Graduate Programs in Biology

Western's award winning faculty members, cutting edge research and interdisciplinary environment give you the tools to engage your imagination.

The University of Western Ontario

Explore the possibilities…

UWO is recognized as a world-class research and teaching institution. The faculty and facilities in the Biology Department offer excellent opportunities in both M.Sc. and Ph.D. programs.

Research in the department encompasses the whole spectrum of Biology, and beyond. With more than 100 graduate students and 40 faculty, there is a lively intellectual and social environment within the department and throughout the University community.

Ecology & Evolution

This interdisciplinary group examines issues in ecology and evolution at all levels ranging from species to ecosystems employing traditional and modern molecular techniques:

- aquatic ecosystem assessment
- ecology of weeds and seeds
- watershed processes within forests
- behaviour and ecology of bats
- evolutionary and behavioural ecology of songbirds
- evolution of reproductive behaviour in fishes
- plant ecology, biogeochemistry and global change biology
- yeast ecology and evolution
- behavioural ecology and population genetics of songbirds
- evolution of mammalian life-history strategies
- behavioural and chemical ecology of insects
- evolutionary and behavioural ecology of fish
- evolutionary and dynamic ecology
- bacteria-metal interactions in the natural environment
- fungal ecology and systematics
- aquatic sciences and microbial ecology
- population, conservation and behavioural ecology

Cell & Molecular Biology

Multidisciplinary research with emphasis on the cell, molecular and developmental genetics of Drosophila, Arabadopsis, zebrafish, frog and mouse and humans.

- regulation of gene expression
- extracellular matrix remodelling
- fungal genetics and cell biology
- fungal cell and molecular biology
- evolution of developmental mechanisms
- *Arabidopsis* developmental genetics
- mutation analysis, genome organisation and integrity
- cell signaling in vertebrate embryos
- molecular biology of flowering
- protein folding/ hormone regulation/ functional genomics
- comparative vertebrate histology
- molecular mechanisms of morphogenesis
- signaling mechanisms of human blood flukes and trypanosomes
- molecular genetics of complex diseases and phenotypes
- hormonal regulatory mechanisms

Biochemistry & Physiology

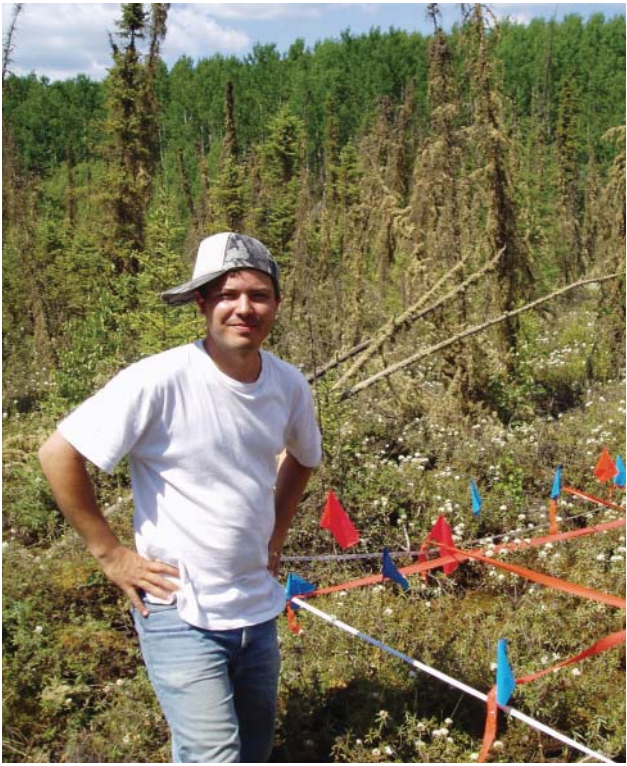
Research focuses on the integration of physiological and metabolic processes from the molecular to the whole organism level in both plants and animals.

- plant secondary metabolism
- membrane transport of neurotransmitters in insects
- animal ecological and evolutionary physiology
- environmental plant physiology
- plant physiology and photobiology
- photosynthesis and energy sensing
- mechanisms of metal tolerance
- mitochondria, cell death, stress signaling
- physiology and biochemistry of fish
- biology of marine invertebrates
- comparative physiology and biochemistry
- vertebrate reproducitve endocrinology
- role of glycans in proteomics

Other Research Opportunities

Biology has links with graduate programs in:
• Environmental Science • Neuroscience • Earth Sciences • Geography • Medical Sciences • Psychology • Developmental Biology

Some students pursue research projects in conjunction with external agencies including:
• Agriculture and Agri-Food Canada • Algonquin Wildlife Research Station (Ontario) • Delta Waterfowl Research Station (Manitoba) • Department of Fisheries & Oceans • Huntsman Marine Science Centre (New Brunswick) • Kananaskis Centre for Environmental Research (Alberta) • Long Point Bird Observatory (Ontario) • Ontario Ministry of Natural Resources.



World Class Facilities

The Biology Department accesses a number of research facilties both on and off campus:

Microscopy

supported by state-of-the-art digital imaging and analysis

• light and fluorescence • confocal • electron (scanning and transmission) • sample preparation

Molecular Biology

• transgenesis • RNA/DNA microinjection • PCR • sequencing• hybridization • electrophoresis • ultra-centrifugation • liquid scintillation counting

Tissue Culture

• laminar flow hoods • incubators • autoclaves

Plant & Animal Care

• in-house animal care facilities for: mammals, amphibians, fish & insects

• full greenhouse & controlled environment growth chambers

Environmental Science Field Station

• multifunctional facility on 33 rural ha, minutes from main campus

Analytical Facilities

• chromatography
• fluorescence spectroscopy
• UV spectroscopy
• flow cytometry • gas exchange

Field Ecology

• environmental monitoring
• animal tracking • radiotelemetry
• animal capture & release
• mobile analytical labs

The Biotron

(Grand Opening October 2007).

Graduate Student Resources

Guaranteed Financial Support:

- 2 years M.Sc., 4 years Ph.D.
- currently $18,000 for domestic students; $24,500 for international students made up of
- teaching assistantship
- grant-funded summer support
- Western Graduate Research Scholarship (WGRS) (B+ required)

Other Resources

- Society of Biology Graduate Students (SOBGS) and Society of Graduate Students (SOGS): Student government
- Graduate Teaching Assistants' union
- Grad Club: a great place to meet, talk and relax.

Contact Us:

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http://www.uwo.ca/biology/graduate/graduate.htm

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