Intellectual Property Guidelines



for Graduate Students and Supervisors

at the University of Alberta 2004 0

Produced by the University of Alberta's Research Services Office in partnership with:

- Office of the Vice-President (Research)
- Faculty of Graduate Studies and Research

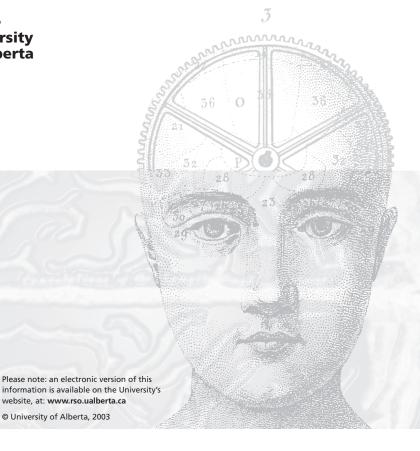
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Table of Contents

рЗ	Preface
р4	Introduction
р5	What is intellectual property?
р6	What is the University of Alberta's policy regarding intellectual property?
р7	As a U of A graduate student, do I have intellectual property rights?
p8	If I am a research assistant, research associate, or other employee of the University, who owns the intellectual property?
p10	If I am being supported by a fellowship, scholarship, and/or my supervisor's research funds, who owns (or controls) the intellectual property?
p12	What rights does my supervisor have to any discovery or invention I make?
р13	Who owns the data produced in my research project?
p15	When is someone a joint inventor or joint author?
p16	If a dispute arises with my supervisor with respect to intellectua property and/or co-authorship rights, where do I go for help?
p17	Appendix 1: University of Alberta Policies, Contacts and Information Relating to Intellectual Property
n19	Appendix 2:

Useful Definitions

Preface

his booklet has been prepared by the Research Services Office in consultation with other University departments and groups, and is intended for distribution widely to graduate students and faculty throughout the University of Alberta. Its purpose is to address intellectual property issues that arise in the most varied of circumstances, across all units of the University of Alberta.

Who owns the data? When a graduate student, working under his or her supervisor, makes an important discovery, who should benefit from the results? Who is entitled to be the author of literary, musical, dramatic, or artistic works created in the course of collaborative university research?

These are sometimes difficult questions, and university administrators encounter them increasingly. The fact that we do so is a sign of the intellectual vigor and creativity of our academic institutions. It is also what one would expect in an environment that encourages and promotes collaborative research.

In an effort to avoid some of the problems that may arise over questions of intellectual property, and in order to promote awareness of some of the issues involved, the Research Services Office, in consultation with the Office of the Vice-President (Research), the Faculty of

Graduate Studies and Research, and the Graduate Students' Association, has prepared this booklet for students and their supervisors at the University of Alberta.

We recommend these pages to you as guidelines. The goal is not to break new policy ground, but rather to introduce researchers to existing University policies and to provide some elementary definitions. Of course, this document is not intended to replace independent legal advice. Nor is it intended to promote restrictions on the openness that normally characterizes intellectual discourse within the University.

We hope that you will find this booklet useful. Most important, we hope that graduate students will discuss issues concerning intellectual property with their supervisors, graduate coordinators and other academic administrators early in the research process.

The University of Alberta gratefully acknowledges the University of Toronto for its permission and assistance in adopting its excellent publication on intellectual property guidelines for the development of this booklet.

Peter K. Robertson, PhD Director, Research Services Office and Associate Vice-President (Research/ Industry Relations)

Introduction

ntellectual property issues should be understood within the framework of research policies of the University of Alberta. 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 document is intended to introduce students and supervisors to intellectual property issues and to relevant University policies and to contribute to the University's commitment to academic freedom and the dissemination of knowledge.

For the majority of graduate students, the relationship between the student and supervisor is a productive collaborative activity. Every effort is made to provide the student with the appropriate learning environment and skills required to succeed as an independent scholar in future positions. Sometimes, however, misunderstandings arise about the rights or obligations that students have with respect to the University, the supervisor and other colleagues, a granting agency providing research support, or others with an interest in the research.

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 his or her thesis work largely independently. 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 postdoctoral 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 and/or of a hospital or other research institute 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.

Using the question and answer format, this document provides general guidelines for the conduct of such research. Graduate students at the University of Alberta should familiarize themselves at the start of their research program with these general guidelines and with specific University policies related to inventions and other intellectual property that are cited in Appendix 1.

What is intellectual property?

