

# Intellectual Property Policy Research

Conducted by Karen Farley

On behalf of the University of Waterloo Graduate Student Association

## 1. Purpose

The University of Waterloo (UW) is well known for its "creator-owned" model, where full intellectual property (IP) ownership is granted to the inventor under Policy 73. Although the policy provides the highest level of interpretation that grants IP creators with full right of ownership, issues regarding the protection of student IP still exist. The Graduate Student Association – University of Waterloo (GSA-UW) is specifically interested in understanding whether any barriers exist with respect to the IP rights of graduate students.

This research aims to answer three research questions as determined by the GSA-UW:

- A. How do our university's student IP rights compare to other university practices?
- B. Is there a best practice to protect student IP and patents in an academic setting throughout the innovation process (i.e., from ideation to implementation)?
- C. What are the advantages and disadvantages of our university's current approach to protecting student IP? Are there certain cases in which students are left disadvantaged (e.g., hackathons, ideation sessions, student-corporate events, and industry- or government-sponsored work)?

## 2. Issue

Although student's IP rights are protected under UW's Policy 73, there have been cases of ambiguity relating to the implementation of these rights leading to student's having to take action to enforce and protect their IP rights or losing their IP rights, including:

- **CASE A:** A 1995 civil case was brought by a graduate student against a supervisor when UW failed to act on IP infringements by the supervisor (Gordon, 1995).
- **CASE B:** In 2018, UW disputed the IP rights of student co-founders related to ownership of IP created through externally sponsored research. The university's agreement with the sponsor granted the university rights for IP developed using the sponsor's funding, however, the students had not provided informed consent to transfer their IP rights to the university or the sponsor (CBC News, 2018; Tawfik, 2018).
- **CASE C:** A corporate-sponsored hackathon held in 2020 required participating students to relinquish their IP rights to participate in the event (as reported by the GSA-UW).
- **CASE D:** A group of students participating in an externally organized problem-solving event hosted by UW had to ask the event lead whether or not participation in the event would prevent the students from publishing the research in a publication at a later date (based on the author's experience). No IP information had been provided on the UW event webpage or online registration form.

## 3. Background of Intellectual Property (IP) Rights Policy 73

Student's IP rights are covered by the University of Waterloo's [Intellectual Property \(IP\) Rights Policy #73](#). The "creator-owned model" forms the core of Policy 73 which grants full right of ownership of IP to the creator, however, issues with the protection of student IP have arisen.

IP, as defined and protected by Canadian law, including the *Patent* and *Copyright Acts*, “is concerned with patents, copyrights, trademarks and the like, all of which provide legal protection for something that has real or potential commercial value” (University of Waterloo, 1997). Policy 73 goes beyond this broad definition to afford IP protections for academic activities resulting in the creation of intellectual property. It is intended to foster open sharing of ideas in an academic setting and afford protection to the creator of those ideas, however, it has some limitations in the scope and application of these protections.

### Summary of Student’s IP Rights under Policy 73

Policy 73 applies to all UW members including staff and students, however, it may not apply to members who are not Canadian citizens or members resident outside of Canada.

The general IP rights of UW students under Policy 73 have been summarised below based on common activities that may be undertaken by students during their studies at UW. Work produced as a normal part of employment, for example developing course outlines and exam papers as a Teaching Assistant, and contracted research as a Research Assistant, is excluded from this summary.

- a) **Academic coursework:** Ownership of IP created by students during course-based activities, including assignments, exams, discussions, etc., remains with the creator. For group work activities, IP ownership is shared between group members.
- b) **Student research projects:** For self-funded student research projects, including thesis and capstone projects, IP is owned by students, however, it must be published under the banner of UW and with acknowledgment to the contribution of the research supervisor(s). UW retains the right to copy and distribute student research projects internally for teaching and further research purposes without transferring IP ownership away from the student. IP for externally sponsored student research, including funding through government grants and corporate sponsorship, is determined by the terms of the contract governing the research.
- c) **Academic writing:** The contributions of students in published or unpublished academic writing must be recognized.
- d) **Competitions and events:** The IP rights of students participating in internal and external competitions and events are not explicitly referenced in Policy 73.
- e) **Commercialization of ideas or research:** Commercialization of IP created and owned by students must be disclosed to UW.
- f) **Other:**
  - IP ownership for the above can be modified or waived with informed consent in writing.
  - In activities where IP rights may be impacted by collaboration or external partnerships, informed consent must be obtained for all parties involved in the activity.
  - IP rights may be affected by any public disclosure before the ownership of IP rights is established.

