

A Guide to

Intellectual Property

for Graduate Students

School of Graduate Studies
University of New Brunswick
June 2023

Preface

These guidelines have been prepared by the School of Graduate Studies in consultation with other University stakeholders in research and graduate training. It is intended as a resource for all graduate students at UNB to address common intellectual property issues that arise in the context of graduate student research and employment.

When a graduate student works with the guidance of their supervisor(s) or as a teaching assistant, some commonly encountered questions include:

- Who owns the data?
- An important discovery or publication is made; who should benefit from the results?
- Who is entitled to be the author of literary, musical, dramatic, or artistic works?

The responses to these questions are sometimes complex. This is evidence of the progressive and evolving nature of scholarly work and a sign of creativity in our academic institution. It is also what one would expect in an environment that encourages and promotes collaborative research.

To promote awareness of some of the issues involved, the school of Graduate Studies, in consultation with the Office of Research Services, the Office of the Vice-President (Research), the Libraries and the Graduate Students' Association, has prepared this resource for students and their supervisors.

This resource is offered as *guidelines*, and not an extension of *policy* or legal advice. It introduces researchers to existing University policies and to provides some elementary definitions.

The University of New Brunswick gratefully acknowledges the University of Toronto for its permission and assistance in adopting its excellent publication on intellectual property guidelines.

1. Introduction

Intellectual property issues should be understood within the framework of research policies of the University of New Brunswick. It is the responsibility of every student and supervisor to be aware of these policies and to be sure that they are engaged in research in a manner that is consistent with them.

This guidance document is intended to introduce students and supervisors to intellectual property issues, and to contribute to the University's commitment to academic freedom and the creation and dissemination of knowledge for the public good.

Students work closely with faculty supervisors in conducting their thesis research and it is important therefore to have open discussion and dialog concerning the rights and obligations of both parties and how those may also connect to and be influenced by additional parties such as rights owners, granting agencies or companies that provide research support.

At the outset, it must be recognized that considerable variation in practice exists among graduate programs within the University. For example, in many humanities and social science departments, a student may pursue their thesis work largely independently building upon the ideas and published works of colleagues and peers. In contrast, in many physical and life science departments, graduate students often work as part of a research team in a laboratory, which also includes post-doctoral fellows, research assistants and associates, and/or research technicians.

A further complexity is that graduate students may by some definitions be considered employees of the University which includes their work or research area. Accordingly, this document highlights the similarities – and distinctions – between the applications of intellectual property policies to individuals in various categories.

This document provides general guidelines for the conduct of such research. Graduate students at the University of New Brunswick should familiarize themselves at the start of their research program and during their graduate education with these general guidelines and with specific University policies related to inventions and other intellectual property, as outlined in this document.

We encourage all students and supervisors at the start of the student's program to discuss Intellectual Property issues relevant to their research, as recommended in the [Student-Supervisor Checklist](#).

2. What is intellectual property?

Intellectual property (IP) is the product of intellectual or creative activity that can be protected under the law to some extent. There are various forms of legal protection, but the two which are most likely to be relevant in the University environment are *copyright* and *patents*.

Copyright

Copyright is a set of rules that aims to balance the protections necessary to incentivise and reward creators with the benefit to society that comes from the dissemination of information. Copyright protects original literary, musical, dramatic, or artistic works in a variety of forms, including written materials and computer software. Copyright does not protect ideas, but rather the expression of such ideas. It prevents anyone from copying, publishing, translating, or broadcasting a substantial portion of a work without the copyright owner's permission. In Canada, the usual term of copyright consists of the author's lifetime, the entire calendar year of his or her death, and an additional 70 years. Although copyright comes into existence automatically when the work is created, authors may signal their claim by marking the work (© [author's name], [year of publication]) and, in addition may register the copyright with the Copyright Office. The Canadian Copyright Act provides that the author of a work is the first owner of copyright. However, it provides that where a work is created by an employee in the course of his or her employment, in the absence of an agreement to the contrary, the employer is the first owner of the copyright.