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

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 work without the copyright owner's permission. Currently 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 50 years. In a number of countries (but not in Canada) copyright has been extended to life plus 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 Copyright Act provides that the author of a work is the first owner of copyright. At the same time, 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 protect inventions - that is, creations or discoveries, which are new, not obvious and useful. Patents apply to many things, including devices, chemical compounds, new uses and, in some countries, new life forms, such as transgenic animals. Increasingly, software is also capable of patent protection, depending on the jurisdiction and nature of the software. What makes an invention "new" is that it has not been disclosed publicly prior to the filing of a patent application. If, before that filing, it has been publicly disclosed in an article, a seminar or even in a conversation not covered by a confidentiality agreement, or in confidential circumstances, its patentability may be seriously compromised or, in some countries, eliminated altogether. A patent allows its owner to preclude anyone else from using or practicing the invention without the patent owner's permission for approximately 20 years from the date of issuance. After the patent expires, anyone is able to use the invention without a requirement to obtain the former patent owner's permission.

Like many legal instruments, the effectiveness of copyright and patent rights often depends on the willingness of owners to enforce their rights. This can be expensive. Patent litigation, for example, can entail millions of dollars in legal costs in complex cases.

What is the University of Alberta's policy regarding intellectual property?

The University of Alberta has a number of policies regarding intellectual property, and these apply to faculty, students and staff. The University's policies clarify its interests in intellectual property vis-à-vis individual creators or inventors. The policies do not, however, relate to disputes between creators and between inventors. These policies are listed in Appendix 1. All are available on the web site of the Office of the Vice-President (Research). Probably the most important policies for graduate students are the *Patent Policy*, the *Copyright Policy*, and *Guidelines for Authorship*.

In the case of copyright, the University of Alberta's academic staff agreement conforms to the University's copyright policy, which states that copyright lies with the person who authors or creates a work unless the staff member falls within a defined class of employees or unless the University has made a substantial contribution to the creation of the work. Non-academic staff members would be subject to the rule that works created in the course of employment belong to the employer, and works created outside the course of employment but with facilities belonging to the employer probably belong to the employee. Student works, produced in the course of study (including personal thesis work for Masters or

PhD programs or exercise work for course-based Masters programs), belong to the student. Even where the work is produced with University facilities and equipment, the copyright is still owned by the student, and there is **no** implied licence to an instructor or supervisor for use by that person.

With respect to patents, the University's *Patent Policy* requires that inventions be disclosed to the University, using specified forms and submitting these to the Research Services Office in a timely fashion. Pursuant to the *Patent Policy*, where certain conditions are met, the following options may be available:

- the inventor can offer to assign ownership of the invention to the University. If the University accepts the offer, it is responsible for patenting, marketing, and licensing the invention, and the University is entitled to receive 2/3 of the net revenues arising from the commercialization of the invention, or
- the inventor can claim personal ownership of the invention. If so, the inventor accepts responsibility for patenting, marketing, and licensing the invention, and the University is entitled to receive 1/3 of the net revenues arising from commercialization of the invention.

As a U of A graduate student, do I have intellectual property rights?

The law grants intellectual property rights to all authors/inventors, irrespective of their status as graduate or undergraduate students. Students have intellectual property rights and rights to protection under the copyright and patent regimes, provided they satisfy the requirements of the law.

In addition, all students, graduate or undergraduate, are governed by specific University policies (see University of Alberta Research Policies and Services "Table of Contents, Intellectual Property Policies" at www.ualberta.ca/vpresearch/). Unless they have signed an agreement stating otherwise, they have the right to own the copyright for their own written or artistic work or computer software and to own the patent rights to any invention they might create. Depending

on the circumstances, these rights may have to be shared with others – their supervisor, their fellow students, and research staff. This will be determined by the requirements of the law and by University policies.

In addition to the laws related to intellectual property and University policies, conventions or local customs should be acknowledged and may apply. For example, customs may be followed regarding the recognition of individuals as co-authors in an article or paper presented at a conference. Some of these customs are discussed in the following sections.

If I am a research assistant, research associate, or other employee of the University, who owns the intellectual property?

