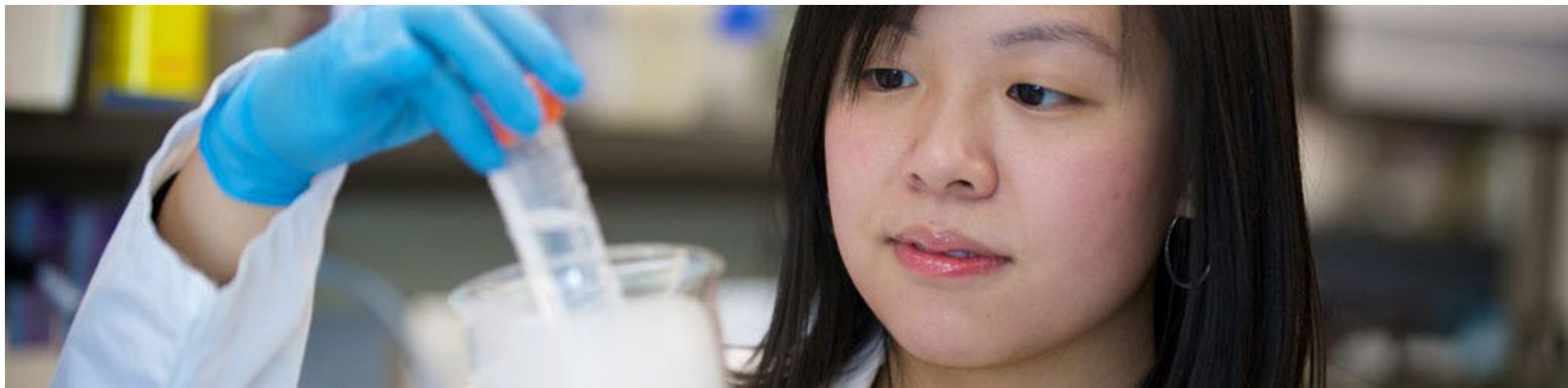


ORF-RE Round 11 Information Session

January 21, 2021




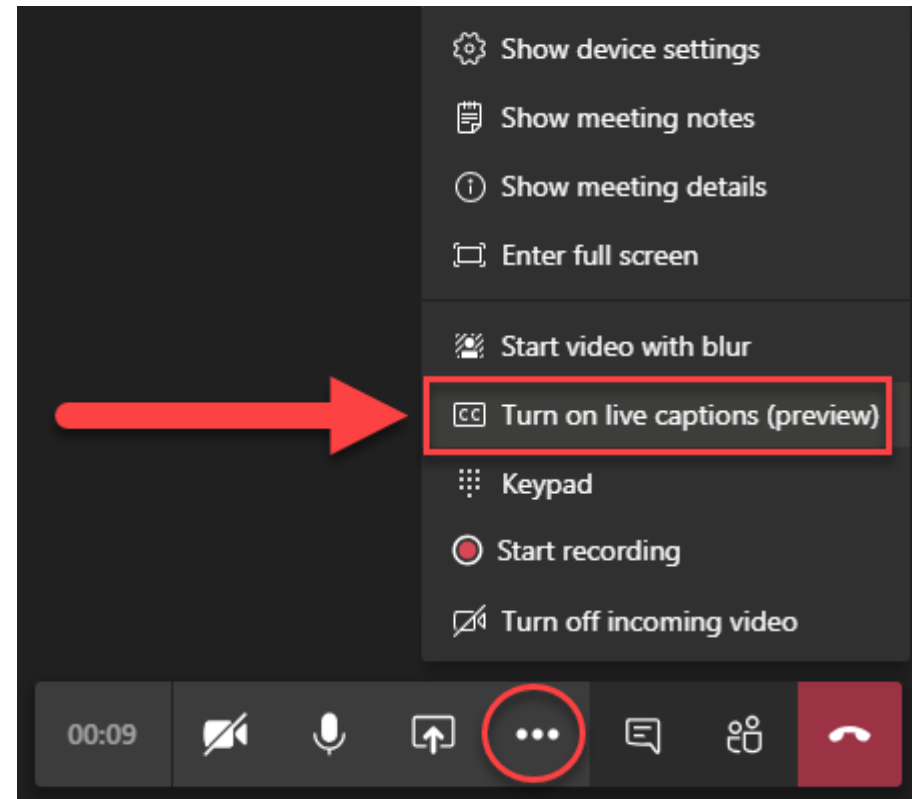


Land Acknowledgement

We wish to acknowledge this land on which the University of Toronto operates. For thousands of years, it has been the traditional land of the Huron-Wendat, the Seneca, and most recently, the Mississaugas of the Credit River. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.

Housekeeping and Accessible Participation

- Please mute your audio and turn off your video
- We will be recording today's session
- We will have time for questions at the end of each section. Please type your questions into the chat box.
- To turn on captioning, go to your meeting controls and select "More options" 
- Slides and recording will be shared following the session



ORF-RE Info Session Agenda

1. Program Information and Key Documents

- *Kevin Hamilton, Director, Institutional Initiatives, Research Services*
- *Amanda Pennings, Research Funding Officer, Research Services*

2. Funding Formula/Budget

- *Rob Reedijk, Research Funding Officer, Research Services*

3. Adjudication Criteria and Editorial Tips

- *Andrea Day, Editorial and Proposal Development Officer, Research Services*

4. Commercialization/IP

- *Colin Swift, Business Development Officer – Industry Partnerships, IPO*
- *Akshita Vincent, Business Development Officer – Industry Partnerships, IPO*

5. Q & A – All

Your Support Team

**Kevin Hamilton, Amanda Pennings and Rob Reedijk –
Program/Proposal Guidelines, Budget**

- kevin.hamilton@utoronto.ca;
- amanda.pennings@utoronto.ca;
- rob.reedijk@utoronto.ca

**Andrea Day and Emma Doran –
Editorial Support**

- andrealynne.day@utoronto.ca;
- emma.doran@utoronto.ca





Your Support Team

Akshita Vincent and Colin Swift –
Commercialization, IP and Partnerships

- akshita.vincent@utoronto.ca;
- colin.swift@utoronto.ca



