



Find yourself at the forefront of discovery.
Research inspired learning.



**University
of Victoria**

Your decision to attend the University of Victoria will lead you to a world of intellectual excitement—a place where teaching, research and learning intersect. By attending one of Canada’s premier comprehensive research universities, you will not only be taught by excellent researchers but you will work with them to create new knowledge. Our professors are leaders in their fields who bring their own research into the classroom to give you an enriched learning experience. Your education at a research university will help you develop the intellectual skills that underlie discovery, creativity and innovation – skills that will serve you well in the modern world no matter what path you choose.

Whether it’s through your formal coursework, in a work-study or co-op experience, or as a student volunteer, you’ll discover many ways to participate in research. Along the way, you’ll have access to state-of-the-art libraries, laboratories, fine arts studios and computing centres to help you develop your own research interests and collaborate with others.

Explore this publication to learn how our students and faculty members are engaged in research and experience-based learning. Their enthusiasm is contagious! We are proud of UVic’s reputation as a place of learning and research excellence and we welcome your ideas and innovation.



Jamie Cassels,
Vice President Academic and Provost



Howard Brunt,
Vice President Research



Your UVic advantage

UVic is consistently ranked in the top tier of Canada’s comprehensive universities. We see learning as an active experience and encourage you to participate in the creation of knowledge as you learn.

Why get involved in research?

Take part in UVic’s research-enriched learning environment and you will:

- Learn from teachers who are at the forefront of research
- Improve your learning and retention of ideas through enhanced classroom experiences and hands-on participation
- Develop the analytical skills you’ll need for your future education and career

You may also have the opportunity to:

- Participate in exciting, cutting edge research projects
- Help the wider community through applied and community-based research
- Publish your undergraduate research in a professional journal

“ The university strives to create sparks, ignite passion, show our students possibilities and invite them to create something new. ”

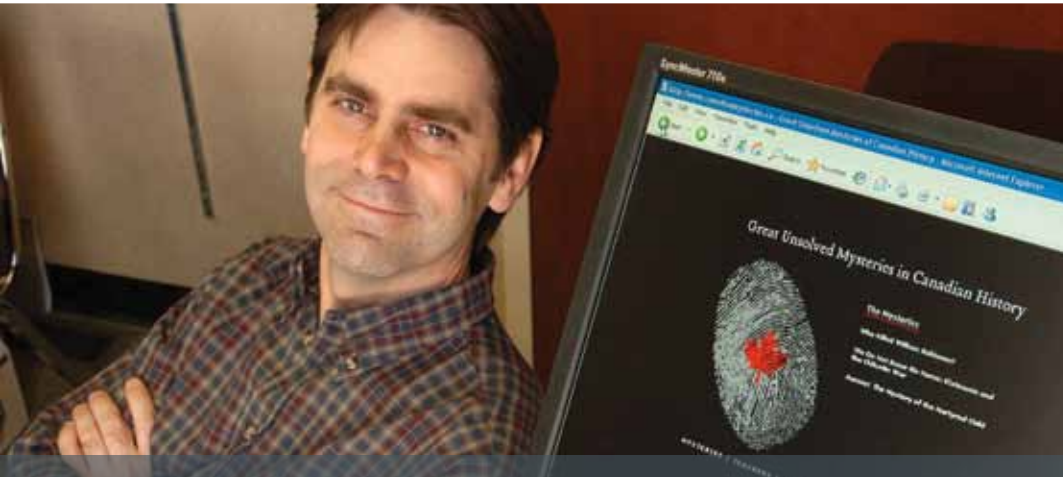
- Dr. John Lutz (History)

What UVic has to offer

At UVic professors bring their own research into the classroom to enrich the learning environment. In some courses students are encouraged to develop their own research or participate in ongoing research projects. And opportunities to “learn-by-doing” abound outside the classroom. You can volunteer to be on a research team, join the Model UN Club, sign up for the co-op program or work as a research student to gain paid work experience in research-based positions. The opportunities are endless.

Our research libraries

UVic’s four libraries are a major academic research resource for students and faculty. Discover a world of authoritative knowledge at your fingertips. UVic libraries contain two million books, journals, manuscripts, maps, data, newspapers and other library materials (print and electronic). The amount of information may seem overwhelming but our friendly librarians are there to help you find what you need. A visit to the UVic libraries will acquaint you with the intellectual richness associated with the university environment.



