

UW Interdisciplinary Trailblazer Fund – Round 5 Call for Applications

Application Deadline: November 27, 2023 at 5pm EDT

Interdisciplinary research is a top priority at the University of Waterloo, as it represents one of the best routes to arrive at paradigm-changing discoveries and develop breakthrough technologies and ways of operating that are likely to have high societal/economic/scientific impact. UW researchers have excelled at such endeavours.

To promote interdisciplinary collaborations, the University of Waterloo has established the Interdisciplinary Trailblazer Fund in 2019 with the aim of providing support for building interdisciplinary research teams involving graduate students and/or postdoctoral fellows. UW recognizes that research trainees typically excel in their development of an interdisciplinary vision and related professional skills when they work in teams with members from different disciplinary backgrounds. Through working a collaborative, interdisciplinary training environment, research trainees will learn the ‘language’ and techniques/approaches of the diverse disciplines involved.

Significant opportunities for external interdisciplinary research funding currently exist, such as the [New Frontiers in Research Fund \(NFRF\)](#). Other funding such as [SSHRC Partnership Grants](#), [NSERC Alliance Grants](#) and [CIHR Project Grants](#) are also successful when interdisciplinarity is promoted. It is vital that UW positions itself to take advantage of these initiatives. The UW Interdisciplinary Trailblazer Fund is intended to help research teams kickstart their potentially game-changing interdisciplinary research project and better prepare them for external funding opportunities, such as [NFRF Exploration Grants](#).

Grant Amount

Maximum funding request per proposal is \$80,000 and can be held for a maximum of two years. Up to an additional two years (maximum four years) are allowed for proposals that plan to engage a Ph.D. student. The total funding envelope available in Round 5 is \$425,000. Due to the limited funding available, some applications may not be funded, while some may only be partially funded.

Funding from the Trailblazer Award may only be used for co-funding jointly supervised graduate student(s) and/or postdoctoral fellow(s) who is/are directly involved in the proposed project. Applicants are expected to have other funding resources available to cover other project expenses by the time the project commences.

Eligibility

Teams of two or more regular faculty members from different disciplines at any career stage are eligible to apply. Priority will be given to proposals where neither of the two Principal Investigators (PI) have received a Trailblazer award in the past. Preference will also be given to PIs who have not yet collaborated on the proposed idea, as the main aim of the Trailblazer Fund is to provide initial funding to support promising, novel projects.

Early Career Researchers (ECRs) are strongly encouraged to apply. ECRs are defined as individuals within five years of their first academic appointment, not including career interruptions for maternity or parental leave, sick leave, clinical training or family care.

Submission Instructions

Each application package must include (in this order):

1. Cover Page;
2. Main Proposal (maximum 5 pages; see next section);
3. Budget and Training Plan (maximum 1 page; see Page 4);
4. Short CV for each PI(s) (max 5 pages each). Include activities within the last 5 years.

Please submit the application package as **a single PDF** by email to Andrew Barker, Director of Institutional Research (andrew.barker@uwaterloo.ca). Co-PI #1, who will be the work order holder, will also need to separately submit an electronic [Coversheet for Sponsored Research](#) for this application.

General questions / comments should be directed to Alfred Yu, Assistant Vice-President, Research and International (alfred.yu@uwaterloo.ca).

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Main Proposal: Required Sections (Maximum of 5 pages is allowed for Sections 1 to 5. Please use Arial 11-point font, single-line spacing, and 0.75" page margin.)

1. Project Introduction (maximum 1 page) – Provide a general description in plain language of the interdisciplinary research topic and key challenges/problems the research proposes to address. State the research aims and hypotheses. Offer relevant background context and information. Highlight the innovation and significance of the proposed research and the methods/approaches used. Summarize the potential impact of the proposed research.

2. Interdisciplinarity – Explain how the project is interdisciplinary in nature. Describe why research involving different disciplines will be needed to solve the problem of interest. Each project is expected to be interdisciplinary from more than one of the following three standpoints:

- (a) Novelty of perspective – Pushes the boundaries by integrating two or more disciplines that are not commonly combined. Please state the different disciplines that will come together using the group-level [Canadian Research and Development Classification](#).
- (b) Novelty of approach – Proposes the application or adaptation of frameworks/tools/methods/techniques from one discipline to solve a problem in another discipline.
- (c) Project design – Research plan is designed from an interdisciplinary perspective with integrative involvement of the team in every part of the project, and the interdisciplinary component is not an “added on” to a more conventional project.

3. Innovation – Highlight all elements of innovation in the project. Each project is expected to satisfy more than one of the following forms of innovation:

- (a) Unique Directions – Develops a completely new theory or paradigm.
- (b) Challenging Current Paradigms – Aims to radically challenge accepted theories or paradigms.