ORF-RE Statistics

- Since Round 1 (2004), the Ontario Ministry has funded 242 ORF-RE projects for a total of \$879 million
- Overall average success rate province wide is 20-25%, with U of T success rate at 42%

ORF-RE Round 11

The ORF-RE Round 11 has two application streams:

Stream 1: General – Basic and Applied Research

Stream 2: Targeted – Experimental Research



ORF-RE Round 11

- Stream 1: General – Basic and Applied Research
 - Funds projects from \$500,000 to \$2,000,000 (Ontario portion)
 - Up to a maximum of 5 years
 - Open to all research disciplines
 - Priority given to applications focused on connected, autonomous, electric vehicles as well as industrial/mining technologies as it relates to electric vehicles



ORF-RE Round 11

- Stream 2: Targeted – Experimental Research
 - Funds projects from \$300,000 to \$1,000,000 (Ontario portion)
 - Up to a maximum of 4 years
 - Funds projects with strong commercialization potential (TRL of 3 or more)
 - Requires collaboration with Ontario-based company
 - Targets projects in research fields that align to areas with Ontario industry receptor capacity:
 - Information Communications Technologies
 - Life Sciences and Medical Devices
 - Industrial Technologies
 - Priority given to applications focused on connected, autonomous, electric vehicles as well as industrial/mining technologies as it relates to electric vehicles

Submission Deadlines

Three-stage process:

1. U of T Internal Notice of Intent to RSO **Dec 10, 2021**
2. Full Application
 - Draft internal deadline: **February 11, 2022**
 - Draft full application (Word version)
 - Internal budget template
 - Letters of Support
 - MRA Required (<http://aws.utoronto.ca/services/my-research-mr/>)
 - Review & feedback within three weeks
3. Final internal deadline to RSO: **March 16, 2022**
 - RSO submission to sponsor: March 21, 2022

All documents should be submitted to orf@utoronto.ca.

