interactions with and funding from industry, as well as applications to funding agencies to match industry funds

McMaster University Library

- Open access questions
- Copyright questions

ROADS (Research Office for Administration, Development & Support)

- Assists researchers access funding from external granting agencies
- Research ethics approval for McMaster University non-medical research involving human participants research

Health Research Services

- Provides support to obtain and manage research grants and contracts, manages FHS research resources and administers the ethics review process for animal and human medical research

School of Graduate Studies

- Thesis questions
- Supervisor/student negotiations

Hamilton Integrated Research Ethics Board (HIREB)

- Research ethics approval for McMaster University, Hamilton Health Sciences and St. Joseph's Healthcare Hamilton medical research involving human participants

Academic Integrity Office

- Oversees the processing of research misconduct and academic dishonesty violations

McMaster University Policies

The following policies were used in the generation of this document. As policies are regularly reviewed and updated, the current posted policy prevails over this document.

- Fair Dealing Policy
- Joint Intellectual Property Policy
- School of Graduate Studies Calendar
- Ownership of Student Work Policy

Biagioli, M., Crane, J., Derish, P., Gruber, M., Rennie, D. and Horton, R. (1999) Council of Science Editors (CSE) Task Force on Authorship Draft White Paper. Retrieved from: <http://www.councilscienceeditors.org/resource-library/editorial-policies/cse-policies/retreat-and-task-force-papers/authorship-task-force/cse-task-force-on-authorship/>

International Committee of Medical Journal Editors (2015) Defining the Role of Authors and Contributors. Retrieved from <http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html>

Winston, Jr., R. B. (1985) A suggested procedure for determining order of authorship in research publications. *Journal of Counseling and Development*, 63, 515-518.