Natural Sciences and Engineering Research Council
Undergraduate Student Research Award

The Department of Biology deadline is: January 10, 2019

Deliver to: North Campus Bldg. 301D

Details downloaded from the NSERC site (slightly moderated)
NSERC website: www.nserc.ca
TRANSCRIPTS ARE NOT NECESSARY IF YOU ARE A WESTERN STUDENT.

DEPARTMENTAL PROCEDURE

List of Interested Faculty follows departmental procedure

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 to 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 at least second class (a grade of "B" or "B-," if applicable) as defined by your university.

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 $4,500 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. A travel allowance may also be granted if you take up the award at a university other than the one at which you are currently registered (see Travel allowances for more information). 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 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.

Where can you hold your award?
Once NSERC has approved your USRA for tenure at one particular institution, you may not transfer it to another institution.

You must work under the supervision of a faculty member who holds an active NSERC research grant (e.g., Discovery, CREATE, Strategic, Research Partnerships), either at the time you submit the application or when you hold the award. In addition, faculty members whose research grants terminated on March 31, 2019, but who have been given an extension to use up the remaining funds from April 1, 2019, to March 31, 2020, are eligible to supervise a USRA student in the summer or fall of 2019 or the winter of 2020.

How do you apply?
To apply for these awards, you must complete an Application for an Undergraduate Student Research Award Part I (Form 202) on line at http://www.nserc.gc.ca/forms/formtable_e.htm. Just follow the instructions and print a hard copy and deliver to NCB 301D by January 10, 2019. Students complete only Part 1. Transcripts will be provided by the university. The proposed supervisor must complete Part II of Form 202 and deliver a hard copy to NCB 301D by January 10, 2019. 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

1) Find a faculty member in the Department of Biology to be your supervisor. This person must hold an NSERC grant.

2) After finding a supervisor, notify Stefani Tichbourne (stich@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/OnlineServices-servicesEnLigne/Index_eng.asp) and follow the links from ‘PDF Forms and Instructions’. Complete the application form online.

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

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

   d) Complete an ‘Access to Academic Records Form of Consent’ which will allow Stefani Tichbourne to pull your academic transcript.

   e) NSERC requires students to upload their transcript before allowing them to print off their application. Students must first get their academic record from Stefani Tichbourne (stich@uwo.ca) and then upload the file to NSERC.

   f) Print a hard copy once all has been verified for handing in.

3) Complete a ‘Biology Student Statement Form.’

4) Prepare a 1-2 page resume.

5) Submit a hard copy of your application form, the ‘Access to Academic Records Form of Consent, the ‘Biology Student Statement Form, and your resume to Stefani Tichbourne in NCB 301D.
Interested Faculty
Students can approach other Biology faculty members not listed here but remember the Biology faculty member must hold a NSERC grant.

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

Dr. M. Bernards, BGS 2025, Ext. 86477, bernards@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/bernards/index.htm
Project title: 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
Website: http://www.uwo.ca/biology/Faculty/kelly/index.htm
Project title: Cellular signaling mechanisms that pattern the development of the vertebrate embryo
Check out website "publish.uwo.ca/~gkelly.

Dr. S. Kohalmi, WSC 319, Ext. 86485, skohalmi@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/kohalmi/index.htm
Project title: 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
Potential Projects:
1. Analysis of genomic signatures toward improved analysis of genetic diversity.
2. Analysis of the association between point mutations and structural changes in the mouse genome.
3. Analysis of genomic signatures toward classification of cancer types.
4. Analysis of genomic signatures toward classification of different neurodevelopmental diseases.

Dr. Z. Lindo, BGS 2034, Ext. 82284, zlindo@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/lindo/index.htm
Project: 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.
Research in the Macfie lab focuses on plant stress and spans the fields of physiology and ecology. We have worked on a variety of species and a number of contaminants, with an emphasis on metals. Most of our experiments are done in hydroponic culture in a controlled-environment chamber, but some involve potted plants in the greenhouse or micro-culture on agar-based media. The physiological responses of plants to metal stress have included (i) production of metal-binding molecules, such as phytochelatins and low molecular weight organic acids, (ii) sequestration of metals in non-metabolic sites, and (iii) up-regulation of enzymes to mediate the metal-stress response. On-going projects include investigations of the influence of sulfur and selenium on cadmium uptake and distribution within the plant, the influence of cadmium on the microbial community in the rhizosphere and interactions between silver nanoparticles and plant-microbe symbiosis.

Subject area: Some aspect on insect chemical ecology and/or using isotopes as a tool for studying insect migration

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

Project: Behavioural and Conservation of Fishes.

Projects: Phenotypic non-specificity of Transcription Factor Function in Yeast

Project: 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: Genomics of legume specialized metabolism

Dr. Abdelali Hannoufa, Agriculture and Agri-Food Canada, 519-953-6621
abdelali.hannoufa@canada.ca
The student will work on abiotic stress tolerance in plants, and will receive training in molecular biology, biotechnology, and plant physiology.
Dr. Frederic Marsolais, Agriculture and Agri-Food Canada, 519-953-6718
Frederic.Marsolais@agr.gc.ca
Project: Sulphur amino acid metabolism in seed of common bean
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.