U of T Major Research Project Management Fund

APPLY NOW!

- Initiative of the VPRI to enhance the competitiveness of U of T-led research funding applications

Eligible to apply for **MRPM Stream 1**

- Funding to support proposal development (including writer, admin support for budget development, etc.)
- Up to **\$10K** to be fully matched by division/department

Contact: Michael Hussey (m.hussey@utoronto.ca)

<http://www.research.utoronto.ca/research-funding-opportunities/uoft-major-research-project-management-fund/>

Sponsor Key Documents

ORF-RE: <https://www.ontario.ca/page/ontario-research-fund>

- Program Guidelines
- Full Application Form

U of T Key Documents

U of T Internal:

- ORF-RE Tip Sheet* (please keep within U of T)
**Contains essential information that is not in the ORF guidelines*
- Word version of application form (for within U of T only)
- Excel budget template (for within U of T only)
- Letters of support template (PSP and Institutional)
- FAQs (please keep within U of T)
- Checklist
- U of T ORF-RE presentation slides (please keep within U of T)

Application forms, Tips Documents and Checklists are stream specific.

All documents are available of the Funding Opportunity page:

<https://research.utoronto.ca/funding-opportunities/db/ontario-research-fund-research-excellence-round-11>



Questions

Questions on program information and key documents?

Please type your questions into the chat box.



Funding Formula

- ORF-RE = direct operating costs + indirect cost (@ 40%)
- Normally $\frac{1}{3}$ ORF-RE + $\frac{1}{3}$ “institution” + $\frac{1}{3}$ private sector (PSP)
- A “blended” funding proportion may be ORF-RE $\frac{1}{3}$ + $\frac{2}{3}$ institution/PSP/other
 - where there is less than $\frac{1}{3}$ PSP, the partnership and benefit between the applicant and the PSP and/or other partners should be clearly outlined in the application
- Budget should be projected based on expected spending profile (i.e., not divided equally over # of years)

Budget Categories

- **Salaries and Benefits:** claimed in proportion to the time spent working on the project
- **Facilities and Equipment:** maximum of up to 10% of total direct costs
- **Management and Administration:** maximum of up to 10% of total direct costs
 - Management Salary
 - Management Other
- **Other Direct Research Costs**
- **Technology Transfer/Commercialization Expenses**
- Required to have a plan for youth outreach/mentorship activities (may use up to 1% of the ORF portion to undertake annual youth science and technology outreach activities)

Eligibility

Eligible dates for matching:

- Cash = March 21, 2021 received if not spent
- In Kind = September 28, 2021 (project call date = earliest start date)

Eligible Costs:

- Personnel costs (salaries, stipends and benefits)
 - Limit of \$20K per grad student annually, \$50K per PDF annually from ORF \$; can top up with other matching sources
- Facilities/equipment, including
 - software, staff training, operations and maintenance (excludes indirect costs like electricity and insurance)
 - cost of renovations or alterations to existing space directly related to the research project
 - leased space
- Other direct research expenses
 - supplies, reagents, dissemination of research results, travel, seminars, consulting, safety related expenses
- Technology Transfer/Commercialization Expenses
 - Consulting fees, Market investigations, Business development, IP, Tech/product testing, Legal, Partnering and Knowledge Dissemination costs
- Management & administration
 - audit (mid-term and final), salaries/benefits, office supplies, etc.

Private Sector Partners

- Cash and/or in-kind
- PSP can be
 - for-profit businesses
 - not-for-profit research institutes funded primarily by business
 - outside of Ontario is allowed
 - company portion of NSERC Alliance (legacy CRD, IRC)

Researcher-owned sole proprietorships are not eligible and other relationships must be fully disclosed (more later).

