



NSERC USRA and other Undergraduate Summer Research Opportunities (2024)

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Undergraduate Summer Research Awards

- Provides undergraduate students an opportunity to gain research experience by participating in research activities in a research lab under the supervision of a faculty member
- Duration: 16 consecutive weeks (full-time) from May to August
- Financial support is provided
- Part-time hours and vacation leave are not allowed

Types of Awards

- NSERC Undergraduate Summer Research Scholarship (USRA)
- Western Undergraduate Student Research Internship (USRI)
- Dean's Award
- Summer Research Award
- Northern Tornadoes Summer Research Internship

- All awards provide similar summer research experiences for undergraduate students
- Minimum financial support is \$8,680 for the 16-week period for USRA and USRI, \$7,500 for Dean's award and Summer Research Award.
- Students often receive more than the minimum amount
- Some differences in eligibility
- Do not consider it as a summer job but rather a funded opportunity to gain research experience
- A great opportunity to try out research...UG thesis? Grad school?

What is NSERC USRA?

- A Student Award provided by the Natural Sciences and Engineering Research Council of Canada (NSERC)
- Allows Undergraduate students an opportunity to participate in Research activities, and stimulates students' research interest
- Provide financial support for research experience through the host university
- NSERC encourages qualified Indigenous students to apply to this program

Eligibility

- Canadian Citizen or Permanent Resident
- Registered full-time student in the term immediately before the award
- Do not hold higher degrees in natural science or engineering
- Minimum cumulative 78% (B+)
- Have not begun a graduate program prior to the tenure of award
- Not enrolled in a professional degree (M.D., D.D.S., B.Sc.N.)

Western Undergraduate Student Research Internship (USRI)

- A student award provided by Western Research
- Same value as NSERC USRA
- Programming is similar to NSERC USRA, enhanced by additional professional development opportunities hosted by Student Experience and Western Libraries
- Program concludes with an exhibition event held at the end of the summer

Eligibility

- Canadian Citizen/Permanent Resident, and international students may be considered
- Registered full-time student in the term immediately before the award
- Do not hold higher degrees in natural science or engineering
- Minimum cumulative 70% (B-)
- Have not begun a graduate program prior to the tenure of award
- Not enrolled in a professional degree (M.D., D.D.S., B.Sc.N.)

Dean's Award

- Similar programming as NSERC USRA
- Open to Canadian citizens/permanent residents and international students
- Minimum cumulative average of 70% (B-)
- This award is paid with a combination of funds from the student's supervisor and the Faculty of Engineering

Summer Research Award

- Similar programing as NSERC USRA
- Open to Canadian citizens/permanent residents and international students
- Minimum cumulative average of 70% (B-)
- This award is paid by the student's supervisor

Northern Tornadoes Project/Northern Hail Project 2023 Summer Internships

Eligibility:

- Canadian citizen or landed immigrant
- Registered in any undergraduate university program at a Canadian university (senior high school students may be considered)
- Be available from May 15 – August 30, 2024

Available internships include:

- Northern Tornadoes Project - Field Internship (Post-Event Tornado Damage Surveys)
- Northern Hail Project - Field Internship (Real-Time Hailstorm Chasing)
- Northern Tornadoes Project - Research Internship
- Northern Hail Project - Research Internship

The hailstone collection work will be based out of Red Deer (TBC) and travel stipends will be provided. For those interested in the collection work, storm chasing experience and a good driving record will be considered assets.

Applications close Friday, January 26, 2024. For more information, visit:

<https://www.eng.uwo.ca/graduate/funding/nserc-usra.html>

or email ntp@uwo.ca



Before Applying for Summer Research Awards

- Most of these awards are competitive and the selection criteria is primarily based on the academic average
- Ensure that your academic average is at or above the required minimum average
- A Faculty Supervisor is **required** who is willing to serve as the research supervisor
- Reach out to faculty members whose research fields are of interest to you
- Arrange a meeting with them and discuss about potential summer project(s)
- Before applying, ensure that you have the confirmation and agreement of a Faculty Supervisor

How to Apply

- The Faculty of Engineering is administering a SINGLE APPLICATION for students to be considered for all summer award competitions ([APPLICATION LINK HERE](#))
- Domestic students who are interested in being considered for NSERC USRA must also be required to submit an application through the [NSERC USRA website](#)

NOTE: Any application submitted to NSERC without the endorsement of the Faculty Graduate Office will NOT be considered.

