Natural Sciences and Engineering Research Council
Undergraduate Student Research Award

**The Department of Biology deadline is:** January 9, 2017

**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

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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 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, 2017, but who have been given an extension to use up the remaining funds from April 1, 2017, to March 31, 2018, are eligible to supervise a USRA student in the summer or fall of 2017 or the winter of 2018.

**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](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 9, 2017. 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 9, 2017. 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) NSERC requires students to upload their transcript before allowing them to print off their application. Upload your unofficial transcript from U.W.O. for this step.
   e) Print a hard copy once all has been verified for handing in to Stefani Tichourne.

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

4) Complete a ‘Biology Student Statement Form.’

5) Prepare a 1-2 page resume.

6) 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 by January 9, 2017.
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 area: Plant biochemistry and plant pathogen interaction

Dr. G. Kelly, WSC 359, Ext. 83121, gkelly@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/kelly/index.htm
Research Area: Cell-Cell Signaling in Early Embryogenesis
Check out website "publish.uwo.ca/~gkelly.

Dr. N. Keyghobadi, BGS 2076, Ext. 80471, nkeyghob@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/keyghobadi/index.htm
Project: Ecology and genetics of butterflies

Dr. K. Hill, WSC 333, Ext. 81337, khill22@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/hill/index.htm
NSERC-USRA research project KA Hill Laboratory - Mutagenesis
Research in KA Hill's laboratory is focused on discovering new mutation signatures and identifying mutagens and mutational mechanisms relevant to development and aging, phenotypic diversity, and the evolution of genes and genomes. Our discoveries are significant in correcting misconceptions about spontaneous mutations. Our results provide important baselines of spontaneous mutations for future assessments of environmental exposures and compromises to genome integrity. Our technical and analytical expertise is in mutation detection and mutation analysis using single gene assays and genomics platforms. This year's summer NSERC scholars will have the opportunity to test a hypothesis based on a recent observation of increased rates of de novo mutation in heterozygotes. What mutational mechanisms underlie this intriguing observation? Is the genome of heterozygous individuals subject to higher mutation rates? Are heterozygous regions of the genome subject to higher mutation rates? Do copy number variants arise in regions of the genome with high heterozygosity?

Researchers in the Hill laboratory gain expertise in detection and analysis of mutations and mutational mechanisms. Trainees gain knowledge in molecular genetics, mouse biology, mammalian development, histology, genomics and bioinformatics. Trainees are skilled in laboratory animal care, DNA and RNA extraction, array-based SNP genotyping, CNV calling, array-based gene expression assays, PCR, qPCR, droplet digital PCR, in situ immunohistochemistry, along with assays for mouse phenotyping, cell proliferation, apoptosis and DNA damage. Training is provided for R, python programming and biostatistics. Researchers make use of bioinformatics software associated with SNP genotyping, CNV calling, and gene function, network and pathway analysis.
Dr. Norm Huner, NCB 301J, Extg. 86488, nhuner@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/huner/index.htm

Dr. S. Macfie, B&GS 2051, Ext. 86487, smacfie@uwo.ca
Website: http://www.uwo.ca/biology/faculty/macfie/
Project: Research projects in the Macfie are focused on the effects of environmental contaminants on plants. Current contaminants include metals and BACs (an organic constituent of cleaning products). Depending on the specific project, physiological, ecological or genetic techniques are used.

Dr. J. McNeil, B&GS 3066, Ext. 83487, jmcneil2@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/mcneil/index.htm
Subject area: Chemical ecology and behavioural ecology

Dr. A. Moehring, B&GS 2080, Ext 85596, amoehrin@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/moehring/index.htm
Research projects: Behavioural and neural genetics; Genetic basis of sterility

Dr. B. Neff, Collip 204, Ext. 82532, bneff@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/neff/index.htm
Project: Behavioural ecology of fishes.
Understanding how hormones affect behaviour is a major component of Dr. Neff's research program. This project will combine field work on sunfish at the Queen's University Biological Station with molecular and other laboratory analyses at Western University.

Dr. A. Percival-Smith, WSC 305, Ext. 84015, aperciva@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/percivalsmith/index.htm
Projects: (1) Analysis of Sex combs reduced mutant alleles; (2) Analysis of the role of proboscipedia in maxillary palp development; (3) Genetic analysis of the role of the homeodomain in FTZ function

Dr. A. Simon, BGS 3022, Ext. 80084, asimon28@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/simon/index.htm
Project: Gene-environment interaction: using Drosophila to understand the role played in social behavior by neuroligin, a candidate gene for autism

Dr. B. Sinclair, BGS 2078, Ext. 83138, bsincla7@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/sinclair/index.htm

Dr. S. Singh, WSC 307, Ext. 83135, ssingh@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/singh/index.htm
Research Area: Epigenetic studies on a mouse model of fetal alcohol effects during neurodevelopment.
Dr. J. Staples, BGS 3020, Ext. 84057, jfstaple@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/staples/index.htm
Project area: Metabolism in mammalian hibernation

Dr. G. Thompson, BGS 2068, Ext. 86570, graham.thompson@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/thompson/index.htm
Project: Behavioural genetics and sociobiology

Dr. D. Way, BGS 2030, Ext. 88734, dway4@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/way/index.htm
Project: Climate change effects on boreal tree physiology

Dr. L. Zanette, CB 207, Ext. 88316, lzanette@uwo.ca
Website: http://www.uwo.ca/biology/Faculty/zanette/index.htm
Project: Predator-Prey Interactions in birds and mammals

Opportunities at Agriculture and Agri-Food Canada:

Dr. Abdelali Hannoufa, Agriculture and Agri-FoodCanada, 519-457-1470 ext. 638
Abdelali.Hannoufa@agr.gc.ca
Project area: Investigating the role of the miR156/SPL gene regulatory network in abiotic stress tolerance in plants