Natural Sciences and Engineering Research Council
Undergraduate Student Research Award

The Department of Biology deadline is:
Friday, February 7th, 2025 4:00pm
No late applications will be accepted

Please email information to Beata Malczewski (bmalcze@uwo.ca)

NSERC website: www.nserc.ca

What are these awards for?
Undergraduate Student Research Awards (USRA) are meant to stimulate your interest in research in the natural sciences and engineering. They are also meant to encourage you to undertake graduate studies and pursue a research career in these fields. If you would like to gain research work experience that complements your studies in an academic setting, these awards can provide you with financial support through your host university. NSERC encourages qualified Aboriginal students to apply for this award.

Are you eligible for an award?
To be eligible to apply for an award, you must:

- be a Canadian citizen or permanent resident of Canada;
- be registered, at the time you apply, in a bachelor's degree program at an eligible university; and
- have obtained, over the previous years of study, a cumulative average of 80%.

In addition...

- If you already hold a bachelor's degree and are studying toward a second bachelor's degree, you may still apply to this program.
- You may hold only one USRA per fiscal year (April 1 to March 31).
- You may hold a maximum of three USRAs throughout your university career. To hold an award, you must:
- have completed all the course requirements of at least the first year of university study (or two academic terms) of your bachelor's degree;
- have been registered in the term immediately before holding the award in a bachelor's degree program at an eligible university;
- not have started a program of graduate studies in the natural sciences or engineering; and
- be engaged on a full-time basis in research and development activities in the natural sciences or engineering during the tenure of the award.

Who is not eligible?

You are not eligible for an Undergraduate Student Research Award if:

- you are currently enrolled in an undergraduate professional degree program in the health sciences (e.g., MD, DDS, BScN); or
- you hold higher degrees in the natural sciences or engineering.

Value of awards

These awards have a value of $9,632 for a full 16-week period.

Universities are required to supplement the amount of the award by at least 25 percent of its value using other sources, such as university funds, NSERC grants, or any other research funds. Universities may also provide fringe benefits.

NSERC will not reimburse the university for any period during which you worked part-time. No payment will be approved for any vacation leave you take during the tenure of the award.

Duration of awards

The duration of the award is 16 consecutive weeks on a full-time basis.

You may hold an award at any time during the year as permitted by your academic program.

Tenure may start on a date acceptable to both you and your host institution.

How do you apply?

To apply for these awards, you must complete an Application for an Undergraduate Student Research Award Part I (Form 202) online at http://www.nserc.gc.ca/forms/formtable_e.htm. Just follow the instructions and email a copy to Beata Malczewski at bmalcze@uwo.ca by February 7th, 2025. Students complete only Part 1. Please fill out the Access to Academic Records Form and forward it to bmalcze@uwo.ca and your transcripts will be emailed to you. The proposed supervisor must complete Part II of Form 202 and email a copy to bmalcze@uwo.ca by Friday, February 7th, 2025. The whole application is to be typed.

Award decisions

Each university will inform applicants of its award decisions after it has completed its selection process.

Payment of awards

NSERC will pay its contribution directly to the university. You will receive your payment from the university. The university will issue payments to you for the total value of the award in accordance with its pay procedures. It will also issue a T4 or T4A slip (Statement of Income) to you at the end of the calendar year.

DEPARTMENTAL PROCEDURE

STEPS IN APPLYING FOR AN NSERC
UNDERGRADUATE STUDENT RESEARCH AWARD (USRA) IN BIOLOGY

Deadline: Friday, February 7th, 2025 (tentative) @ 4:00 pm

Details about the award can be found:
https://www.nserc-crsng.gc.ca/students-etudiants/ug-pc/usra-brpc_eng.asp

1) Find a faculty member in the Department of Biology to be your supervisor. This person no longer needs to hold an NSERC grant.