Application deadline: Friday, January 26, 2024

Graduate and Postdoctoral Studies

[Future Students](#)

[Current Students](#)

[Postdoctoral Studies](#)

[International Students](#)

[Academic Support](#)

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Undergraduate Summer Research Awards



Contact

Graduate & Postdoctoral Studies
Spencer Engineering Building
Room 2079
Western University
[Contact Form](#)

Western Engineering offers different types of undergraduate summer research awards (see below for details). The awards will be administered through a SINGLE APPLICATION for students to be considered for all summer award competitions.

Western Students APPLY HERE
Non-Western Students APPLY HERE

Undergraduate Student Research Awards

- ▶ [NSERC USRA](#)
- ▶ [Western Undergraduate Summer Research Internship](#)
- ▶ [Dean's Award](#)
- ▶ [Student Research Awards \(SRA\)](#)
- ▶ [Bill & Barbara Etherington Undergraduate Research Fellowship](#)
- ▶ [Northern Tornadoes Project 2023 Summer Research Internships](#)
- ▶ [Frugal Biomedical Summer Research Internships](#)

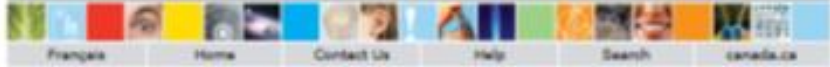
Resources:

[Undergraduate Summer Research Presentation November 2021](#)



Natural Sciences and Engineering Research Council of Canada

www.nserc-crsng.gc.ca



Home > On-line Services

On-line Services

- On-line System Overview
- FDSR Overview
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Our on-line services are designed to give you easier access to NSERC's on-line systems.

Update on NSERC's Research Portal
As of spring 2013, researchers and institutional administrators will use the Research Portal and the Canadian Common CV to apply to some NSERC programs and to review/approve applications. For more information, please consult the [Resource Centre](#).

Accessibility Notice
If you cannot access the following content, please contact the On-line Services Helpdesk by e-mail at webapp@nserc-crsng.gc.ca or by telephone at 613-995-4273. Indicate the e-mail address and telephone number where you can be reached.

PILOT SITE NOTICE
Our Pilot Site is no longer available. The On-line System may be used for training purposes; however, test applications must not be submitted to NSERC.

For Authorized Institutional Representatives: Before you register to access the On-line System or the Financial Data Submission and Reconciliation (FDSR) System, ensure that you have completed, signed and emailed the pertinent registration form to NSERC and read the instructions and the frequently asked questions provided. You will find the forms, instructions and frequently asked questions, for one or the other system, at the [On-line System Overview](#) and [FDSR Overview](#) pages.

On-line System Users
Select [On-line System Login](#) to create or access an application.

- First-Time User? Please [Register](#)
- [Frequently Asked Questions](#)
- [Forms in PDF Format and Instructions](#)

[On-line System Login](#)

https://www.nserc-crsng.gc.ca/OnlineServices-ServicesEnLigne/Index_eng.asp



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Note: NSERC's online system has been updated to a new look and feel. Functionality is the same, but you will notice some slight changes in the presentation of most pages. For example, some instructions are now collapsible.

Security, Privacy and Use and Disclosure of Information

Before using NSERC's online system, please read the following documents and register your acceptance below:

- NSERC's [Security Statement](#) and details on the retention periods of the data;
- NSERC's statement on the federal [Access to Information Act and Privacy Act](#);
- For applicants and co-applicants: [Use and Disclosure of Personal Information Provided to NSERC](#); and
- For Referees: [Instructions to Referees on the Privacy Act, Confidentiality and the Use and Disclosure of Information](#).

When you login and use this system, it means that you understand and accept that these policies and conditions apply.

You will be automatically logged out of the system if there has not been any activity (e.g., Save, Preview, etc.) for an extended period of time. To avoid having to login again, we recommend that you select **Save** every 10 to 15 minutes.