Patents

Patents protect inventions – that is, creations or discoveries, which are new, not obvious and useful. It applies to many things: devices, chemical compounds, new uses and, in some countries, new life forms, such as transgenic animals. What makes an invention “new” is that it has not been disclosed publicly prior to the filing of a patent application. If it has been disclosed in an article, a seminar or even in a conversation not covered by a confidentiality agreement before that filing, it will not qualify for a patent in most countries. A patent prevents anyone else from using the invention without the patent owner's permission for approximately 20 years. After the patent expires, anyone is able to use the invention without a requirement to obtain the former patent owner's permission.

At present, there are no universal patent laws. Note that a Canadian patent guarantees patent protection throughout Canada only; generally, a patent must be secured in each country for which patent protection is sought.

It should be noted that ownership may be affected if the work is done in consultation with Indigenous communities, in which principles of [ownership, control, access, and possession](#) (OCAP) may play a role.

3. What are UNB's Policies regarding intellectual property?

The law grants intellectual property rights to all creators/inventors, irrespective of their status at a university or research institution (whether graduate or undergraduate student, postdoctoral scholar, professor or otherwise). Students have intellectual property rights and rights to protection under the copyright and patent regimes, provided they satisfy the requirements of the law.

With regard to ownership of IP, some important considerations are noteworthy:

- Graduate students hold unconditional *copyright* to completed dissertation, theses, project reports, or any other similar work produced as students.
- The university makes no claim to ownership when a student makes *normal* use of UNB resources (laboratory, library, computational, etc). If there is a case of exceptional use of UNB resources, a shared ownership agreement with the university may be established.
- Ownership is typically restricted if the IP is created by the student in the role of an employee (e.g. teaching or research assistant, see [Question 1](#) below).
- Ownership may also be affected by sources of external funding that may support a student or resources (see [Question 2](#)).
- Ownership may be shared with a supervisor or other members of a research team (see [Question 3](#)).

If a graduate student has developed an *invention* that they wish to patent or commercialize, two steps are necessary.

1. Ownership must be established, e.g. sole ownership or consensual shared ownership.
2. The invention must be disclosed to the university using an [invention disclosure form](#). This will declare the student (and collaborators as inventors).

Following this, normally the inventor(s) may offer the invention to the University for commercialization or may take personal ownership of the invention and undertake its commercialization and protection at their own expense.

The [Research and Innovation Partnerships](#), part of the Office of Research Services, is a resource to help commercialize innovations developed by University researchers. An inventor may [offer to assign their rights to](#) the University or otherwise appoint the University as their representative for commercialization of the invention. The Office of Research Services will assess the invention for its commercial potential and, if the inventor's offer is accepted, the University will take on the obligation to protect and commercialize the invention in return for a negotiated percentage of any net revenue from commercialization.

Common Scenarios and Questions for Graduate Students

1. I am employed as a research assistant, teaching assistant, or other type of employee of the University. Who owns intellectual property?

The intellectual property rights of students acting as employees are described in the [Union of Graduate Student Workers Collective Agreement - Article 22](#).

When employed as a graduate student teaching assistant (GSTA), a graduate student Employee shall retain ownership and copyright of any lectures or course materials created exclusively by them. This does not apply to lecture or course material created under contract with UNB College of Extended Learning. When employed as a graduate student research assistant (GSRA) the duties may involve a creative contribution to a research project. In this case the Employee and Supervisor shall, in advance, discuss, agree upon and record in writing (with a copy to the School of Graduate Studies) the proportion of ownership which shall accrue to the employee based upon the planned effort and duration of the employee's involvement.

2. I am supported by external funding, such as a scholarship, fellowship, or a supervisor's research funding. What is the effect on the intellectual property that is created?

The relationship between funding and intellectual property rights depends on (a) who the funding body is, and (b) what the terms and conditions of funding are.

Not all funding bodies are the same. Some public funding bodies such as the federal granting councils – Natural Sciences and Engineering Research Council of Canada (NSERC), Canadian Institutes of Health Research (CIHR), and Social Sciences and Humanities Research Council of Canada (SSHRC) – attach no intellectual property claims to the research they fund. Requirements have been established to ensure open access to publicly funded research publications, the disposition of any resulting intellectual property rights would be in accordance with the University's policies, subject to any specific sponsor policies.