Institutional Contributions

- Most commonly include Tri-Agency awards, PI time, CRC, research foundations,
 - e.g., NSERC Alliance (legacy CRD, IRC); Genome Canada (if not matched by ORF); % of PI time on the project
- Can include indirect costs totaling 40% of the direct costs of institutional cash + 40% of PSP in-kind direct contributions

Budget Info Session

January 26, Microsoft Teams

To provide guidance on

- development of the budget, including justification
- eligibility of expenses and contributions
- completing the budget forms
 - U of T internal Excel spreadsheet
 - ORF-RE application budget section



Questions

Questions on funding formula and budget?

Please type your questions into the chat box.





Adjudication Criteria and Editorial Tips



Adjudication Criteria

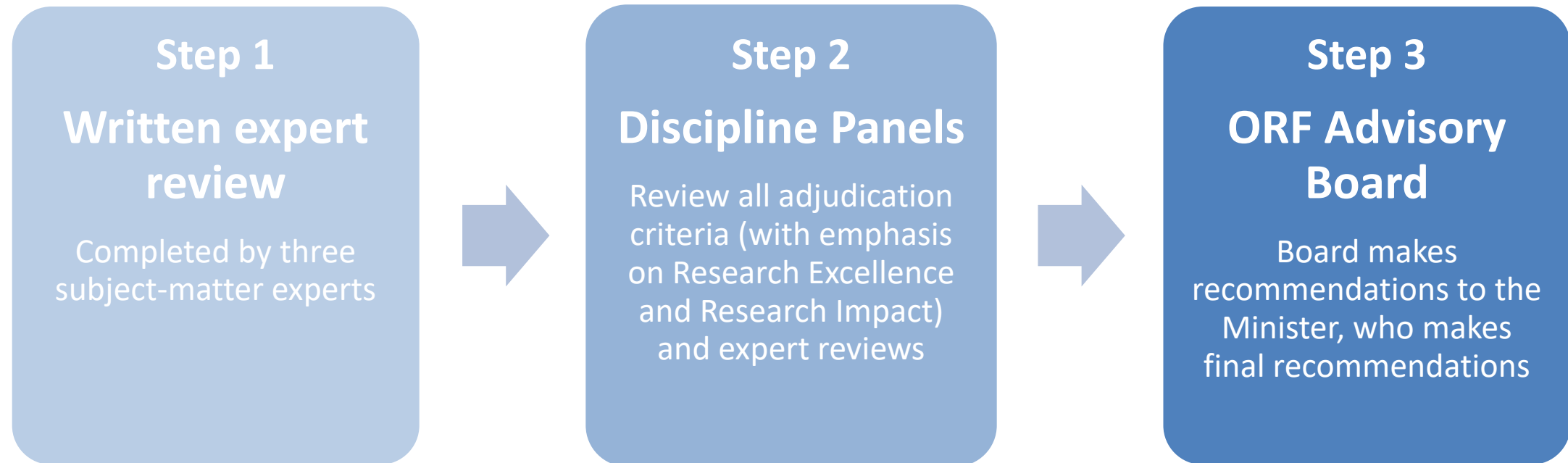
Stream 1 applications are reviewed against five criteria:

- **Research Excellence**
- **Strategic Value to Ontario**
- **Plan for Achieving Impact**
- **Development of Research Talent**
- **Project Management and Governance**

Stream 2 applications are reviewed against an additional criterion:

- **Commercialization Potential**

Adjudication Process



Stream 1 Application

Sections 2 – 8

- Adjudication Criteria (2 – 6)
- Other Project Requirements (7)
- Milestones and Deliverables (8)