- (c) Enhancing Our Understanding – Aims to extraordinarily enhance our understanding of a complex and challenging issue and/or significantly enhance our understanding of multiple complex and challenging issues.
- (d) Novel Interdisciplinary Approaches – Goes beyond established approaches of any single discipline, bringing together disparate disciplines in new ways.
- (e) Development or Adaption of Methods and Techniques – Will develop novel methods or techniques.

4. Significance – Describe the significance of the proposed research and its potential impact. Each project is expected to satisfy more than one of the following forms of significance:

- (a) Broad Impact – Significant economic, scientific, artistic, cultural, social, technological, health or environmental impact.
- (b) Reach – Strong impact on a single or small number of unique communities or subpopulations, with lessons for other contexts, or strong impact on large or multiple communities.
- (c) Impact on Research or the Research Community – Resolves a long-standing issue, debate or critical question or questions; OR opens a new area of discovery or changes the direction of thought in a discipline or disciplines.

5. Plan and Methodology – Describe the plans for conducting the research. Please provide the following to allow reviewers to assess the rigor of the research plan:

- (a) Work plan – Provide information on the methodological approach, research tasks, and specific project activities that are reasonable and likely to be achievable within the proposed time frame.
- (b) Equity, Diversity, and Inclusion (EDI) in Research Design – Describe how EDI considerations have been considered and incorporated within the research design. Please make sure to consult the [“Feasibility \(Research Plan\)” section of the NFRF Best Practices in EDI in Research Practice and Design](#) as your team develops your project plan.
- (c) Research Team – Briefly state the key areas of expertise of each Co-PI and describe how each Co-PI will be engaged and contribute to the project goals. Highlight the complementary nature of the research team, describing the roles played by each member and how they will work together. Please clearly demonstrate that the research team has the required expertise in all relevant disciplines to meet the objectives.
- (d) Resources – Point out the infrastructural resources that the research team has acquired (or has concrete plans to acquire) to complete the work.
- (e) Endpoint and Sustainability – Clearly define the project endpoint that is deemed to be appropriate given the initial grant funding. Describe the criteria/metrics that you feel would be appropriate to evaluate the yearly progress and ultimate success of the project. Describe plans for joint publications and for sharing research findings. Please also provide a clear indication how the initial funding will be leveraged to apply for external funding, with targeted funding schemes cited.

Budget and Training Plan: Required Sections (Maximum of 1 page is allowed for Sections 1 and 2. Please use Arial 11-point font, single-line spacing, and 0.75" page margin.)

1. Project Cost – Describe the costs involved in conducting the proposed research. Please provide the following information:

- (a) **Budget Request and Justifications** – State the trainee stipend costs that will be directly supported by the Trailblazer Fund. Please justify the cost. The maximum budget request is \$80,000. Project funding, if awarded, may only be used for co-funding jointly supervised graduate student(s) and/or postdoctoral fellow(s) who is/are directly involved in the proposed project.
- (b) **Matching Resources** – Describe other anticipated expenses for the proposed project. Please describe how they will be financed through other funding that the team has access to (or has applied for). For example, if the execution of the project involves laboratory expenses and/or fieldtrips, please briefly describe how the research team will cover these additional expenses.

2. HQP Training – Describe the interdisciplinary training plans and environment for this project. Please provide the following information:

- (a) **Training Plan** – Present how the trainee(s) directly co-funded by this project will be developed over the project period to become interdisciplinary scholars. Describe the applicants' current research environment and how it will support collaborative, interdisciplinary research training in this project. If applicable, point out how other trainees supervised by the applicants may complement the interdisciplinary training experience of this specific project's trainee(s).
- (b) **EDI Considerations in Research Practice** – Provide information about the team's specific circumstances related to EDI, including the identification of structural biases that could affect members of underrepresented groups (please do not provide information about the current composition of the research team). Point out the best practices that the team will take to: 1) foster equitable team composition and recruitment, 2) provide training and development opportunities, and 3) foster an inclusive research environment. For each practice, please briefly explain how it will be implemented, the expected impacts, and how the impacts will be measured.

Evaluation Criteria

All submitted proposals will be engaged in an in-depth peer review process that will be founded on five criteria that are modified from the [NFRF Exploration Grant's merit indicators](#):

1. **Interdisciplinarity** [Pass/Fail]
2. **EDI in Research Practice (and Design, if Applicable)** [Pass/Fail]
3. **Innovation (20%)** [similar to the "High Risk" criterion in NFRF Exploration Grants]
4. **Significance (40%)** [similar to the "High Reward" criterion in NFRF Exploration Grants]
5. **Rigor (40%)** [similar to the "Feasibility" criterion in NFRF Exploration Grants]

The success rate of applications involving ECR PIs will be monitored so that it is no less than the success rate of the competition.