Dr. John Lutz, an author of the “Great Unsolved Mysteries in Canadian History”, believes learning, teaching and research are intrinsically connected. “I want students to do historical detective work, rather than tell them what other people have found,” he says. Lutz has been guiding student sleuths since 2002, when he redesigned his local history class (HIST 481) to focus on web and research skills. To make his students’ work accessible to others, he started Victoria’s Victoria, a website about BC’s capital during the Victorian era. Instead of listening to lectures, students do micro-history projects, studying local events to understand the broader currents of the era. They research topics of their choice in local archives and then present their findings on the web. “In putting the website together, the students and I both learn,” Lutz says. “The website’s a showcase for new and engaging research, and it’s a growing resource for other researchers.” See student research at Victoria’s Victoria web.uvic.ca/vv or www.canadianmysteries.ca.

“ I want students to do historical detective work, rather than tell them what others have found. ”



State of the art research laboratories

Whether you're studying the mind, whale song, web design or climate change, our specialized labs offer sophisticated and progressive technology. Here are just a few examples.

Brain and cognition laboratory

If you're thinking about thinking, this laboratory will give you insights. Located in the Department of Psychology, the lab uses electroencephalography (EEG) and other methods to study brain responses which are the direct result of a thought or perception. The lab houses two electrically shielded recording chambers equipped with a monitor, response box and joystick input devices. Researchers communicate with a participant during an experiment using the chamber's video and audio monitoring equipment.

Phonetics lab

Whether you want to learn about regional dialects or are intrigued by whale songs, this is the place to go. You can do class assignments, learn to use specialized equipment, and discover a multitude of web-based applications for observing, analyzing and processing the sounds of language. You'll also find a large collection of archived and computer-accessed data from languages around the world. Faculty and students in engineering, music, psychology, education and biology use this lab to further their research.

Learn more at web.uvic.ca/ling/resources/facilities.htm.

Peter Sutherland (left) prepares a sample in the Ultrafast Microscopy Lab in UVic's Department of Physics and Astronomy. Sutherland spent a work term helping commission the ultrafast scanning tunneling microscope, capable of creating "movies" with nanometer spatial and picosecond time resolution.

VENUS and NEPTUNE ocean observatories

Does the undersea world excite your imagination? UVic leads two world-class virtual laboratories: VENUS (Victoria Experimental Network Under the Sea) and NEPTUNE Canada (North-East Pacific Time-series Undersea Networked Experiments). Connected to land by the Internet, these cabled networks of sensors and instruments, allow scientists to analyze data that flow 24/7, without getting their feet wet or even leaving their desks.

The researchers in VENUS examine water mixing, fish behaviour and subsea slides in Saanich Inlet and the Strait of Georgia. They also monitor the acoustic signals of whales and deep sea ships. NEPTUNE Canada, to be completed in 2009, consists of an 800-km ring of cable and instruments along the Juan de Fuca tectonic plate off the west coast of Vancouver Island. More than 400 instruments at five sites support studies on ocean-climate change and its effects on marine life, seismic and tsunami activity, deep sea geochemistry and seafloor ecology.

Learn more at www.venus.uvic.ca and www.neptunecanada.ca.



NEPTUNE Canada's "Wally", the world's first internet operated deep-sea crawler, will help researchers measure conditions at the sea floor.

Studios for integrated media

Does your career dream center on media? Perhaps you see yourself as a future world famous photojournalist, web designer or theatre sound expert. Check out the studios and lab in the Fine Arts Building for resources used in web design, digital imaging, virtual reality, sound synthesizing, music programming and many other applications.

Learn more at www.finearts.uvic.ca/sim

Funding for research

Research funding at UVic, more than \$100 million annually, is used to finance specialized facilities and attract world-class researchers.

- As a UVic student, you have access to top professors and facilities, and also have increased opportunity to become a paid research assistant.
- To enable more students to participate in research, UVic awards \$125,000 annually through its Undergraduate Research Scholarship Program.
- NSERC Undergraduate Student Research Awards are available in natural sciences and engineering.

See back cover for links to more opportunities.



Undergraduates helped a fellow student and the wider community by volunteering for Kyle Mathewson's undergraduate honours research in psychology. Mathewson studied the brain areas involved in learning a series of movements. Working in UVic's Brain and Cognition Laboratory, he used an electroencephalogram to record the brain activity of 30 undergraduate volunteers. The students were asked to learn a sequence of button presses by trial and error and then perform the button sequence as quickly as possible.