- IP rights for the development of software are retained by the creators unless moral rights are waived.

#### IP Support for UW Students

[Policy 73](#) is publicly available to all students on UW's website, however, it is in the author's experience inaccessible both in terms of physical location and the legal language it is written in. In addition to the information online, there are three areas of support for the implementation of Policy 73 at UW:

The [Waterloo Commercialization Office](#) (WatCo) is responsible for services and support to students planning to commercialize or actively commercializing their research during the course of their studies. Students who engage the WatCo's services will continue to own the IP and they can assign the right to WatCo to commercialize on the student's behalf. Students who enter into a commercialization agreement with WatCo will receive 75% of the profits and WatCo will receive 25% of profits, after WatCo recovers the commercialization expenses, like patenting fees and marketing costs.

WatCo organizes an [Intellectual Property Presentation Series](#) on set dates through the academic year in different faculties, however, participation in the series is voluntary for students.

An [Electronic Intellectual Property and Commercialization Activity Disclosure Form](#) is available on UW's website, however, its use is limited to faculty members who are required to complete regularly as part of their duties, even if there is no IP to disclose. No disclosure form for students was found on the UW website.

## 4. Research & Findings

### A. Comparison of Policies for Student-Created IP in Canadian Universities

**Context:** UW's IP policy has been regarded as the gold standard of academic IP policies within Canadian Universities. In 2017, University Affairs recommended that universities across Canada align their IP policies with that of UW (De Baere & Maine, 2017).

**Objective:** Review the IP policies in the Top 10 Canadian universities to compare each universities' IP policy and practices to UW's Policy 73 in terms of the general principle for student IP and IP resources available to students.

**Method:** The top 10 non-UW universities were selected based on the *QS World University Rankings 2022: Top Global Universities* (n.d.). Even though the University of Montreal has a global ranking of 111, it was excluded from the review as the IP policy was only available in French. At least one entrepreneurship center or incubator, beyond that of standard academic course offerings in entrepreneurship, was identified at each university under review which is considered as an indicator that the university fosters the creation and commercialization of ideas by students. The publicly available IP policies, specifically for graduate students where possible, and IP resources were reviewed to identify similarities or differences with UW's approach to student-created IP. The research has been summarised in Appendix 1: Comparison of IP Policies in Selected Canadian Universities.

## Findings:

**General Principles of University IP Policies:** For eight of the universities reviewed, including UW, the general principles governing IP policies for students is creator-owned, that is student-created IP is owned by the creator. The University of Toronto was the only university reviewed where IP is co-owned between the student creator and the university. The IP policy for McGill University does not include students' academic works, inventions, and software is governed by the applicable law, not the university's IP-related policies, thus it defaults to a student's IP being creator-owned. The University of Ottawa's IP policy relating to student-created IP is unclear from the information publicly available on its website.

**Accessibility of University IP Policies:** The publicly available IP policies of most universities, UW included, are full of legalese making them difficult to read and interpret for someone without a legal background. UBC's webpage on its IP policy is more approachable as it presents the policy based on academic scenarios, for example, joint authorship, and includes practical examples of how the policy applies to the activity written in layperson language. The University of Toronto, the University of Alberta, Western University, and the University of Calgary all provide a layperson's version of the IP policies based on a Q&A/FAQ style making the policies more accessible and understandable to students.

**Availability of University IP Resources:** The University of Calgary provides an Intellectual Property Awareness Checklist that is completed by graduate students and supervisors (where applicable), and then signed off by the Graduate Program Director. This checklist is completed at the beginning of the research process to ensure that students understand the IP policies applicable to their specific research.