2) After finding a supervisor, notify Beata Malczewski (bmalcze@uwo.ca) that you are applying, (**especially if you are not from Western)** then complete the application form:

   a) Go to the NSERC website (http://www.nserc-crsng.gc.ca/OnlineServicesservicesEnLigne/Index_eng.asp) and follow the links from 'PDF Forms and Instructions'. Complete the application form online.

   b) Go to this video for help with filling in your application (very useful for first-time applicants). http://www.nserc-crsng.gc.ca/Students-Etudiants/VideosVideos/usra-brpct_eng.asp

   c) Make sure you use your UWO e-mail address.

   d) Complete an 'Access to Academic Records Form of Consent' and e-mail it to Beata Malczewski (bmalcze@uwo.ca) which will allow her to pull your academic transcript and e-mail it to you.

   e) NSERC requires students to upload their academic transcript before allowing them to print off their application, so complete step (d) as soon as possible. Once you have your academic record upload the file to NSERC.

      IMPORTANT information: Please do ***not*** hit "submit" in the NSERC Online System until after uploading, the correct "Academic Record" - that's accurate to **Dec. 31, 2024**.

(Your name, the university's name, and the program in which you're enrolled appear. Grades up to ***December 31st*** of the year preceding the award are included. Western's **"Academic Record"** format meets NSERC's transcript requirements. (N.B. students can't access the Academic Record on their own; transcripts such as those printed from a student's account do not meet NSERC's requirements as there is insufficient identifying information).
If you are undertaking a USRA at Western but your **home university is different**, you must attach an official transcript from your home university to your online application, including the legend).

3) Complete a 'Biology Student Statement Form.'

4) Prepare a 1-2 page resume.

5) **Please email the signed copy of your application form, the 'Biology Student Statement Form', and your resume to** Beata Malczewski (bmalcze@uwo.ca)

Faculty members interested in accepting NSERC USRA and/or WSRI USRI students.

Note: Students can approach other Biology Faculty Members not listed below.

A complete list of Biology faculty members is located at:
http://www.uwo.ca/biology/people/faculty.htm

Dr. Robert Buchkowski, BGS 2074, Ext. 88969, rbuchkow@uwo.ca
Website: https://nmuwo.wordpress.com/

Project proposal: We work on terrestrial ecology and climate change. Ongoing projects include studying animal effects on carbon cycling, soil carbon storage, and soil biodiversity. USRA/USRI projects focused on field work (in Ontario or New Brunswick), laboratory experiments with soil and soil fauna, or computational modelling are all possible. Please reach out if you're interested or have a project in mind we might be able to support.

Dr. T. DeFalco, NCB 465, Ext. 81475, tdefalc@uwo.ca
Website: https://scholar.google.ch/citations?hl=en&user=KlOgpxsAAAAJ

Project proposal: Receptor kinase signalling in plant stress
We use a variety of molecular, biochemical, and genetic approaches to decipher how plants respond to environmental perturbations at the cellular level. The project will involve identifying and characterizing protein kinases and their substrates that function in receptor kinase (RK) signalling pathways.

Dr. G. Kelly, WSC 359, Ext. 83121, gkelly@uwo.ca
Website: http://www.uwo.ca/biology/directory/faculty/kelly.html
Also, check out website: //thekellylab.weebly.com (Access via Wifi)

Project proposal: Wnt and Hedgehog signaling pathways in embryonic and cancer cells.

Dr. S. Kohalmi, WSC 319, Ext. 86485, skohalmi@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/kohalmi/index.htm

Project proposal: Sequence to Function: the ADT Gene Family
Then come and check out the world of Arabidopsis. Our lab is interested to understand how members of a gene family are regulated, respond to environmental stresses, differ or overlap in their function, are targeted to subcellular compartments and contribute to a functional plant. Intrigued? Ask for more information and stop by for a chat.

Dr. K. Hill, WSC 333, Ext. 81337, khill22@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/hill/index.htm

Project proposal: NSERC-USRA/USRI researchers in the Hill lab this summer 2025 will be engaged and wet and dry bench work aimed at discovery/detection of acquire mutations in mice. We will be using techniques of whole genome sequencing and other brand new DNA sequencing methodologies of CarcSeq targeted error corrected sequencing and CODEC untargeted ultradeep genome sequencing. The dry bench work is in silico bioinformatics variant discovery and characterization. The variants are point mutations and large structural deletion, duplication and inseetion mutations. This work is in the context of normal mouse development and in the context of primary tumors and secondary metastases. We also have data visualization tools, statistical tools and machine learning algorithms that we will be applying in our work.