No more than
30 pages

Section 11: Attachments

- Letters of Support
- CVs

No more than
20 pages

Stream 2 Application

Sections 2 – 9

- Adjudication Criteria (2 – 7)
- Other Project Requirements (8)
- Milestones and Deliverables (9)

No more than
30 pages

Section 12: Attachments

- Letters of Support
- CVs

No more than
20 pages



Stream 1, Section 2: Research Excellence

Suggested length:
9 to 14 pages

Assesses:

- Scientific merit
- Proposed innovation
- Credentials and appropriateness of research team
- Inter-institutional/international collaboration

Sections (many):

- Proposal Brief
- Proposal Abstract
- Proposal Description
- References & Figures
- Proposal Innovation
- Linkages to Previously-Funded ORF-RE Projects
- Proposal Integration
- Research Collaboration
- Principal Investigator and Co-Investigators



Stream 1, Section 2

Research Excellence

Proposal Description

- Key section: it should be about $\frac{3}{4}$ of Section 2 (or about 6 – 8 pages).
- Clearly define the research plan.
 - Hypotheses and objectives
 - Situate within current advances in your discipline
- Detail the research methodology.
 - Specific research activities (and their relevance)
- Discuss the unique features of research environment.
 - Why should *you* do the research?
 - Why should it be done now?
 - Why should it be done here?



Stream 1, Section 2

Research Excellence

Section 2 also includes (among others):

- Proposal Innovation
 - What is new and significant.
 - How it will advance knowledge.
- Project Integration
 - Demonstrate that the various parts of the project are necessary and contribute to a unified whole.
- Research Collaboration
 - Identify and justify collaborations.



Stream 1, Section 2

Research Excellence

Common Weaknesses

- Not enough detail regarding the methods or experimental approach.
- Not enough discussion of anticipated challenges (e.g., of a particular technology or approach, phase, or sub-project)
- The research design was not appropriate.
- Research was not convincingly ground-breaking or cutting edge.
- Research did not seem feasible.
- Additional academic collaborations were needed (e.g., with other departments or other universities).
- Not enough scholarly context.
- Did not include preliminary data.
- Projects were not convincingly linked beyond the use of shared infrastructure.



Stream 2, Section 2: Research Excellence

Suggested length:
4 to 4.5 pages

Assesses:

- Scientific merit
- Proposed innovation
- Credentials and appropriateness of research team
- Inter-institutional/international collaboration

Sections (not as many as Stream 1):

- Scientific Merit
- Linkages to Previously-Funded ORF-RE Projects
- Proposal Integration
- Research Collaboration
- Principal Investigator and Co-Investigators



Stream 2, Section 2

Research Excellence

Scientific Merit

- Short section: should be about $\frac{1}{8}$ to $\frac{1}{4}$ of Section 2 (or about .5 to 1 page).
- Introduces reviewers to project.
 - Contextualizes more detailed descriptions in Commercialization Potential section.
- Detail what is new and significant about the research.
 - Emphasize the novelty of the research underlying the current proposal.
- Contextualize the research locally and internationally.
 - What are the benefits of the research to Ontario, nationally, internationally, as well as to relevant research communities?

Stream 2, Section 2

Research Excellence

Section 2 also includes (among others):

- Project Integration
 - Demonstrate that the various parts of the project are necessary and contribute to a unified whole.
- Research Collaboration
 - Identify and justify collaborations in the context of the project's commercialization potential.



Stream 2, Section 3: Commercialization Potential

Suggested length:
8.5 to 10.5 pages

Assesses:

- Scientific merit
- Proposed innovation
- Credentials and appropriateness of research team
- Inter-institutional/international collaboration

Sections:

- Proposal Brief
- Proposal Abstract
- Proposal Description
- Proposal Innovation
- Market Analysis
- Principal Investigator and Co-Investigators

Stream 2, Section 3

Commercialization Potential

Proposal Description

- Key section: it should be about $\frac{3}{4}$ of Section 3 (or about 6 – 7 pages).
- Clearly define the research plan.
 - Hypotheses and objectives
 - Situate within current advances in your discipline
- Detail the research methodology.
 - Specific research activities (and their relevance)
- Discuss the unique features of research environment.
 - Why should *you* do the research?
 - Why should it be done now?
 - Why should it be done here?