### B. Best Practices to Protect Student IP Through the Innovation Process

No best practices were found to protect student IP in an academic setting throughout the innovation process, from ideation to implementation. The World Intellectual Property Organization (WIPO) provides toolkits for developing [IP policies](#) and [IP Commercialization and Knowledge Transfer](#) policies within a university context. WIPO also provides links to the [IP Policies at Canadian universities](#), including the ten Canadian universities reviewed above.

### C. Areas UW Students' IP Rights are Not Protected By Policy 73

Policy 73 provides students with more IP protections than Canadian law for IP created as a result of academic activities. The creator-owned approach of Policy 73 is also more advantageous to students than the co-owned approach to IP ownership discussed above. Policy 73 may, however, not protect students' IP rights in the following two situations:

#### *Students Studying Outside Canada*

Policy 73 is intended to protect the IP rights of *all* students, however, Canadian IP laws are limited to protecting the IP rights of Canadian citizens. Students who are not Canadian citizens may not be given the same protections of IP rights under the law despite Policy 73, particularly if they are not resident in Canada during their studies. This gap in Policy 73 has become more relevant during the CoVID-19 pandemic with more international students studying online from outside of Canada. In response to the shift to online learning during the CoVID-19 pandemic, a [Remote Teaching and Learning: Intellectual Property](#) webpage was published on the UW website on May 22, 2020. It broadly references the student's ownership of IP created during coursework activities, however, it does not address how these IP rights may be affected if the student is studying outside Canada.

### *Student Competitions and Events Available to UW Graduate Students*

**Context:** UW provides opportunities for graduate students to participate in a number of competitions from research-focused presentations (GRADFlix, Three Minute Thesis) to entrepreneurial pitches (Concept 5K) to problem-solving activities (Hult Prize, Map the System, World's Challenge Challenge) to technical hackathons (Hack The North). **CASE 3** and **CASE 4** demonstrate prior IP issues relate to student participation in competitions and events.

**Objective:** Review the information provided on IP rights for competitions and events available to UW graduate students.

**Method:** The publicly available online information for a selection of competition open to UW graduate students was reviewed to determine the extent to which information relating to IP rights was addressed. The competitions selected are available to most graduate students at UW, as detailed in Appendix: 2: Review of University Competitions, and department-specific competitions were excluded from this review.

**Findings:** There was limited information available on IP rights for any of the competitions reviewed. This is of particular concern for competitions, or rounds, hosted by organizations outside of UW. For all competitions where the participants' submissions are made public either during the event or with event recordings or submission materials posted online, students' IP rights may be affected by public disclosure.

## 5. Key Considerations & Recommendations

Following a review of UW's Policy 73, its application in various scenarios, and comparing it with other IP policies within Canadian Universities, seven main gaps have been identified in Policy 73 and the process supporting the policy, and nine recommendations have been made to address these gaps:

- a. **Poor accessibility of Online Information on Policy 73:** Information on Policy 73 is publicly available on UW's website, however, it is inaccessible both in terms of physical location and the legal language it is written in.

**RECOMMENDATION #1: Provide accessible information on the IP policy on UW's website for current and future graduate students.** Information on the IP policy should be made easily accessible to existing and new graduate students by placing links to IP policy information on the home pages of the Graduate Studies and Postdoctoral Affairs home page as well as the home pages for all faculties and departments. Additionally, the information should be provided in a form that is easily understandable to graduate students. The scenario-based format and style of the University of British Columbia's [Intellectual Property Guide](#) could be used as a model for UW.

- b. **Limited availability of Training on Policy 73:** Training on Policy 73 is not readily available, except for WatCo's Intellectual Property Presentation Series.

**RECOMMENDATION #2: Develop an IP LEARN module, either as on-demand or as mandatory training, for graduate students.** An IP module on LEARN, similar to the Academic Integrity module, should be developed and made available through LEARN as a required module for all graduate students.

- c. **Lack of Information on Policy 73 in Course Outline:** IP rights related to different activities completed during course-based learning are not explicitly referenced in all graduate course outlines.