"The results showed that once we learn a series of movements we can begin to monitor our own behaviours without requiring feedback," says Mathewson. Brain research on learning helps to better understand and assist people with brain injuries or disorders. It also provides valuable information for educators to use in adapting their teaching styles to brain processes.



UVic's research strengths

If you're unsure what direction to take at UVic, this is a good place to start. What ignites your passion? UVic has recognized research strengths in many areas.

Oceans, climate impact, and environmental sustainability

Contribute to knowledge about Earth's life support systems through projects in ocean physics and acoustics, marine geology and geophysics, marine biology and chemistry, remote sensing and undersea vehicle design. We are leaders in climate research, ranging from climate modeling to developing solutions for the impacts of climate change.

UVic has a reputation for collaborative work in global change and sustainability that promotes an equitable balance of the governance, environmental, human and economic factors at the heart of sustainable global development. Our wide range of research areas includes community recycling, environmental law, alternative energy sources, sustainable food resources and many more.

Students engaged in water quality research at the Coquitlam reservoir.

DID YOU KNOW ?

UVic students have the opportunity to rub shoulders with the best and brightest in climate impact research. Led and hosted by UVic, the Pacific Institute for Climate Solutions (PICS) is attracting top scientists to develop innovative climate change solutions, seek new opportunities for positive adaptation, and lead the way to a vibrant low-carbon economy. For more information, go to www.pics.uvic.ca.

Society and health

Contribute to a stronger and healthier society by participating in UVic's broad array of health research. Research focuses on individuals across the lifespan ranging from children with autism to preventing falls in the elderly. On the biomedical side, work with UVic researchers who study the function of genes, genetic disorders, and medical conditions ranging from cancer to cardiac disease. Other health research examines addictions, medical ethics, the health of Aboriginal communities and the development of technology to assist people with disabilities.

“... we aspire to be the Canadian university that best integrates outstanding scholarship, inspired teaching and real-life involvement.”

- Dr. Joseph Grossi (English)



UVic undergraduate Jen DeMedeiros (left) and Valerie Mucciarelli, a graduate student in UVic's School of Environmental Studies (right), with two of the 100 reef balls deployed off Ogden Point, Victoria. The cement domes mimic the shape and texture of natural reefs. Along with the Veins of Life Watershed Society, Mucciarelli is studying artificial reef ecosystems and how they can help offset the disappearance of natural reefs caused by coastline development. "To build docks and marinas they often clear rocky areas, which means taking away habitat for a great number of species" says Mucciarelli. DeMedeiros, a diver, initiated the reef ball concept and passed it on to Mucciarelli to develop as her graduate work.



Want to connect with kids and develop important research data in visual cognition? Students in Dr. Jim Tanaka's Psychology 491 course do both when they coordinate Face Camp, a summer program where children aged 6-12 have fun with activities that introduce them to the science of recreating a face. UVic researchers use the information students collect at the camp to help them understand how kids recognize faces and detect facial and emotional differences. The researchers plan to apply this understanding to autistic children to determine what prevents them from recognizing facial expressions.

Indigenous and cultural studies

Help UVic collaborate and forge strong relationships with Indigenous peoples in British Columbia as well as across Canada. Through our historians, writers, anthropologists, linguists, legal scholars, educators, governance experts, environmentalists and health professionals, we seek to understand and promote the health, economic stability and culture of Indigenous peoples.



Cynthia Korpan didn't have research in mind when she volunteered to help anthropology professor Dr. Andrea Walsh. Walsh was creating a website chronicling the story of the Inkameep Day School, a residential school located in Osoyoos, BC in the 1930s. Korpan offered to proofread the content and became so interested in the Inkameep students' stories that she traveled with Walsh to the Nk'Mip reserve in Osoyoos to help her professor produce a play written by residential school survivors. This experience sparked Korpan's interest in pursuing a master's degree. Her research focuses on three plays written by Inkameep students and performed several times in North America during the thirties. "Having Dr. Walsh as a mentor has been a great support, especially while I learned to do intensive archival research," says Korpan. Learn more about the Inkameep story at www.virtualmuseum.ca/Exhibitions/Inkameep/english/index.php.

Humanities and fine arts

Research in the humanities and liberal arts strives to build knowledge and skills so that we may ultimately improve the quality of our social, economic and cultural life. We strive for an understanding of ourselves, of our heritage and of our place in the world in the larger context of human history and cultural diversity. In fine and performing arts, discover more about how music, theatre, literature and the visual arts inspire and help us interpret our world. Collect research for a documentary film or investigate how theatre reflects and contributes to cultural change.