Under the applicable legislation, intellectual property created by an employee in the course of his or her roles or duties as an employee is deemed to belong to the employer unless there is an agreement providing otherwise. The University of Alberta's policies modify the application of this generally applicable principle. Under University policy, intellectual property created by University employees in the course of their employment is the University's property only if the work or the invention was created at the direction of the employee's supervisor. (Among the best but not only – examples of this are the hiring of an individual specifically to develop software for stated purposes. or to write or create text or illustrations for a specific publication.) Even if it was not created at the direction of the employee's supervisor, the intellectual property is still subject to the University's Patent Policy, and rights and any

commercial revenues may be required to be shared between the inventor and the University.

Sometimes it is unclear to students whether or not they are University employees. There are some important indications. First, do you have a University employee number? Second, are you contributing to University employee benefit plans? If the answer to either of these questions is "yes," then you are probably a University employee.

Because of the importance of one's characterization as an employee, it is essential that you clarify your status prior to undertaking any work that could lead to the creation of any kind of intellectual property.

The role of a supervisor varies in different fields of study. This may have an impact on the ownership of intellectual

property. In some fields, such as the humanities and social sciences, it is normally expected that students will receive guidance from their supervisors, but generate their own ideas, do their own research, and seek out their own financial support. The supervisor acts as a mentor, "resource person," and/or consultant, but rarely as a full collaborator. Under these circumstances, the student will have the primary right to the intellectual property produced by his or her research.

In other fields, such as the physical and life sciences, the normal practice is that the student joins an established research group and works collaboratively with the supervisor, other students, postdoctoral fellows, technicians, and/or other employees. In this model, the supervisor has provided the general ideas that guide the research of the group, as well as the resources required to support/conduct

the research activities. The supervisor would normally make the decision on who shares the intellectual property rights to the products of the collaborative efforts.

If I am being supported by a fellowship, scholarship, and/or my supervisor's research funds, who owns (or controls) the intellectual property?

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. Other organizations, notably companies, do 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, claim either licensing rights or a share of royalties. To ascertain which of these conditions apply, you should be aware of which organization is funding the research you do and

what ownership rights the organization has on the results of your work.

If the research support is in the form of a contract, you may be asked to sign an agreement, which indicates that you are aware of the intellectual property terms and conditions of the funding and that you agree to abide by them. If the research support is in the form of a grant, you should ask your supervisor about terms and conditions, particularly if you are engaged in doing research for a thesis.

Regardless of the source of any such full or partial funding, the ownership of intellectual property will reflect the model of collaboration within the relevant field. For example, if you, the student, had independently originated the work and conducted it independently, with the supervisor acting as a consultant/mentor, the intellectual property rights would normally rest with

you unless the professor, program, or granting agency requires a different agreement. In contrast, if you, the student, were working within an established research program, usually in a laboratory setting, and using resources – including supplies, space, and funds – assigned to the professor, the intellectual property would probably not reside with you alone.

In these settings, the work is being done not only for the student's academic credit but also to meet the requirements of the supervisor and his or her granting or contracting agency. Thus the supervisor is likely to have the major responsibility for any creation or invention and accordingly for the allocation of resulting intellectual property rights created.

Where there are any potential commercial outlets for the research, the professor and student should discuss this, and the student should be aware of any restric-

tions relating to ownership, publication, and use of any work (including data or results), and how far the work may be used for academic credit. Contracts and grants from the private sector are increasingly common and are encouraged by CIHR and NSERC. If the work is being conducted under a private sector contract or grant, publication of the work and rights to patents or other forms of intellectual property may have a number of restrictions. At the outset of the project, the professor should disclose these restrictions to the student and the advisory committee and determine if the work is suitable for thesis research. As a student, you should be clear at the outset of your graduate research about the conditions laid out by the scholarship, grant, or professor. ■

What rights does my supervisor have to any discovery or invention I make?

It all depends on the individual circumstances and the applicable governing law, policy, or convention. For example, if the intellectual property is an invention, the determination of who is an "inventor" (or "co-inventor") will depend on patent law. But University policies such as the Patent Policy or the Copyright Policy will determine who owns the invention. If a publication is involved, copyright law and custom 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, that may determine what freedom you and the other inventors or authors have regarding what will happen to the results of the research.

In short, your supervisor and other parties may have a large or small claim on intellectual property rights relating to work you do as a student. This is something you should be aware of and

discuss with your supervisor prior to beginning work that could lead to creations or inventions that might or will be accorded intellectual property rights. Ordinarily, a student will have no claim to his or her supervisor's or instructor's work unless the student is a joint author or joint inventor. If your work was done as part of an ongoing research project, it should be expected that your 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).

Please note: 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 other way which places any creation or invention in the public domain.

Who owns the data produced in my research project?