Account name (User ID) (30 chars)
[Forgot your Account name?](#)

Password (10 chars)
[Forgot your Password?](#)

How to apply (cont'd)

Form 202 Part I –Student

- Upon completion of Part I, the system generates a **Reference #** that you provide to your supervisor so they can complete Form 202 Part II
- NSERC **PIN**–leave field blank if this is your 1st application to NSERC (the system will assign you a PIN)
- “Official” transcripts not required for students registered at & intending to complete their USRA at Western. However, transcripts must meet *specific requirements*. Western’s “**Academic Record**” is acceptable

How to apply (cont'd)

Form 202 Part II -Supervisor

- Links to *Part I* by logging into the Online System and entering the **Reference #** the student provides
- Provides:
 1. a description of the project* (must be NSE focused)
 2. a clear description of the student's role, and
 3. the expected quality of the training to be received
- 'Submits' in Online System to *Western Research*

FORM 202 - Student



Natural Sciences and Engineering
Research Council of Canada

Conseil de recherches en sciences
naturelles et en génie du Canada

FORM 202 - PART I

Application for an Undergraduate Student Research Award (USRA) or Experience Award

System-ID 381102381
Date 2019/11/13

Reference No. 433415

Family name of student Kilianski	Given name Lotise	Initial(s) of all given names E	Personal Identification no. (PIN) Valid 485208
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ACADEMIC BACKGROUND (including ongoing postsecondary degree)

Degree	Name of discipline	Institution	Department	Year and month of expected degree completion
Bachelor's	Biology	Western Ontario	Biology	2022/04

At the time of application, you are attending a postsecondary institution? <input checked="" type="checkbox"/> full time? <input type="checkbox"/> part time?	Have you ever held a USRA or Experience Award (previously IUSRA) in the past? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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SCHOLARSHIPS AND OTHER AWARDS RECEIVED (start with most recent and include NSERC awards)

Name of award	Location of tenure	Period held (yyyy/mm - yyyy/mm)
Best Dressed	Western Ontario	2018/01 - 2018/01

OTHER INFORMATION

Citizenship <input checked="" type="checkbox"/> Canadian citizen <input type="checkbox"/> Permanent resident (Indicate date of landing as stated on official immigration document)

Language of correspondence <input checked="" type="checkbox"/> English <input type="checkbox"/> French	Consent to sharing information for joint-funding opportunity <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Current address 1393 Western Road SSB 5150 London ON N6G1G9 CANADA	Permanent mailing address (if different from current address) 555 Main Street Hamilton ON A1A1A1 CANADA
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If current address is temporary, indicate leaving date	Telephone number at permanent mailing address 519-5555555
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Telephone number at current address 519-6612111	E-mail address lotise.kilianski@uwo.ca
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Form 202-1 (2016 W)

Personal information collected on this form and appendices will be stored in the Personal Information Bank for the appropriate program.

Version française disponible



PROTECTED WHEN COMPLETED

FORM 202 - Student

Reference number:

FORM 202 - PART I
Application for an Undergraduate Student Research Award (USRA) or
Experience Award

Reference No. 433415

System-ID 381102381
Date 2019/11/13

FORM 202 - Supervisor



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[Project Profile >](#)

Form

Form 202 Part II - Project Profile

- Project Profile
- Supervisor Profile
- Current Employment
- Address at Location of Tenure
- Outline of Proposed Research Project
- Preview Student's Form (Part I)
- University Comments

Program Undergraduate Student Research Awards

Student name Kilianski, Louise

Student Reference Number 433415

Proposed work term Summer **Year** 2020 yyyy

Title of proposed research project Project title (100 chars)

Research subject code ANIMAL BIOLOGY

Application language English French

Institution that will administer the award Western Ontario

Department Biology

Save	Preview	Portfolio	Instructions	Logout
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NSERC application support

- NSERC has a short, helpful **Online Tutorial** (~8 minutes) http://www.nserc-crsng.gc.ca/Students-Etudiants/Videos-Videos/usra-brpct_eng.asp
- Visit Western's [USRA web page](#)

Potential projects

- **A Faculty member is required for the submission of application**
- **Faculty member completes the Part-II of Form 202 with the project description and agrees to provide the stipend for the Award**
- **Several faculty members in MME have projects for USRA students**
- **Some faculty members have provided a brief project description**
- **You may also contact faculty members directly if you are interested in a particular research area**

Research Area: Thermo-fluids

Prof. C. DeGroot (christopher.degroot@uwo.ca)

1. Quantifying greenhouse gas emissions in wastewater collection and treatment systems
2. Nature-based stormwater treatment