**RECOMMENDATION #3: State IP policy for each course activity in all graduate course outlines.** All graduate course outlines should be updated to explicitly state how Policy 73 applies to different activities and assignments in the course, including group work.

- d. **No standardized process for communication of IP policy between students and supervisors:** There does not appear to be a university-wide process for graduate students and their supervisors to discuss how the IP policy applies to the student's research. Additionally, the current IP disclosure form is only completed by faculty members, including supervisors. It is unclear whether supervisors complete disclosure for IP created by students or not.

**RECOMMENDATION #4: Provide graduate students and supervisors with a tool to promote a discussion of how the IP policy relates to the student's research project.** An IP Policy checklist for graduate students and supervisors should be implemented. This will create clearer communication of how the IP policy applies in specific cases to avoid future IP-related issues related to graduate research, such as those that occurred in **CASE A** and **CASE B**. The University of Calgary's [Intellectual Property Awareness Checklist](#) could be used as a model for UW.

**RECOMMENDATION #5: Clarify the IP disclosure requirement and/or process for supervisors to disclose student-created IP or provide graduate students with access to the online disclosure form.** The process for disclosing student-created IP should be clarified and communicated to all graduate students.

- e. **Limitations to IP Rights of Students Outside Canada:** Policy 73 may not protect the IP rights of students studying outside Canada.

**RECOMMENDATION #6: Get legal clarification of the validity of Policy 73 for international students, and students studying remotely outside of Canada.** Policy 73 should be reviewed by an IP lawyer to ensure IP protection for all graduate students, including students studying outside of Canada.

- f. **Unclear IP Rights for Students Participating in Competitions and Events:** IP rights are currently not explicitly and clearly explained to students participating in competitions and events offered by UW, particularly those organized by hosts or sponsors external to UW. Also, students may not be aware of the potential risks to IP rights associated with the public disclosure of IP when participating in these competitions and events.

**RECOMMENDATION #7: State IP policy clearly for all competitions and events available to UW students.** Information on how the IP policy applies, including public disclosure where applicable, should be provided to students on all competition or event websites, application forms,

and participant communications. If students' IP rights are amended or transferred by participating in events or competitions, students should be required to explicitly agree to amend or transfer their IP rights when signing up for the competition or event, including external rounds of competitions and events. This change would help to mitigate avoid future IP-related issues as a result of participating in competitions and events, as experienced in **CASE C** and **CASE D**.

**RECOMMENDATION #8: Create a student representative process to review and sign off on the IP policy for external events if Policy 73 is not applicable.** For all competitions and events organized by external parties, or with external rounds, where students may not explicitly be protected by Policy 73, a review process of the IP rights under which students would be participating should be reviewed and signed off by student representative bodies, including the GSA-UW before the event is promoted to students. This change would help to mitigate avoid future IP-related issues as a result of participating in external competitions and events, as experienced in **CASE D**.

- g. **Review of future changes to Policy 73:** Graduate students are not currently represented by the GSA-UW during any regularly scheduled or ad hoc reviews of Policy 73. For example, the GSA-UW was not included in the review of Policy 73 published in May 2020 as a result of the shift to remote learning due to the pandemic.

**RECOMMENDATION #9: Implement a student representative review process for any reviews or updates to Policy 73 to include the GSA-UW.**

## 6. Conclusion

Through this research it has been determined that UW's Policy 73 provides a strong foundation for protecting UW students' IP rights under the creator-owned model, however, gaps remain in the policy itself, the information provided to students about the policy, and the processes that support the implementation of the policy. The above nine recommendations are being made to the GSA-UW to strengthen the application of Policy 73 in protecting the IP created by graduate students during their studies at UW.

