



# **How to Navigate Intellectual Property when Mentoring Students and Working with Industry**

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# Objective of this Talk

**By the end of the workshop, one should:**

- **Recognize the rights of students to intellectual property in funded research and course-based projects**
- **Learn strategies on who to employ based on the needs of the work to be done**
- **Learn how to transition a discovery from the lab to a patent, and when it can be publicly disclosed**
- **Understand how copyright and authorship affects the publishing of theses, papers, conference proceedings, etc.**
- **Understand who to approach at the university for assistance**

# Background

- Both Undergraduate mentoring and graduate mentoring are covered in this presentation
- **Graduate thesis-based students**
  - Research project defined by and part of a research program supervised by the faculty member
  - Relationship with student is well defined since faculty member is the supervisor
- **Undergraduate students or professional Masters degrees**
  - Likely from a course or capstone project, we have to be on our guard more
  - Relationship with student is usually informal as an advisor or mentor, as well as a professor grading the student

# Conflict of Interest

- **There are multiple policies related to conflict of interest**
- **Conflict of Interest Policy for Employees**
- **Statement of Conflict of Interest in Research**
- **Academic Integrity Policy**
- **Research Integrity Policy**

# Conflict of Interest



## Policies, Procedures and Guidelines

Complete Policy Title:

**Conflict of Interest Policy for Employees**

Policy Number (if applicable):

Approved by:

**Senate**

**Board of Governors**

Date of Most Recent Approval:

**June 6, 2012**

**June 7, 2012**

Date of Original Approval(s):

**May 27, 1997**

Supersedes/Amends Policy dated:

**May 27, 1997 (Conflict of Interest Policy for Non-Academic Employees and Academic Administrators)**

Responsible Executive:

**President**

Enquiries:

[University Secretariat](#)

# Conflict of Interest

- In general, University and Faculty expectation is that faculty members would not personally benefit financially from mentoring undergraduate / Professional Masters students on an academic student project.
  - It is never clear cut, as many complex interactions may arise, but the university/faculty will act against faculty members who violate the “intent of the policy”.

# Conflict of Interest

- **If you are providing intellectual property to a student project, you must clearly explain upfront if you expect remuneration later and give the students the option to not take your intellectual property**

# Understand who to approach at the university for assistance

- IP negotiation is often initiated by companies when discussion of research contracts or projects begin
  - Good legal and business advice should be sought by sharing any received draft agreements with **MILO**
  - Faculty members **CAN NOT** sign any NDA, MTA or research agreement on behalf of the university; only **MILO**, **ROADS**, or **HRS** can



# Understand who to approach at the university for assistance

- When not working with a company, faculty should approach MILO as soon as possible once IP is identified
- The McMaster Joint IP Policy has a requirement to disclose new inventions arising from university research
- For IP that arises out of student project
  - MILO can help educate the owners about protecting intellectual property
  - MILO and OLS can facilitate meetings to help clarify ownership

# IP Rights in projects

	Capstone / Undergraduate project	Industry funded research project	Research program led by Faculty Member
Right to publish and review times	Usually not applicable	Typically 30-60 days for company to review	Typically determined by Faculty
Right to be named as inventor on patent	In accordance with patent law; inventor is someone who provided intellectual/creative input into a claim of the patent		
Right to share in royalties or commercialization revenues	Students involved in creating. Nothing expected to University or faculty mentor	All inventors of the IP (50/50 with university (if the university receives royalties)	All inventors of the IP (50/50 with university)
Right to own the IP	Owned by students creating the IP	Depends on contract terms	Owned by McMaster; can be assigned back to inventors upon request
Right to create a start-up company or create a product based on IP	Students creating the IP	Depends on contract terms	Proceeds with the consent of all inventors and at the discretion of the PI

Applies to all students (undergraduate, graduate, visiting), PDF, research staff, faculty members

# Types of Sponsored Projects

- **OCE VIP 1 , Engage**
  - IP belongs to the company, but university can publish and use IP for research purposes
  - Preferable to use Research Associates instead of students\*
- **Service Contracts (based on Company background IP, fee for service work)**
  - IP belongs to the company; depending on company and PI needs - university may be allowed to publish and use IP for research purposes
  - Best to use Research Associates instead of students\*

\* A student hired as a temporary casual worker is an alternative but can't use the results in their project

# Longer Projects

- All research agreements signed by MILO are binding for the entire university, including the graduate students in your lab but you are still obligated to informing them as early as possible
  - Students have elected to change supervisors in several instances when they don't agree with the project or NDA, and that can set you back a lot, as well as wreak havoc on the department

