

## **Bell-Western 5G Research Grant**

### **Program Guidelines**

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#### **1. Overview of the Funding Opportunity**

Bell Canada and Western University are partnering to establish a national centre for research development of 5G networks. This centre will engage the strengths and research expertise at Western in the areas of 5G capacity planning and small cell deployment, intelligent 5G management and operations, disruptive applications of 5G, QoS and QoE provisioning, smart cities planning and infrastructure, mental health and wellbeing, and policy development.

To advance research in these themes, Bell Canada is providing 5G network coverage to the outdoor campus, operations and maintenance of the 5G network and additional 5G core infrastructure and configurations. Western will provide up to \$500,000 through in-kind or cash contributions over the 2021-2024 period to support targeted projects that use or promote the Bell 5G infrastructure. A strong preference is to support initiatives that can leverage existing relationships, partnerships or research support programs. The targeted research themes may adapt over time, but current priority research will focus on the following themes:

- Cost-Effective Deployment of 5G Small Cells
- Smart 5G Capacity Planning
- Operational Cost Reduction through Intelligent 5G Management
- Additional Revenue Generation from Disruptive Applications of 5G: Industry IoT/Smart City/UAV/AR/VR
- Diverse QoS and QoE Provisioning for Customer Satisfaction Improvement
- Edge Computing
- Battery consumption in 5G networks (handsets or 5G towers)
- Student Mental Health

#### **Award Amount**

A total of \$500,000 has been provided by Western to support projects for this opportunity. Amount awarded to each project will vary and opportunities that seek to leverage this support are encouraged to expand the research opportunity. The grant is contingent on a signed research agreement with Bell Canada that will incorporate terms and conditions surrounding intellectual property ownership and licensing rights. In addition, the funded projects must be completed in accordance with the agreed-upon milestones and timelines. A final report will be submitted from the research group to [intgrant@uwo.ca](mailto:intgrant@uwo.ca) within two months of completion of the project.

#### **Additional Details**

Funds will support only those activities directly related to the research (e.g., data collection and analysis, writing). The funding opportunity is intended to support a broad range of research encompassing work in biomedical sciences, natural sciences and engineering, social sciences, and arts and humanities.

Each submitted proposal will provide an overview of the research to be performed. Proposals will be evaluated for approval by an evaluation panel composed of colleagues from Bell Canada and Western University will form the Bell-Western 5G Advisory Committee (BW5G). If approved by the BW5G Advisory Committee then a meeting may be called between the research team and the BW5G Advisory Committee to establish intellectual property rights, suggest potential third-party contributors, or address specific questions.

#### **2. Program Timeline and Deadlines**

Proposals will be received continuously and evaluated every three months. Start dates will begin at the time award notification.

### 3. Eligibility

- This funding opportunity is open to researchers in all disciplines and faculties.
- Projects require a **lead Principal Investigator** who is eligible to hold grants at Western.
- Inclusion of early career researchers (<10 years since first independent academic appointment) is encouraged but is not a requirement for funding.
- A lead PI may only submit and hold one application at a time.

### 4. Guiding Principles for Research at Western

- **Equity Diversity and Inclusion**  
If the proposal requires a team of researchers, that team composition should address equity, diversity, and inclusion principles where applicable. The research project should meaningfully engage members of underrepresented groups within the research team through the engagement of students, postdoctoral fellows, faculty and partners. Underrepresented groups include, but are not limited to, the four designated groups (women, Indigenous peoples, members of visible minorities, and persons with disabilities). See *Western's Commitment to Equity, Diversity, and Inclusion, Canada Research Chair Program – Equity, Diversity & Inclusion Action Plan*.
- **Promoting Indigenous Research**  
Western is committed to supporting high-quality research projects by and/or with Indigenous Peoples (as outlined in *Western's Indigenous Strategic Plan: Goal 4 - Achieve Excellence in Indigenous Research & Scholarship*) that use either community-engagement research methodology, or traditional disciplinary methodologies.
- **Adjudication & Peer Review**  
The adjudication committee will implement all relevant principles of *Western's EDI Action Plan* to the evaluation of all applications. Additionally, review of proposals including research by, or with, Indigenous peoples will ensure compliance with the Government of Canada's Interagency Advisory Panel on Research Ethics guidelines published in *TCPS 2 - Chapter 9: Research Involving the First Nations, Inuit and Métis Peoples of Canada*. The committee will also ensure that all proposals follow The First Nations Principles of OCAP.
- A discussion of [Sex and gender-based analysis \(SGBA\)](#) and/or [Gender-Based Analysis Plus \(GBA+\)](#) should be included in study designs as applicable. It is expected that research applicants will integrate gender and sex into their research designs where appropriate.

### 5. Support for HQP

- Support for graduate students is highly encouraged as a necessary part of the research project. If the student has yet to be identified, you must indicate this in the proposal.

### 6. Budget Requirements and Restrictions

- Expenses must meet Tri-Council eligibility requirements;
- Projects must include only the direct costs of research;
- Leveraging opportunities may exist and are encouraged. Please consult with the Research Contracts group within Western Research to discuss options ([caroline.calmettes@uwo.ca](mailto:caroline.calmettes@uwo.ca)). A clear value-added

purpose for combining funds from different sources must be provided in the proposal. Also, confirmation of the additional funds will be required at the time of funding release.

## 7. Application Process

The funding decisions begin with the submission of a project overview. Please use the [BW5G Proposal Application Template](#) (fillable Word document) to complete the overview. When complete, submit the proposal through the website portal. Alternatively, submit your proposals to [intgrant@uwo.ca](mailto:intgrant@uwo.ca).