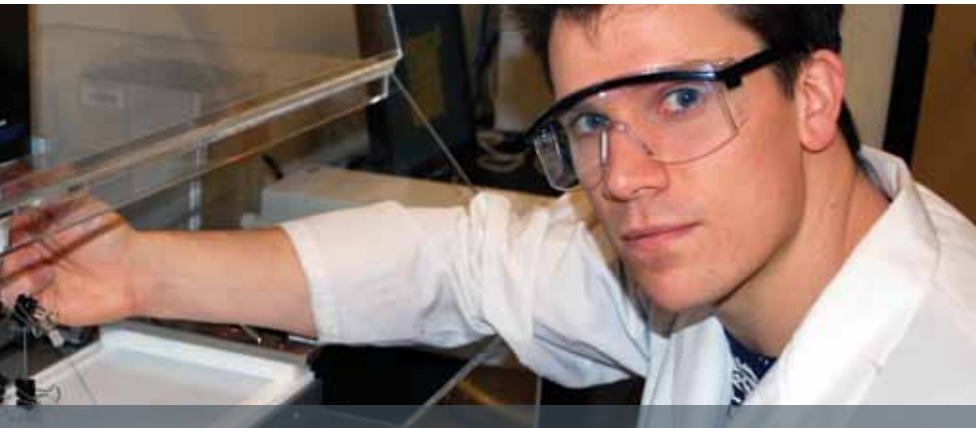
DID YOU KNOW ?

UVic's Co-operative Education and Career Services has a huge number of volunteer opportunities and internships. Check them out at http://careerservices.uvic.ca/resources/volunteer_internships.html

Thanks to an exchange agreement between UVic's Faculty of Humanities and French partner universities, Ryan Hunt, Stephanie Jury and Brian Solly spent two weeks working in one of Europe's oldest libraries. The three students were putting their training in medieval paleography (the practice of deciphering and reading historical manuscripts) to work at Bibliothèque Inter-Universitaire de Médecine in Montpellier. Dr. Iain Higgins, Director of Medieval Studies at UVic, accompanied the students as they explored one of the world's most impressive collections of medieval illuminated manuscripts. Guided by librarians and faculty members from Université Paul-Valéry–Montpellier 3, each student investigated a different manuscript to answer questions posed by their professors. Jury says, "The experience really solidified for me that I'd made the right choice to go into Medieval Studies. It was so exciting to get to study an entire manuscript." Dr. Higgins adds, "This is the sort of capstone experience we would like to provide to students as they finish their Bachelor's degree. It's like going from kayaking in the pool to kayaking in the ocean—it takes students from training to real life."

Science and engineering

Explore the universe by joining UVic researchers who are recognized internationally for research into matter and energy. From macro to micro, projects range from illuminating the birth of the universe to probing the behaviour of subatomic particles. UVic researchers are using advanced computer technology to explore massively complex systems (including climate change, galactic evolution and high-energy collisions of subatomic particles). They're also building the world's largest international computer grid, far more powerful than current supercomputers.



Eric Price never thought a passion for exercise would eventually lead him to a career in chemistry. Originally interested in becoming a personal trainer, Price took a few UVic biochemistry classes and was surprised to discover an intense interest in science. He switched to chemistry and signed up for four work terms through their co-op education program. During two terms at the national TRIUMF research facility in Vancouver, Price helped develop radiopharmaceuticals used to diagnose patients with diseases such as cancer and Parkinson's. He says, "The most rewarding aspect was the impact I felt I was having on patients' lives." Price believes his last two work terms at TRIUMF helped secure acceptance into his doctoral program at UBC. He was able to network with grad students and professors who have now become his colleagues and supervisors. "Co-op work terms make you so much more employable and the things you learn on the job are absolutely invaluable," he says.

DID YOU KNOW ?

By 2011, UVic will house the world's most precise microscope – a Scanning Transmission Electron Holography Microscope (STEEM). "It's like having 100 microscopes in one," says Dr. Rodney Herring, UVic mechanical engineer and lead researcher on the project. "We'll be able to look at things clearly, from 100 times to millions of times magnification." The STEEM will be used by physicists, chemists, biologists and medical researchers around the globe.