# Informing Thesis Based Graduate Students

- **Very common working with industry**
  - Significant confidentiality issues to be managed by the student and/or notable encumbrance to publish (usually 30-60 days with company review prior to disclosure)
  - Frequent reporting to company sponsor
- **Time of Offer**
  - Include the research agreement with the offer letter. Make it clear that the offer can't be accepted without signing the agreement (supervisor is responsible not dept or SGS)
- **Within the first week of student arriving**
  - Go over the agreement and plan how delays will be managed

# Informing Thesis Based Graduate Students

- **Time to defend**
  - Most research agreements have clauses allowing the company to review the thesis and make changes (arbitration clauses apply too)
  - External examiner should receive a thesis copy with ‘confidential’ written across each page
  - Changes by company must be seen by the committee
  - No changes to the thesis allowed after its final submission to SGS **{Watch this rule!}**

# More on the thesis

- **Sandwich theses**

- Student is the sole owner of the copyright for the thesis and therefore, they are solely responsible to obtain the permission to use published papers from the publisher

- **Embargo**

- It is highly recommended in Engineering that the final thesis be embargoed for one year unless all publications from the work have been accepted already. Editors are prone to search for plagiarism on the internet and one's thesis may contain passages too similar to the manuscript.

# Benefits to Working with Industry

- Working on industry-relevant projects
- Leveraging opportunities
- See the results put to immediate use
- Training for your HQP
  - Field trips/internships with industry partner



# Collaborating with Industry on Research

- Different than working on a grant – timelines, milestones and deliverables
- Different types of industry interactions – service, contract research and industry collaborative grants
- When is it appropriate to include students?
  - Different types of student participation – i.e. work for hire vs research contributing to academic requirements

# How do you manage competing interests between your lab and industry partner?

- Industry partner want to have results as soon as possible, and not want competitors to know
- PI wants to have funding, do interesting research, publish
- Students want to graduate, publish, get a job

## **PI' s responsibility to:**

1. Be clear at the start on deliverables and what will or will not be published with both industry and students/PDFs
2. Keep industry partner informed. Communicate often – good and bad, and best to do as early as possible

# Managing Expectations

- **Both sides need to clearly understand the expectations of the other party for a partnership to be successful and mutually beneficial**
- **Be clear with your student and your partner on your expectations regarding IP ownership and publications**
- **Understand the partner's rights and why they have them**
- **Give students the option of being involved in an industry project that has IP ownership implications**

# The Research Agreement

- Sets out the rights and obligations on both sides
- Details how IP ownership and exploitation will be handled
- Outlines the process around publication and presentation
- Confidentiality
- MILO discusses terms with the PI, it is the PI's responsibility to discuss with the student

# What Do My Students Need to Know about the Research Agreement?

- They need to know and agree to abide by the IP, confidentiality, and publication terms (including thesis review)
- They should sign an acknowledgement of the terms of the contract and be given a copy of the agreement (MILO will provide these to you)
- Supervisor's responsibility to communicate this to the students
- Where can students get help?
  - MILO can assist with questions
  - School of Graduate Studies can advise

# Intellectual Property (IP)

- **Definition:** ‘Creations of the mind’, such as inventions, artistic works, designs, or names. Includes patents, copyright, trademarks and trade secrets
- **In legal terms:** Exclusive right which allows the owner to exclude others from using the IP
- **In business terms:** Part of the intangible assets of a company; value derived from the sale, licensing

# **Who owns / has rights in the IP, results, lab book, thesis?**

**When research is paid for by university, grant, and/or company to the university, then:**

- University owns lab book**
- Copyright in thesis is owned by graduate student**
- Ownership / rights of IP and results are typically with the company sponsor (as per contract, if applicable), or university (as per IP Policy)**

# Publication

- **What does the agreement say about publications/theses and presentations?**
  - Service agreements may not allow publication, or require the sponsor's approval
  - Collaborative agreements provide the sponsor with a time-limited right to review the proposed publication/thesis/presentation and to objection or require a delay only for specific reasons (to prevent premature disclosure)



# Publication Process

- Important to know the process that is detailed in the agreement and to communicate that your students and PDFs – this impacts their thesis and any posters arising from the research
- Work with your partner to establish how the process will work and how review periods will be monitored
- Best practice – let your partner know that you are planning to publish, have an upcoming thesis defense or a conference/poster presentation and send them drafts in early stages

# Delays and Embargoes

- **When are requests for delays reasonable and do they need to be complied with?**
- **How long can a delay be?**
- **When should a thesis be embargoed?**