Other organizations, notably companies, often attach intellectual property claims to their support of university research or of fellowships or scholarships for students. Still other organizations, such as some charitable associations or foundations (e.g., the Heart and Stroke Foundation), may claim either licensing rights or a share of royalties. To ascertain which of these conditions apply, the student and supervisor should be aware of ownership rights the organization has on the results of the work.

Contracts and grants from the private sector are increasingly common and are encouraged by CIHR and NSERC. Funding agreements may have a number of provisions with respect to intellectual property rights, confidential information and publication. Where the terms of funding include a grant of rights in resulting intellectual property, all project participants will normally be asked to sign an agreement in which they indicate that they have been made aware of the funding terms and agree to abide by them. At the outset of the project, the supervisor should disclose these restrictions to the student and the supervisory committee and determine if the work is suitable for thesis research.

A thorough discussion between student and supervisor pertaining to all implications of funding arrangements upon intellectual ownership should take place at the outset of the graduate research, as recommended in the [Student-Supervisor Checklist](#).

3. What rights does my supervisor have to any discovery or invention made during graduate work?

It all depends on the individual circumstances and the applicable governing law, policy, or convention. For example, if it is an invention, the determination of who is an inventor or co-inventor will depend on patent law. University policies will determine who owns the invention. If a publication is involved, copyright law and custom (academic integrity and professional standards) will decide who is an author and how the authorship will be shared and portrayed. Moreover, if a

research sponsor has rights to own or to license the results of the research, this may determine what rights or freedom you and the other inventors or authors have regarding what will happen to the results of the research.

In brief, a supervisor and other parties may have a large or small claim on the intellectual property rights relating to work done by a student. This is something that a supervisor and student should discuss prior to beginning work that could lead to creations or inventions that would be accorded intellectual property rights. Ordinarily, a student will have no claim to their supervisor's or instructor's work unless the student is a joint author or joint inventor.

Likewise, a supervisor would not have a claim if they are not a co-author/co-inventor. If the student's work was done as part of an ongoing research project, it should be expected that the results can be used, with appropriate attribution, in furthering the research activities of the supervisor and others working in the same laboratory or research group (e.g., in publications, presentations, grant applications, and final reports).

It is important to clarify rights to intellectual property prior to the submission of papers for publication or disclosure of research findings at scientific meetings or in any way which places any creation or invention in the public domain.

4. Who owns the data produced in a research project?

Raw data and facts are generally not considered to be protectable intellectual property in law. While the collection, use and, re-use of facts and data should be considered with respect to privacy, security, and approval by UNB Research Ethics Board they are neither an invention (i.e., patentable) nor an expression of an idea (i.e., a copyright work). IP protection is based upon the level of skill and judgement a researcher(s) used in the expression of the facts and data; such as, a curated database or an arrangement of facts. Nevertheless, raw data and facts can be important and potentially valuable outcomes of academic research..

In most cases, research data are jointly collected by the researcher and the University, which means that both have the right to use the data. The research project's funding source may also be relevant. A project sponsor may have rights to the data under a sponsored research agreement or may require that the data be made broadly available to the research community through public data archiving or other methods such as the [Tri-Agency Research Data Management Policy](#).

Whether or not a student has rights in the data can also be based upon the

equipment on which the data and results are recorded – notebooks, tapes, computer hard-drives and other memory media – that may be the property of the University. Personally identifiable data collected from human subjects are also governed by human subject protocols and privacy legislation, which may place restrictions on the use of the data, including its removal from university premises. ***Students should always consult with their supervisors before removing data, or equipment or media on which the data are stored from university premises.***

Data from collaborative research projects are an important resource not just for the student, but for the entire research team. A research team may have a policy on sharing of data within the lab. Where the supervisor or someone else jointly owns data or results that have been published, they may incorporate them in a thesis with permission of the other co-owners and the student will own copyright in thesis as a whole. The grant of permission to use data in a thesis does not necessarily give one the right to use the original raw data for other purposes without permission. In all cases, one must provide appropriate attribution of the source of the data.