## References

- CBC News. (2018, October 13). University of Waterloo, former student in legal battle over invention. *CBC News*. <https://www.cbc.ca/news/canada/kitchener-waterloo/legal-battle-between-university-of-waterloo-salient-energy-1.4847725>
- De Baere, B., & Maine, E. (2017, September 18). Canada needs a national overhaul of university IP policies |. *University Affairs*. <https://www.universityaffairs.ca/opinion/in-my-opinion/canada-needs-national-overhaul-university-ip-policies/>
- Gordon, M. (1995, January 13). Thou Shall Not Steal (except for Intellectual Property). *Imprint*, 14–15. [https://issuu.com/uw\\_imprint/docs/1994-95\\_v17-n22\\_imprint](https://issuu.com/uw_imprint/docs/1994-95_v17-n22_imprint)
- QS *World University Rankings 2022: Top Global Universities*. (n.d.). QS Top Universities. Retrieved June 16, 2021, from <https://www.topuniversities.com/university-rankings/world-university-rankings/2022>
- Tawfik, M. (2018, October 21). University of Waterloo case highlights holes in Canada's university innovation ecosystem. *The Globe and Mail*. <https://www.theglobeandmail.com/business/commentary/article-university-of-waterloo-case-highlights-holes-in-canadas-university/>
- University of Waterloo. (1997). *Policy 73 – Intellectual Property Rights*. <https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policies/policy-73-intellectual-property-rights>
- UniversityHub. (2017, February 9). Top 10 Universities In Canada For Future Entrepreneurs. *HuffPost Canada*. [https://www.huffingtonpost.ca/universityhubca/universities-for-future-entrepreneurs\\_b\\_9190842.html](https://www.huffingtonpost.ca/universityhubca/universities-for-future-entrepreneurs_b_9190842.html)



## Appendix 1: Comparison of IP Policies in Selected Canadian Universities

QS	University Policy	Entrepreneurship Program	Applies to	General Principle for Student IP	IP Policy and Resources
26	University of Toronto, Toronto, ON	Various programs connected via <a href="#">ONRamp</a>	Graduate students	Co-owned between student creator and university	<ul style="list-style-type: none"> <li>The <a href="#">Intellectual Property Guidelines for Graduate Students and Supervisors</a> webpage provides Q&amp;A-style information on the three policies covering IP.</li> <li>The <a href="#">Protect Intellectual Property</a> webpage provides an overview of the IP policy and available resources.</li> </ul>
=27	McGill University, Montreal, QC	<a href="#">McGill Dobson Centre for Entrepreneurship</a>	All students	Creator-owned	<ul style="list-style-type: none"> <li>IP is covered by two separate policies: <a href="#">Policy on Copyright</a> (PDF) and <a href="#">Policy on Inventions and Software</a> (PDF), however, IP policies exclude students' academic works, inventions, and software that are governed by applicable laws.</li> </ul>
46	University of British Columbia, Vancouver BC	<a href="#">entrepreneurship@UBC</a>	All students	Creator-owned	<ul style="list-style-type: none"> <li>The <a href="#">Intellectual Property Guide</a> webpage presents the policy based on academic activities and includes practical examples of how the policy applies to the activity written in layperson language</li> </ul>
126	University of Alberta, Edmonton, AB	<a href="#">TEC Edmonton</a>	Graduate students	Creator-owned	<ul style="list-style-type: none"> <li>The <a href="#">Intellectual Property Guidelines for Graduate Students and Supervisors</a> (PDF) uses a Q &amp; A format to explain IP policies in layperson language.</li> </ul>
140	McMaster University, Hamilton, ON	<a href="#">The Forge</a>	Graduate students	Creator-owned	<ul style="list-style-type: none"> <li>IP Policy detailed in <a href="#">Ownership of Student Work</a> (PDF).</li> </ul>
=149	University of Waterloo, Waterloo, ON	<a href="#">Velocity</a>	All students	Creator-owned	<ul style="list-style-type: none"> <li>IP Policy detailed in <a href="#">Policy 73 – Intellectual Property Rights</a></li> </ul>
170	Western University, London, ON	<a href="#">Morrisette Institute for Entrepreneurship</a>	All students	Creator-owned	<ul style="list-style-type: none"> <li>IP Policy detailed in <a href="#">Policy 7.16 – Intellectual Policy</a> (PDF)</li> <li>The <a href="#">Intellectual Property Policy</a> web page summarises the IP policy and provides Q&amp;A.</li> </ul>
230	University of Ottawa, Ottawa, ON	<a href="#">The Entrepreneurs Hub</a>	Unclear	Unclear	<ul style="list-style-type: none"> <li>Limited information is available on the <a href="#">Intellectual Property</a> web page.</li> </ul>