# Why is the Process Important?

- Once you publish (including a thesis) or present (including on a poster), it is no longer novel and cannot be patented in most countries– Importance of disclosing to MILO to help in evaluating and determining if we should file a patent before publishing
- Ensures compliance with the agreement and may be the difference in being able to commercialize or not meets your partner's expectations
- Who can help?
  - If you have questions about the process and best practices, ask MILO

# How is authorship determined?

Those who make significant contribution to the “concept, design, acquisition of data, or analysis and interpretation of data” [CJME guidelines]

## **Best practice:**

- 1. Clearly communicate with your lab and collaborators about criteria for authorship at the start of project or before writing up the paper**
- 2. Make sure your lab keeps detailed notes and document contributions to the project in lab book or meeting minutes or email summaries with collaborators**

# Tri-Council Open Access Policy

- **Grant recipients are required to ensure that any peer-reviewed journal publications arising from Agency-supported research are freely accessible within 12 months of publication either through online repositories or journal that offer open access**

# What does it mean to keep information confidential?

When working with companies, you may receive information or material that the company tells you is confidential. Confidential means you **can NOT** (without company's permission):

- Publish or present the information in a paper, poster, website
- Share the information with others in your lab if they aren't part of the project with the company
- Use the information for any other purpose except the project

If in doubt contact MILO

# Researcher FAQs: What is McMaster's IP Policy

## Overview of Policy

When IP is created in course of employment at the University, HHS, SJHH, IP is owned by McMaster and/or hospital. Rights are assigned to the University for commercialization purposes (there are alternative options). **Net licensing revenues** are typically shared **50/50** between the University and the creators



# Objectives of the IP Policy

- Encourage any member of joint institutions who has created or discovered IP to disseminate that property to the public in a manner that benefits both the member and the institutions.
- To fulfil the requirements of funding agencies or sponsors, members have an obligation to disclose inventions to MILO.
- Researchers retain the right to determine whether a new discovery should be commercialized
- How do you initiate the IP protection process?  
A technology/invention disclosure



# Why disclose your invention to MILO?

- Ultimate goal is to **protect** your invention *via* patents/trademark/copyright and to **commercialize** said invention; encourage companies to develop the technology
- Patenting makes an invention more **attractive to licensees/companies**; creates barriers for their competitors
- Disclosing/Patenting ensures that the lab and inventors **receive credit** for their invention as well as a share in any **revenues**

# Who is an inventor?

## This is a legal decision

- NOT a choice among participants (unlike giving credit in a publication)
- **Inventors** are those who first conceived the invention and put it into action
- **Participants** are those who followed instructions in the implementation of ideas
- A patent can be invalidated if you get this wrong!!

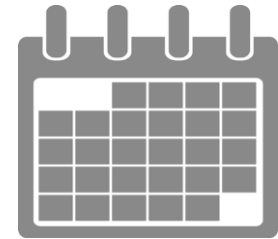
# What happens after disclosure?



Disclosure is assigned to officer for review. We will be in contact promptly with the researcher and may ask for supplementary information for review.



**Review includes:**  
**Prior Art Search**  
**Market Evaluation**  
**Commercial**  
**Potential**



Usually within 4-8 weeks a decision is made on the appropriate route for protecting any IP. Researcher is informed and asked to provide feedback on our review.

# What constitutes a patentable invention?

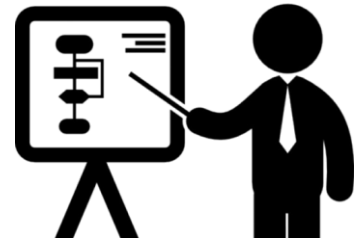
*“An invention is a new and useful art, process, machine, manufacture or composition of matter or any new and useful improvement in any art, process, machine, manufacture or composition of matter”*

*(Patent Act of Canada)*

# What constitutes public disclosure?

Any publicly available **written, electronic or oral description**. This includes papers, abstracts, presentations (including electronic publications), information disclosed on websites, blogs, etc. and information shared with third parties without an agreement to keep the information confidential.

Internal discussions with your own lab employees are OK.



# If the decision is made to patent...



- Inventor must make **full disclosure** of the invention
- In return, they receive a **monopoly** for a fixed **period of time**
- Patent gives owner right to **exclude others** from making, using or selling the invention

# Publish vs. Patent

## Will patenting prevent you from publishing work?

- No, once we have protection with at least a provisional patent, you are free to publish (only what was included in the provisional)
- Once patenting decision has been made, provisional preparation can take 1-3 weeks (depending on material provided by researchers)
- Good idea to contact us at the draft manuscript stage

# Questions

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