On his work term at Swedish supercar manufacturer, Koenigsegg Automotive, mechanical engineering student Ayden Durrance worked on optimizing the front suspension system for the upcoming Koenigsegg CCX. "I was very fortunate to have had this opportunity and I strongly encourage others to seek international placements to gain perspective in their respective fields."

► For more information on UVic's research strengths, visit www.uvic.ca/research.



How to get involved

Talk with your faculty and departmental advisors All faculties have program advisors and so do many academic departments. They are a wealth of information.

Talk to your professors and teaching assistants Don't be shy. Approach your professors and teaching assistants to see how you can get involved in research projects.

Look into honours programs Participating in an honours program is an excellent way to become engaged in hands-on research.

Explore international exchange opportunities involving research.

Consider volunteering in research as a way to contribute to society and learn what ignites your passion.

Sign up for the Co-operative Education Program Alternate academic terms with paid, relevant work experience in your chosen field. Many Co-op jobs are related to research, some on campus and others with domestic and international companies and not-for-profits.

“ At UVic we invite students to think critically, to question and to develop knowledge and skills to support them in their life aspirations. ”

- *Gweneth Doane (School of Nursing).*

Quick answers to your questions

Q: Why is undergraduate research so important?

A: In addition to the opportunity to create knowledge, research will develop your analytical skills and boost your success in course work and career achievement. Participating in research may inspire you to pursue a particular academic discipline, further your education with graduate studies or focus you on a fascinating career path.

Q: I'm not too confident about my research skills. Is help available?

A: Yes, help is available in many different places! The Learning Commons at the Mearns Centre offers a one-stop-shop for academic assistance. Here you will find people and programs to get you started with academic research skills, academic writing support and learning skills in a variety of disciplines. Research skills courses are also available in every discipline. Check with your faculty advisor or ask your professors about courses in research design and methods. In addition, the Library offers a series of workshops introducing you to the basics of library research – check their website at www.library.uvic.ca/index.html.

Q: I need to earn money during the year to pay for my studies. How can I afford to take on a research project?

A: Depending on your grades and financial need, you may qualify for an undergraduate research grant, award or scholarship. Contact Student Awards and Financial Aid for details. You could also seek a research-based co-op work placement in Canada or internationally. Or, you could work for one of UVic's faculty members who access funding sources that enable them to hire student assistants. Check out websites listed on the back cover for details.



Lisa researched the agricultural aid provided by two large privately funded organizations.

YOUR RESEARCH DICTIONARY

Comprehensive university
an institution of higher education and research that grants academic degrees in a variety of disciplines

Research
the intentional process of study and creative expression that explores and extends human knowledge and experience

Research-enriched learning environment
a place where knowledge is created and transmitted in one setting

Research-intensive university
an environment where the human-driven process of curiosity and the subsequent transmission of knowledge intersect

At first, Lisa Cottrell was apprehensive about tackling an honours program. “In the early days I felt like an imposter,” says this recent graduate who now has an honours degree in political science. She discovered that researching the rise of large, privately funded aid organizations such as the Bill and Melinda Gates Foundation helped build her self-confidence. Her paper not only measured the efficacy of private aid versus traditional bi- and multi-lateral aid, but also explored the broader social and political implications of a growing privatized aid regime. Reflecting on her research experience she says, “It’s important not to get overwhelmed and to be flexible—as you explore the information, you may find it takes you somewhere unexpected and exciting.”

WEBSITES

Co-operative Education Program and Career Services

www.uvic.ca/coop

www.careerservices.uvic.ca

International Exchange Program

www.iess.uvic.ca

Learning Commons

learningcommons.uvic.ca

Learning and Teaching Centre

www.ltc.uvic.ca

Libraries Research Help

www.library.uvic.ca/site/research/index.html

Research at UVic

www.uvic.ca/research

Student Awards and Financial Aid

www.uvic.ca/safa

Student resources including societies and clubs

www.uvic.ca/current/student

Scholarships

www.ltc.uvic.ca/scholarships/urs.php

Study, work or research abroad

www.oia.uvic.ca/students/studentstudy.asp

Undergraduate Student Research Awards Program (USRA)

www.nserc-crsng.gc.ca/Students-Etudiants/UG-PC/index_eng.asp

Volunteering opportunities

www.stas.uvic.ca/volunteering.html

www.careerservices.uvic.ca/resources/volunteer_internships.html

The Writing Centre

www.ltc.uvic.ca/servicesprograms/twc.php



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