Unless it is clear that the student's contribution was that of an employee following explicit directions, the student is entitled to have their contribution recognized when they generate or compile data or results, even if someone else is the author of a publication and owns or jointly owns the copyright in the report. Whenever a student is a co-author of a published work, they also have a responsibility to understand the work in its entirety and to object to any mischaracterizations or misuse of the data.

5. When is someone a joint inventor or joint author?

A “joint inventor” is someone who makes an original and substantive contribution to an invention. If this is true for a student, then they should be named as a joint inventor in any patent application. However, if the student was employed to do the work that constituted their contribution to the invention, they may be required to assign any patent rights in the application to the employer.

Conventions about what criteria define a joint author vary among disciplines. The narrowest definition comes from copyright law and applies to collaborations in literary and artistic works in some of the humanities. There, a “joint author” is technically someone who has collaborated on a work in which the contributions of the various authors are not distinct from one another. In this model, only contributors to the form or expression of the work qualify; those supplying ideas

normally do not. If each person's contribution is distinct (e.g., contributors of entries to an encyclopaedia), the work is a "collective work" and each author has copyright in their individual contribution.

In the physical and life sciences, collaboration and teamwork are common. Indeed, a student's research may be guided by a team or committee. Here ideas are considered to be contributions, and so contributors to the original ideas in a project are typically given the right of joint authorship of publications that report on the results of the research. As a guideline, co-authorship should be recognized only where the individuals have participated in a significant way in at least two of the following aspects of the research:

- conception of idea and design of experiment,
- actual execution of experiment or hands-on lab work,
- analysis and interpretation of data, and/or
- actual writing of the manuscript.

Disagreements about rights to senior or first authorship can be difficult to resolve. In the humanities and social sciences, the student will often be the lead author and sometimes only author of the published work that reports on their research. In the physical and life sciences, students are frequently given first authorship in publications arising from their thesis research while others involved in the research appear as junior authors. However, students should be aware that some professors may claim the right of first authorship for themselves. This may be the case where first authorship is seen as a requisite at the professor's particular career stage, or simply from the personal policy/preference of the professor. This is an issue that student and supervisor should discuss and resolve early in the student's program to avoid misunderstanding. Although it is desirable that all parties are comfortable with authorship arrangements, ultimately supervisors have the right to decide authorship. Should uncertainty or disagreement about authorship arise, consult Question 6, below, regarding dispute resolution mechanisms.

The fact that a co-worker is not named as an investigator in a grant or contract under which the work was performed should not prevent them from being given credit as a co-author in any publication resulting from their contribution. However, a requisite of co-authorship is work that involves an original contribution as understood by that discipline. Co-authorship may be lost if a co-worker leaves the project or does not contribute substantially to the work. Although acknowledgement may be appropriate in such circumstances, co-authorship cannot be assumed.

Normally, the supervisor, in consultation with their co-authors, will make the decision as to when or whether a co-authored manuscript should be submitted for publication and to what journal. A student considering publication of their

own paper also has a responsibility to consider the intellectual property and co-authorship rights of others who may have been involved in the research.

6. If a dispute arises with respect to intellectual property and/or co-authorship rights with my supervisor, where do I go for help?

If a dispute or concern arises with respect to intellectual property and/or co-authorship rights, you and your supervisor should first try to resolve any differences amicably. The underlying causes of disputes can be complex, but resolution can usually be obtained through discussion or negotiation through your department: consult your Director of Graduate Studies or Department Chair. If problems persist, you can seek help from the Dean of your Faculty. Your Program or Faculty may also consult with the Dean of the School of Graduate Studies, and the Office of the Vice-President, Research.

Useful links:

Canadian University Intellectual Property Group, [A Guide to Protecting Intellectual Property](#)

UNB Graduate Student [Student-Supervisor Checklist](#)

[Tri-Agency Research Data Management Policy](#)

UNB Policy on [Responsible Conduct in Research](#)

[Union of Graduate Student Workers Collective Agreement - Article 22](#)