

**Natural Sciences and Engineering Research Council  
Undergraduate Student Research Award**

**The Department of Biology deadline is:**

**Friday, January 19, 2024**

**No late applications will be accepted**

Please email information to Beata Malczewski ([bmalcze@uwo.ca](mailto:bmalcze@uwo.ca))

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**NSERC website:** [www.nserc.ca](http://www.nserc.ca)

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**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 \$6,000 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](http://www.nserc.gc.ca/forms/formtable_e.htm). Just follow the instructions and email a copy to Beata Malczewski at [bmalcze@uwo.ca](mailto:bmalcze@uwo.ca) by January 19, 2024. Students complete only Part 1. Please fill out the [Access to Academic Records Form](#) and forward it to [bmalcze@uwo.ca](mailto: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](mailto:bmalcze@uwo.ca) by Friday, January 19, 2024. 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.

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## DEPARTMENTAL PROCEDURE

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

**Deadline: Friday, January 19, 2024 @ 4:00 pm**

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#### Details about the award can be found:

[https://www.nserc-crsng.gc.ca/students-etudiants/ug-pc/usra-brpc\\_eng.asp](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](mailto: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/OnlineServiceservicesEnLigne/Index\\_eng.asp](http://www.nserc-crsng.gc.ca/OnlineServiceservicesEnLigne/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](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](mailto: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, 2023**.

(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](mailto:bmalcze@uwo.ca))
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## Interested Faculty

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>

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**Dr. M. Bernards**, BGS 2025, Ext. 86477, [bernards@uwo.ca](mailto:bernards@uwo.ca)

Website: <http://www.uwo.ca/biology/Faculty/bernards/index.htm>

Project proposal: Impact of Solarization on Ginseng Garden Soil

The project will involve working with a team to establish soil solarization test plots, and collecting and analyzing soil samples for changes to the microbial populations.

**Dr. G. Kelly**, WSC 359, Ext. 83121, [gkelly@uwo.ca](mailto:gkelly@uwo.ca)

Website: <http://www.uwo.ca/biology/Faculty/kelly/index.htm>

The Lab theme can be found on the website:

<http://www.uwo.ca/biology/directory/faculty/kelly.html>

Also, check out website "publish.uwo.ca/~gkelly."

**Dr. S. Kohalmi**, WSC 319, Ext. 86485, [skohalmi@uwo.ca](mailto: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](mailto:khill22@uwo.ca)

Website: <http://www.uwo.ca/biology/Faculty/hill/index.htm>

Potential project: In the K Hill laboratory, 2022 projects for undergraduate NSERCUSRA awardees will involve the study of factors that determine mutation signatures and determinants of genome sequence organization. We use in silico, bioinformatics tools and supervised and unsupervised machine learning to classify mutation signatures and genomic signatures. We study mechanisms of mutation and we discover factors that determine mutation signatures and genomic signatures. Wet bench work will involve confirming genetic variants discovered to be associated with new meiotic mechanisms of de novo mutation.

**Dr. Z. Lindo**, BGS 2034, Ext. 82284, [zlindo@uwo.ca](mailto:zlindo@uwo.ca)

Website: <http://www.uwo.ca/biology/Faculty/lindoP/index.htm>

Project proposal: Climate change effects on boreal peatland plant communities Ongoing climate change experiments across two peatland sites in northern Ontario demonstrate shifts in plant community composition. The student will travel to remote peatlands, perform vegetation surveys, and generate data for a long-term experiment. Previous field experience preferred. Valid G class (full) driver's license is mandatory.

**Dr. J. McNeil**, B&GS 3066, Ext. 83487, [jmcneil2@uwo.ca](mailto:jmcneil2@uwo.ca)

Website: <http://www.uwo.ca/biology/Faculty/mcneil/index.htm>

Project proposal: Subjects would be related to climate change and the impact on insects (defined in part with the interest of the student).

**Dr. Y. Morbey**, BGS 2074, Ext. 80116, [ymorbey@uwo.ca](mailto:ymorbey@uwo.ca)

Website: <http://www.uwo.ca/biology/Faculty/morbey/index.htm>

Project proposal: Studies on the Ecology and Evolution of Seasonal Timing Behaviour.

**Dr. B. Neff**, Collip 204, Ext. 82532, [bnEFF@uwo.ca](mailto:bnEFF@uwo.ca)

Website: <http://www.uwo.ca/biology/Faculty/neff/index.htm>

Project proposal: Behavioural and Conservation of Fishes.

**Dr. A. Percival-Smith**, WSC 305, Ext. 84015, [aperciva@uwo.ca](mailto: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](mailto:vtai4@uwo.ca)

Website: <https://www.uwo.ca/biology/directory/faculty/tai.html>

Project Proposal: Microbial degradation and ecotoxicology in the application of anticorrosion chemical coatings.

**Dr. G. Thompson**, BGS 2968, Ext. 86570, [gthomp6@uwo.ca](mailto:gthomp6@uwo.ca)

Website: <https://www.uwo.ca/biology/faculty/thompson/>

Project proposal: Evolutionary biology of honey bees and their gut microbes. Like bees? Or microbes? Or both? Then help us study how the gut microbiome of honey bees evolved in symbiosis with their host, and how pesticides might jeopardize this relationship within individuals, colonies and landscapes.

**Dr. G. Thorn**, BGS 3047, Ext. 88647, [rgthorn@uwo.ca](mailto: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. L. Zanette**, CB 207, Ext. 88316, [lzanette@uwo.ca](mailto: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](mailto: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](mailto: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.

**Dr. Frédéric Marsolais**, 519-953-6718, [Frederic.marsolais@agr.gc.ca](mailto:Frederic.marsolais@agr.gc.ca)

Agriculture and Agri-Food Canada, 1391 Sandford St.,

Website: <https://profils-profiles.science.gc.ca/en/profile/frederic-marsolais>

Project proposal: Results from our recent research have shown that a pectin acetyltransferase gene, expressed in the seed coat, influences the rate of water absorption and seed germination in common bean (Palmer et al. 2021 Legume Sci 3, e130). The project will examine if similar alleles of this gene influence the same traits in other legume species.

Common bean is special because it accumulates an abundant non-protein amino acid, S-methylcysteine, in seeds. The project examines the fate and biosynthesis of this compound in seed. The work includes chemical and biochemical aspects as well testing gene candidates such as glutathione S-transferases and methyltransferases. The ultimate goal of this work is to improve the protein quality of common bean.

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