Stream 2, Section 3

Commercialization Potential

Section 3 also includes (among others):

- Proposal Innovation
 - What is new and significant.
 - How it will advance knowledge.
- Project Integration
 - Demonstrate that the various parts of the project are necessary and contribute to a unified whole.
- Market Analysis
 - Describe the market's state and size and the gap your product will fill.
 - Identify your primary competitors and explain the superiority of your product.
- Research Collaboration
 - Identify and justify collaborations.



Sections 3 through 7 (Stream 1) Sections 4 through 8 (Stream 2)

Suggested length: 13.5 to 15 pages (S1)
12.5 to 15 pages (S2)

Assesses:

- The remaining assessment criteria
- Two additional requirements: Intellectual Property and Youth Outreach

Sections

- Strategic Value to Ontario
- Achieving Impact
- Development of Research Talent
- Project Management
- Other Project Requirements
 - Intellectual Property (Stream 1)
 - Youth Outreach Plan
- Milestones and Deliverables



Stream 1, Section 3

Stream 2, Section 4

Strategic Value to Ontario

This section addresses three types of impact:

- Commercialization
- Economic Benefits
- Societal Benefits



The second most significant section (after Section 2). Allot about 5 pages (half of Sections 3-7 / 4-8)

[This will be discussed in more detail later in the presentation by IPO.]



Stream 1, Section 4

Achieving Impact

- A clear and tangible strategy for achieving Research Impacts; specific steps
- Engagement of private sector or community partners
- Engagement of end-users



The next most significant section; allot 2 to 3 pages.

Achieving Impact

Stream 2, Section 5

- As above, but in more detail
- Required components:
 - Commercialization Implementation Plan
 - Commercialization Financial Strategy
 - Commercialization Management Plan
 - Intellectual Property Strategy



The next most significant section; allot 2 to 3.5 pages.



Stream 1, Section 5

Stream 2, Section 6

Development of Research Talent

Overview

- Plan for Development of Research Talent
- Total Number of HQP Trained



Allot
approximately
1 page to this
section.

Demonstrate that you have a clear training plan in place.

- Roles of HQP in the research program should be clear. HQP should be meaningfully engaged.
- Outcomes of skills training should focus on the benefits for HQP themselves and for Ontario's labour market.
- Describe opportunities for experiential learning.
- Document your track record of HQP training.

Stream 1, Section 6

Stream 2, Section 7

Project Management and Governance

Overview

- Outline how the project will be managed.
- Include an image of the structure



Allot
approximately
1.5 pages to
this section.

Include:

- Governance structure.
- Roles and function of project manager and other key staff.
- Sustainability plan.
- Brief references to milestones and budget.

Stream 1, Section 7
Stream 2, Section 8

Other Project Requirements

Overview: Youth Outreach Plan

Successful applicants will be required to undertake outreach activities with elementary and/or high school students.



Allot
approximately
.5 of a page to
this section.

-
- You may use up to 1% of ORF portion of funding (not mandatory).
 - If applicable, build on existing outreach programs in your department/division.
 - Examples:
 - Science awareness organizations like Science Rendez-Vous and the Science and Technology Awareness Network
 - Libraries, museums, art galleries, heritage sites, and community groups
 - Outreach activities must occur in every year of the ORF-RE.

Stream 1: Sections 8, 9, 10, and 12

Stream 2: Sections 9, 10, 11, and 13

Length will vary by application.

Includes unwieldy forms

Sections

- Milestones and Deliverables (2-3 pages)
- Project Budget (no page limit)
 - Annual Budget Tables
 - Budget Justification
- Expert Reviewers (no page limit)
- Mitigating Economic and Geopolitical Risk (4 pages max)

Overview

- There is a limit of 250 characters per milestone.