Prof. A. Straatman (astraatman@eng.uwo.ca)

1. Computational analysis of phase change in packed beds of spherical encapsulated PCMs

Research Area: Design and Manufacturing

Prof. H. Shi (hshi265@uwo.ca)

1. Fibre-based Energy Storage Devices via Co-axial Electrospinning
2. Biocompatible skin-mounted biosensors

Prof. O.R. Tutunea-Fatan (rtutunea@eng.uwo.ca)

1. Fabrication of microstructures for enhanced surface functionality: aero/hydro-dynamic, fouling resistant, iceophobic, etc.
2. The use of machine learning and artificial intelligence towards the automatic control and monitoring of computer numerically controlled (CNC)-driven micromanufacturing processes such as single point diamond cutting and laser polishing.

Research Area: Biomechanics

Prof. L. Ferreira (lferreir@uwo.ca):

1. Full-field strain characterization of 3D-printed bone with high-resolution micro-CT scanning and digital volume correlation.
2. Robotic control of an in-vitro human joint loading system for micro-CT imaging with strain field measurement.
3. Robotic bone machining for craniofacial reconstruction.

Prof. H. Mao (hmao8@uwo.ca)

1. Concussion/brain trauma and helmet research
2. Automotive safety involving active and passive safety techniques
3. Using machine learning and data mining to handle brain biomechanical and biomedical data, including brain strains and image

Research Area: Biomechanics

Prof. R. Willing (rwilling@uwo.ca):

1. Development of a “knee-knocker” for measuring knee instability during walking
2. Development of an electropneumatic control system for a joint loading machine
3. Evaluating the performance of a self-powered “smart” knee implant

Research Area: Materials and Solid Mechanics

Prof. H. Abdolvand (hamid.abdolvand@uwo.ca)

1. High temperature deformation of nickel superalloys for small nuclear reactors
2. Effects of ion irradiation on deformation and failure of nickel superalloys
3. Hydrogen embrittlement of zirconium alloys used in CANDU nuclear reactors
4. Strain measurement using high-resolution electron microscopes

Prof. Y. Zhao (yzhao628@uwo.ca)

1. solid-state batteries (one or two projects)

Accelerated Master of Engineering Science (MEngSc) Program

To complete the MEngSc degree through one extra year of study beyond the BEngSc program

How to Apply and Requirements

- Students who work in the summer prior to beginning their 4th year of study through summer research program in Engineering (NSERC USRA, Dean's Award or other Summer Research Award) are eligible to apply.
- The applicant must have at least 78% cumulative average based on 2nd and 3rd years of the undergraduate program.
- Canadian citizens, permanent residents and international students are all eligible to apply.
- Interested students must complete an online application for graduate studies (Accelerated MEngSc program) no later than August 1st prior to beginning their 4th year of study.

Accelerated Master of Engineering Science (MESc) Program

Program Format

During the 4th year of undergraduate program, the student,

- Register in the thesis course (1.0 credit), substituting two 4th year technical electives. The thesis course should be the continuation of the work conducted during the summer before
- Take one graduate level course as a substitute for a 4th year technical elective
- Complete rest of the courses and other requirements for BEMSc program
- May take (optional) one graduate course as an overload. To be counted as a credit the graduate degree
- Maintain a cumulative average of 78% based on 3rd and 4th years of the undergraduate program
- Satisfactory performance in research as determined by the supervisor

Starts MESc program in May (immediately after completing BEMSc degree)

- Take two or three graduate courses and complete research and thesis

Accelerated Master of Engineering Science (MEngSc) Program

Program Format

Undergraduate (BEngSc) Program		Graduate (MEngSc) Program	
Summer term before 4 th year	4 th year (Sept. –Apr)	Summer term after 4 th year	Subsequent terms
<ul style="list-style-type: none"> Research begins in supervisor’s lab 	<ul style="list-style-type: none"> Thesis course One graduate course Second graduate course (optional) Other 4th year course requirements 	<ul style="list-style-type: none"> Graduate studies begin 	<ul style="list-style-type: none"> Two or three graduate courses Research work Thesis writing
Typically funded through NSERC USRA or Dean’s Award	No financial support provided	Fully funded program that covers tuition fee plus a living allowance of at least \$14,200/year	