Dr. Z. Lindo, B&GS 2034, Ext. 82284, zlindo@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/lindoP/index.htm

Project proposal: Understanding seasonal dynamics within soil biological communities it is of great interest in ecology and can help us better predict how communities will react to climate change and establish strategies to promote the conservation of biodiversity. The student will perform field work including soil sampling, soil analysis and microarthropod identification in a local environmentally significant area located in London, Ontario.

Dr. N. MacBean, SSC 2412, Ext. 85008, nmacbean@uwo.ca
Website: https://www.uwo.ca/biology/people/faculty.html#NMacBean

Project Proposal: Understanding and modeling dryland ecosystem processes. Depending on experience and interests, the project will involve computational analysis of data and model outputs to better understand dryland carbon cycling and sensitivity to climate variables.

Dr. N. Mhatre, B&GS 3023, Ext. 84505, nmhatre@uwo.ca
Website: www.natashamhatre.net

Project proposal: Studying vibrational communication in spiders, or acoustic communication in crickets.

Dr. B. Neff, Collip 204, Ext. 82532, bneff@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/neff/index.htm

Project proposal: Behavioural and Conservation of Fishes.

Dr. M. Pyne, B&GS 2030, Ext. TBA, mpyne3@uwo.ca
Website: https://scholar.google.ch/citations?user=i4LlrHYAAAAJ&hl=en

Potential project: Engineering yeast for production of dauricine, a potential plant chemotherapeutic

Dr. A. Percival-Smith, WSC 305, Ext. 84015, aperciva@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/percivalsmith/index.htm

Project proposal: Phenotypic non-specificity of Transcription Factor Function in Yeast.

Dr. V. Tai, B&GS 2028, Ext. 86209, vtai4@uwo.ca
Website: https://www.uwo.ca/biology/directory/faculty/tai.html
Project Proposal: Using molecular and genetic tools to investigate phytoplankton and aquatic microbiomes. Investigating mechanisms of corrosion by bacteria.

Dr. R. Thomas, rthoma2@uwo.ca
Website: https://raymondthomaslipidlab.com/
Research Interests:
o Nootropic and Functional Foods Innovation,
o Lipid Bioinformatics/Novel Lipidomics Workflow/Method Development
o Foodomics/Food metabolomics/Food Metabolism/Food as Medicine/Food Informatics/Food Arts
o Brain Health/Neurolipidomics/Short chain fatty acids induced brain stress
o Lipid Metabolism in Environmental Stress Biology, Boreal Agriculture/Ecosystem/Climate
o Green Food grade extraction systems

o Lipid metabolism in Boreal Forest reclamation/restoration
o Food circularity, adaptative, sustainable food systems
o Bioresource full utilization/Circular economy
o Nanotechnology in boreal forest reclamation/sustainable food systems

Dr. G. Thorn, B&GS 3047, Ext. 88647, rgthorn@uwo.ca
Website: https://publish.uwo.ca/~rgthorn/

Project proposal: Projects on the systematics of mushroom fungi, using phylogenetic analyses of rDNA (and possibly other) sequences.

Dr. Timoshenko, BGS 3032, Ext. 88900, atimoshe@uwo.ca
Website: https://www.uwo.ca/biology/faculty/timoshenko/

Project proposal: Cell and molecular biology of tissue-specific galectins.

Dr. L. Zanette, CB 207, Ext. 88316, lzanette@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/zanette/index.htm

Project proposal: How the fear of predators affects wildlife prey: from birds to African elephants.

Opportunities at Agriculture and Agri-Food Canada:

Dr. Sangeeta Dhaubhadel, Agriculture and Agri-Food Canada, 519-953-6616
sangeeta.dhaubhadel@canada.ca

Project proposal: Genomics of legume specialized metabolism.

Dr. Abdelali Hannoufa, Agriculture and Agri-Food Canada, 519-953-6621
abdelali.hannoufa@canada.ca

Project proposal: The student will work on abiotic stress tolerance in plants, and will receive training in molecular biology, biotechnology, and plant physiology.