Allot
approximately
2 – 3 pages to
this section.

Milestones and Deliverables

-
- Milestones are specific and quantifiable.
 - Use simple, non-technical language.
 - Describe the significance of each milestone.
 - Be realistic in setting milestones.



Stream 1, Section 12

Stream 2, Section 13

Mitigating Economic and Geopolitical Risk Checklist

Overview

- Includes a checklist of possible risks and a Risk Mitigation Plan (limit of 5,600 characters).



This section has
a 4-page
maximum.

-
- Use the headings in the checklist to organize and identify risks.
 - Describe how the team has created a plan to mitigate risks.
 - Explain how the research team will approach each potential risk identified in the checklist:
 - Specific steps to reduce or remove the risk entirely
 - Implementation timelines
 - How effectiveness will be monitored



Editorial Info

Word Document Version of ORF-RE Form

We've created Word documents for editing purposes. Put your text for each box in that document when submitting to RSO for the Internal Editorial Review.

Tip Sheet

Research Services has created a Tip Sheets for each application stream.

They include specific **instructions** and **suggestions** for each element in the form.



Questions

Questions on adjudication criteria and editorial tips?

Please type your questions into the chat box.



Researchers' Interests in Private Sector Partners

- Researcher-owned sole proprietorships are ineligible when researcher is the Principal Investigator
- Full disclosure is required re: any non-arm's length interest (including partial ownership)
- Such relationships will be reviewed on case-by-case basis
- The applicant must provide all information to satisfy lead institution's established policies on disclosures of commercial interests and conflict of interest guidelines

Intellectual Property

General Principles:

- The ORF does not claim ownership or rights to any IP resulting from ORF-RE funded projects
- IP rights are determined by the IP policy of the lead institution
- If applicants are from multiple institutions, the IP terms will be set out in the Inter-Institutional Agreement (IIA) between the consortium members

When Preparing Proposal:

- In accordance with the lead institution's IP policy, describe how ownership and disposition of IP generated from the project will be determined



Intellectual Property

- U of T policy on IP, inventions, and copyrights can be found at <https://research.utoronto.ca/inventions-commercialization-entrepreneurship/inventions-commercialization-entrepreneurship>
- Where possible, address IP scenario with funding partners at the project planning stage
 - IPO will work with applicants and PSPs to negotiate suitable agreements
- If IP is resolved: Add the specific IP terms of the agreement
- If IP is not resolved: Use the following boilerplate (available on the tip sheet)

“Ownership of IP arising from the project will vest with the party whose personnel create it. In the case of joint development, joint ownership may be negotiated.

Participants in the project may be granted a royalty-free license to use intellectual property arising from the project for their internal research purposes. In addition, the University and the PSP(s) will enter into an agreement whereby the project IP may be commercialized by the PSP(s). The University standard Sponsored Research Agreement allows for the PSP(s) to have an option to use and/or otherwise exploit IP created from the project.”

Intellectual Property

- **Background IP** remains the property of the owning party, and is not compromised by this agreement
- **Foreground IP** ownership is determined by level of creative contribution, according to patent law:
 - IP developed solely by PSP personnel is owned by the PSP
 - IP developed solely by University personnel is owned by the University/personnel
 - IP developed collaboratively by personnel of both parties is jointly owned
 - ***Inventors will file a complete Invention Disclosure to the IP Officer, describing creative and financial contributions to the invention.***



Intellectual Property

- PSPs meeting contractual obligations are generally eligible for an **option** to the Foreground IP.
- IP Option Terms can include (as appropriate)
 - non-exclusive license (royalty-free)
 - exclusive license (usually royalty-bearing, but can be as negotiated)
 - assignment of University interest in Foreground IP (for a separate amount as negotiated)
 - ***University always retains rights to publication, internal use, and academic advancement of HQP***