QS	University Policy	Entrepreneurship Program	Applies to	General Principle for Student IP	IP Policy and Resources
235	University of Calgary, Calgary, AB	<a href="#">Hunter Hub</a>	Graduate students	Creator-owned	<ul style="list-style-type: none"> <li>IP Policy detailed in <a href="#">Intellectual Property Policy</a> (PDF)</li> <li><a href="#">Intellectual Property</a> webpage provides a Q&amp;A on intellectual property for thesis-based students.</li> <li><a href="#">Intellectual Property Awareness Checklist</a> (PDF) is completed by the student and the supervisor then signed off by the Graduate Program Director</li> </ul>
=240	Queen's University, Kingston, ON	<a href="#">Centre for Business Venturing</a>	Graduate Students	Creator-owned	<ul style="list-style-type: none"> <li><a href="#">Intellectual Property Guidelines at Queen's University</a> (PDF)</li> </ul>

Ranking based on QS World University Rankings 2022: Top Global Universities (n.d.). The University Hub ranking of the most entrepreneurial universities in Canada based on a survey of 1000 students was used as the starting point to identify entrepreneurship programs (UniversityHub, 2017) and additional entrepreneurship programs were found through a general internet search.

## Appendix: 2: Review of University Competitions and Events

Competition	Type	Organizer	Participants:	IP Policy
<a href="#"><u>GRADFlix</u></a>	Research presentation	UW's Graduate Studies and Postdoctoral Affairs (GSPA)	Current UW research or course-based masters and Ph.D. students	<ul style="list-style-type: none"> <li>Video submission publicly available which may result in public disclosure concerns</li> </ul>
<a href="#"><u>Three Minute Thesis</u></a>	Research presentation	UW	UW research-based graduate students only	<ul style="list-style-type: none"> <li>Existing IP rights will not be affected, however, as the presentations will be made publicly available some IP rights may be affected</li> </ul>
<a href="#"><u>Concept 5K</u></a>	Entrepreneurial pitch	UW's Concept by Velocity incubator	Teams must include a UW student (includes undergraduate, graduate, and postdocs) as a founding member of the project."	<ul style="list-style-type: none"> <li>Focused on the commercialization of ideas</li> <li>No information on IP is provided on the information page or application form.</li> <li>Top 10 pitches may be publicly available</li> </ul>
<a href="#"><u>Hult Prize</u></a>	Problem-solving	(1) UW round (2) International round hosted by Hult Prize Foundation	All team members must be UW students	<ul style="list-style-type: none"> <li>No information on IP rights for any round</li> </ul>
<a href="#"><u>Map the System</u></a>	Problem-solving	(1) UW round; sponsored by Kindred Credit Union in 2020 (2) Canadian and international rounds organized by Skoll Centre for Social Entrepreneurship, Saïd Business School, University of Oxford"	Although at least one team member needs to be a current UW student, teams may be made up of members from outside of the university	<ul style="list-style-type: none"> <li>No information on IP rights for any round</li> </ul>
<a href="#"><u>World's Challenge Challenge</u></a>	Problem-solving	(1) UW round (2) International final hosted by at Western University	Open to students at educational institutes around the world	<ul style="list-style-type: none"> <li>No information on IP rights for either round</li> <li>Information on competition redirects to <a href="#"><u>UWO website</u></a> (external link)</li> </ul>

Competition	Type	Organizer	Participants:	IP Policy
<a href="#">Hack The North</a> (external link)	Hackathon	Hack The North and UW's Engineering department	<ul style="list-style-type: none"> <li>Open to students at educational institutes around the world</li> </ul>	<ul style="list-style-type: none"> <li>No information on IP rights</li> </ul>