### a. Research Proposal Summary (max 600 Words)

- Overview of the project.
- Significance, objectives, methodology, and projected outcomes.
- Clearly identify the innovation, novelty and impact of the proposed work.
- **Important note:** If your project requires face-to-face interaction between team members or between team members and research participants, the summary must indicate how the project will conform to public health requirements for isolation and social distancing.
- Description of the team if applicable.
- Alignment with the opportunity theme.
- Description of partner contributions and background intellectual property, if applicable.
- Equity, diversity, and inclusion (EDI) in the research team and inclusion of Early Career Researchers (as applicable).
- References are not needed but these and figures may be attached if deemed necessary.

### b. Budget

- Complete the budget table and justification in the application form.
- Attach a one-page **budget justification** to your application. The budget justification must clearly explain and justify all proposed expenditures.
- The budget must follow the expenditures guidelines listed above under “Budget Requirements and Restrictions.”

c. **Curriculum Vitae (CV) (max 3 pages):** Attach an abbreviated Biosketch or CV for the lead PI only. You may use an abbreviated version of an existing CCV or Biosketch.

## 8. Submissions

- **Proposals will be submitted through the [BW5G Portal](#) within the Western Research web site.** It is the responsibility of the applicant to ensure that all conditions are met and that all application forms are complete and submitted to Research Western as required. Late, ineligible or incomplete applications will not be accepted.
- A ROLA proposal is required at application stage and the ROLA opportunity for proposal submission is [available here](#).

## 9. Adjudication

- Applications will be reviewed and adjudicated by the BW5G Advisory Committee which is comprised of four Bell Canada, three to four Western Research personnel, and one Western researcher. The objective

of this distribution is to ensure Bell and Western sensitivities and objectives are met by the funded proposals.

- Additional committee members with topic-specific expertise may be consulted as needed.
- Ineligible proposals will not be reviewed. To be considered under this program, proposals must meet the eligibility criteria and all sections must be addressed.

## **10. Review Criteria**

### **Application Review Criteria**

When evaluating applications, the committee will use the following criteria questions to determine their overall score:

- 1. Alignment with proposed theme.**
- 2. Clarity of purpose**
- 3. Clear Innovation, Novelty and impact of the Project**
  - Are the project purpose and goals presented clearly, relevant, and addressed well by the described methodology.
  - Does the proposal outline a novel and innovative project, not previously applied in the field?
  - Do the methods require novel thinking about the problem presented and differ from conventional approaches?

## **11. Certifications**

- All research proposals involving ethics (human subjects), animal subjects or biohazardous materials must be approved by the appropriate Western certification review committee. Applicants must indicate at the Full Application stage whether they require approval for the use of human or animal subjects or biohazardous materials. For more information on the certification approval process, please visit the relevant [Ethics](#), [Animal Use](#) or [Bio Hazard](#) websites.
- Support for development of ethics protocols and expedited evaluation will be provided for successful applications through Western's [Office of Research Ethics & Integrity](#) and should be initiated immediately following receipt of award confirmation. We recommend all interested parties contact the Office of Research Ethics & Integrity for a brief consultation **prior to** proposal submission to ensure ethical and public health issues are feasible.

## **12. Project Time Period**

All grants will be available for a period of up to one year.

## **13. Final Reporting**

Within two (2) months of the termination of the award, awardees must email a [final report](#) to Western Research Internal Grants [intgrant@uwo.ca](mailto:intgrant@uwo.ca).

## **14. General Internal Grant Budget Guidelines**

A budget and detailed justification must be included in your application. To avoid arbitrary decisions on the appropriate level of funding, detailed explanations of costs must be provided.

### Ineligible Expenses:

- Travel, even for the purposes of data collection

- Dissemination costs

### Personnel

Personnel costs to hire Research Assistants and to support HQP/trainee development may be requested. Western will be the employer of any personnel hired using project funds; therefore, researchers must pay appropriate wages and include benefits at established rates. Current employee benefit rates can be found in the Benefit Recovery Rates section located on the [HR Services webpage \(see Researcher Toolbox\)](#).

The employment category for "research assistants/associates" has the widest flexibility in pay levels and is the most difficult in which to determine appropriate levels. Colleagues, your department, or Human Resources (and the Research Toolbox) are reliable sources of information.

The budget justification must include a description of the duties of the personnel requested, the required qualifications, and an explanation as to why the position is necessary to the project. Workload should be shown to justify the amount of time the person will be employed on the project.

### Supplies & Services

Whenever appropriate, numbers of units and unit costs should be explained. Quotes from suppliers should be provided for purchased services, e.g., computing or equipment repairs.

### Equipment

It is expected that equipment costs will be limited to a maximum of \$5,000 and pertain to the direct costs of research. If additional equipment is needed to complete the research, the BW5G Advisory Committee will advise on potential third party supports that are compatible with the interests of both Bell Canada and Western. Otherwise, all equipment purchased with internal grant funds becomes the property of The University of Western Ontario. Written quotes, or advertisements giving prices, must accompany the application.

### Computing Equipment & Software

The committees will review requests for computers and related equipment and software; however, the request must be necessary for the conduct of the research activity described in the application and not for general or personal computing.

## **15. Contact Information**

Internal competitions are administered by Research Western, Room 5150, Support Services Building. Please direct questions [Caroline Calmettes](#).