Research Impact: Commercialization

- Describe how the research will lead to innovation and/or commercial outcomes
- Describe the technology/product that will be developed during the funding program
- Describe commercialization potential of your technology
- Who are your commercialization partners?
- Are there any further steps before commercialization?
- What is the most likely commercialization route?
(licensing vs. start-up)
- Consider timelines and next steps

Research Impact: Commercialization

Commercialization Strategy: Licensing

Industry Receptor <u>Already</u> Identified	Industry partner <u>not yet</u> identified
Why are they the most likely receptor?	Who are the most likely receptors for the technology? Why?
Are there any agreements already in place? E.g., SRA, MTA's, licensing	Do you already have a relationship?
What are the capabilities of the partner and how will they take this to market?	How will you connect with them?
How will this path benefit Ontario/Canada?	How will these potential partners benefit Ontario/Canada?
Does the letter of support indicate the above?	Could you provide any letters of interest?

Research Impact: Commercialization

Commercialization Strategy: Start-Up Company

- Do you have a platform technology or group of technologies?
- Model – product development, fee-for-service, selling instrumentation
- Are you set up to do this? I.e. collaborations/partnerships?
- How will the company access the IP?
- Does anyone on your team have a track record?
- Who will be your management team? Experience?
- How will you seek your next rounds of funding?
- University Entrepreneurship Community – Campus Linked Accelerators

Research Impact: Commercialization

Market Data

- Market overview and need
- Target market, characteristics, potential
 1. Canadian, US, European, global numbers from market reports (number of people with disease, number of patients, cost to healthcare systems, cost to patients, etc.)
 2. Company product sales
 3. Number of end users in potential market (e.g., how many labs across Toronto, Ontario, Canada, US, etc.)
- Make sure you have realistic numbers
- Describe the competitive landscape (including comparisons to similar products)

Research Impact: Commercialization

Market Data: Where can I get this information?

- Company partner
- U of T libraries – entrepreneurship guide, market databases
<http://guides.library.utoronto.ca/entrepreneurship>
- IPO can be a resource for large grant applications

Research Impact: Economic Benefits

- Significance to Ontario
- Will your commercialization path
 - Improve Ontario's productivity and competitiveness
 - Create jobs (HQP)
 - Lead to strategic investments in human capital
 - Create a start-up company
 - Improve efficiency in private and/or public sector
 - Create new partnerships/collaborations
 - Brand Ontario in a specific area

Research Impact: Societal Benefits

- Improve health and well-being of Ontarians
- Improve/preserve environmental quality (including GHG reduction and sustainable use of natural resources)
- Reduce poverty
- Engagement and mentorship with youth
- Improve public policy
- Profound shift in the understanding of a given discipline
- Place Ontario at the forefront of a particular research discipline from an international perspective

Plan for Achieving Impact: End-User Engagement

- Engagement of private sector/public partners to encourage the adoption of innovative technologies, practices, procedures, and policy
- Who are the next stage recipients of the research and end-users? How will you reach out? (channels: IPO, MaRS, sector-specific research institutes, industry)
- Next stage recipients can be **industry**, firms, trade associations, clinicians, researchers, non-profit organizations, community/public partners, community/patient groups, government and agencies, other institutions, etc.
- How will they have access to technology/product?
- Track record and commitment of recipients/end-users



Questions

Questions on commercialization and intellectual property?

Please type your questions into the chat box.



Application Checklist

February 11 at 9:00am:

- submit **MRA**
- Word version of full application
- U of T internal budget template (IBT) Excel file
- Email IBT and full application to orf@utoronto.ca

March 16 at 4:00pm:

- **PDF** version of the complete application + attachments
- U of T internal budget template (IBT) Excel file
- Email to orf@utoronto.ca



Questions

Questions on the ORF-RE Round 11 application process?

Please type your questions into the chat box.