In legal terms, it is important to remember that "data" per se are not intellectual property. Data are neither an invention (i.e., patentable) nor an expression of an idea (i.e., a copyright work). Nevertheless, data (and databases) can be important and potentially valuable outcomes of academic research. If you compile or interpret data in some way, you may have an intellectual property interest in it. As is often the case, if the University has provided resources or facilities that have allowed you to compile the data, the University also has an interest in the resulting intellectual property. In most cases, therefore, research data are jointly owned by the researcher and the University, which means that both have the right to use the data. If the funding for the research project comes from a sponsor who has been given rights to the data, then the sponsor also must be taken into consideration. This situation

arises particularly where funding comes in the form of a research contract.

If you are an employee (see Question 4, above, re: "employees") or even if you are holding a major scholarship and making use of the University's facilities and resources, the original physical material on which your data and results are recorded – notebooks, tapes, computer hard-drives and disks, etc. – probably belong to the University. You are generally entitled to retain a copy of all materials. This guideline will vary somewhat in its application, depending on the conventions of your particular department.

Note that even where the supervisor or someone else jointly owns data or results that have been published, you may incorporate them in your thesis with permission of the other co-owners and you will own copyright in your thesis as a whole. The grant of permission to use data in your thesis, however, does not give you the right to use the 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 your contribution was in the role of an employee following explicit directions, you are entitled to have your contribution recognized when you 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 you are a co-author of a published work, you have a responsibility to understand the work in its entirety and to object to any mischaracterizations or misuse of the data.

By submitting your thesis or dissertation for academic credit, you represent that overall it is your own original work. Anyone making use of the ideas or contents of your thesis should reference it as a published document. Similarly, to the extent that your thesis utilizes publications arising from your research team or quotes major sections of publications, it may be necessary to obtain permission from the copyright holder. (This may be the author or it may be the publisher of an academic journal.) In all such situations, it is best to seek guidance on these matters from your supervisor prior to publication, and to conform to accepted practices in your department with respect to quotation of material from external sources.

When is someone a joint inventor or a joint author?

You may be a "joint inventor" if you make an original and substantive contribution to an invention. In this case, you should be named as a joint inventor in any patent application. If you were employed to do the work that constituted your contribution to the invention, however, you may be required to assign any patent rights in the application to your 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" technically is 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 encyclopedia), the work is a "collective work," and each author has copyright in his or her individual contribution.

In the physical and life sciences, however, collaboration and teamwork are common. Indeed, a student's research may be guided by a team or committee.

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.

Rights to senior or first authorship can be difficult to resolve. In the humanities and social sciences the student will probably be the only author of the published work that reports on his or her research. In the physical and life sciences, students are frequently given first authorship in publications arising from their thesis research.

Students should be aware, however, 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. A student anticipating concerns on this matter should inquire in advance of choosing the professor as a supervisor. Where controversy does arise about who is entitled to be credited as first author, as co-author, and/or in what order the author credits should appear, the supervisor will usually decide the issue. See Question 9, below, with respect to

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 that person from being given credit as a co-author. However, a requisite of co-authorship is work that involves an original contribution as understood by that discipline. The right to 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 rights cannot be assumed.

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

9.

If a dispute arises with my supervisor with respect to intellectual property and/or co-authorship rights, 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. If discussion with vour supervisor does not resolve the problem, you have several avenues of help within your department that can be taken in the following order: your research supervisory committee, the graduate coordinator of your department, and the chair of the department. If the department is unable to find a satisfactory solution, you can seek help from the relevant Associate Dean of the Faculty of Graduate Studies and Research and from the Office of the Vice-President (Research).

The University has policies that deal at length with specific aspects of intellectual property and the conduct of research. These policies can be obtained through the University of Alberta's homepage on the Web site (www.ualberta.ca) or from your department. Please see Appendix 1 for a listing of the policies to which you may refer for specific information.

Appendix 2 contains a glossary of terms.

Appendix I

University of Alberta Policies, Contacts and Related Information Regarding Intellectual Property

Policies

University of Alberta Patent Policy

www.ualberta.ca/~aasua/agreements/Agr/apndc.htm

University of Alberta Copyright Policy

www.ualberta.ca/~aasua/agreements/Agr/apndb.htm

Fair Use of Software

www.ualberta.ca/vpresearch/ResearchPolicies/repol73.htm

University of Alberta Research Publications Policy

www.ualberta.ca/vpresearch/ResearchPolicies/repol74.htm

University of Alberta Guidelines for Authorship

www.ualberta.ca/vpresearch/ResearchPolicies/repol76.htm

University of Alberta Guidelines for Ownership of Research Materials

www.ualberta.ca/vpresearch/ResearchPolicies/repol75.htm

University of Alberta Research and Scholarship Integrity Policy

www.ualberta.ca/~unisecr/policy/sec96.html#2

University of Alberta Policy on Conflict of Commitment and Conflict of Interest

www.ualberta.ca/~unisecr/policy/sec35.html

University of Alberta Contacts and General Information

Office of the Vice-President (Research)

www.ualberta.ca/vpresearch/

University of Alberta Research Services Office

www.rso.ualberta.ca

Faculty of Graduate Studies and Research

www.ualberta.ca/gradstudies/

General Information

Visit www.rso.ualberta.ca for links to:

Canadian University Intellectual Property Group: A Guide To Protecting Intellectual Property (University of Alberta version)

University of Alberta Principles of Sponsored Research

Report of Invention Forms (downloadable)

University of Alberta Contract Research Information

Appendix 2

Useful Definitions

Intellectual Property simply defined is any form of knowledge or expression created with one's intellect. It includes such things as inventions; computer software; trademarks; literary, artistic, musical, or visual works; and even simply know-how.

Copyright is the exclusive right of the creator, or subsequent copyright holder, to reproduce a work. Copyright exists as soon as an artistic, literary, or musical work or software is created. Registration at the Copyright Office is purely voluntary; not doing so will not affect the validity of the copyright. However, it is advisable to put the public on notice that the creator is claiming copyright by marking all copies of the work with a Copyright Notice.

Registration of a copyright facilitates the copyright holder's rights in the event of a legal dispute.

Copyright protection in Canada lasts for the life of the author plus fifty (50) years. Copyright extends to other countries by virtue of treaties such as the Berne Convention and Universal Copyright Convention and the term in other countries depends on the national law.

In general, the University does not claim copyright on books, articles, plays, software, music, films, videos, or other copyright materials created by University faculty, staff, or students. There is one major exception to this rule:

Works created under commission or contract. Works created as part of the terms of the creator's employment with the University or under commission from or service contract with the University.

Invention means "any new and useful art, process, machine, manufacture, or composition of matter, or any new and useful improvement in any art, process, machine, manufacture, or composition of matter" (s. 2, Patent Act., R.S.C. 1985, c. P-4) and includes related computer software, know-how, and new life forms.

Inventor means any member (or members) of the academic or administrative staff, visitor(s), student(s), or person(s) holding an academic appointment at the University who makes or develops an invention using, in any way, facilities owned, operated or administered by the University and/or funds of, or funds administered by, the University.

A **Patent** is a right granted by a national government, upon application, in exchange for a complete disclosure of an invention. The disclosure is initially a confidential disclosure to the patent office which later becomes a nonconfidential disclosure to the public at large. A patent grants to the applicant the exclusive right to make, use, or sell

the claimed invention for a limited period of time. Patents generally have a life, subject to the payment of the prescribed annual fees, of 17 to 20 years depending on the jurisdiction. In Canada, patents have a lifetime of 20 years from the date of issuance.

By law, in order to be patentable an invention must be novel, and it must have utility. Over the years a third criterion has emerged – that the invention is not obvious to a person skilled in the field of the invention. It is this criterion upon which many inventions founder.

An invention can only be protected by patent if it is novel (that is, no prior publication of the invention has been made by the inventor or others). Most developed countries follow a policy of absolute novelty; that is, no patent can be obtained if the invention has been publicly disclosed in any manner, anywhere in the world.

Please note that published pre-prints or abstracts of (a) papers for a scientific meeting or (b) degree theses are also considered public disclosures.

Know-how: A researcher's know-how can often have considerable value. While it is mandatory in filing a patent application to disclose sufficient information to enable others to reduce the invention to practice, the researcher will often also possess valuable confidential know-how and experience to permit commercial optimization of a process or product. Know-how can in fact be licensed independently and a know-how license need not be restricted to the term of the related patent, Therefore, confidential information and know-how should be clearly defined and disclosures should be covered by a written contract.



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Research Services Office

Office of the Vice-President (Research)

Faculty of Graduate Studies and Research

Please note: an electronic version of this information is available on the University's website, at: www.rso.ualberta.ca

05.03.800 Printed in Canada