University of Victoria | Department of Chemistry

Strategic Plan 2017

Approved by the members of the Department February 7, 2017

Mission:

The Department of Chemistry fosters world-class research and outstanding chemical education, building on the strengths of students, faculty, staff and alumni to interact with the local, national and global community.

Vision:

- To be the Department of choice for motivated graduate and undergraduate students who will be challenged in outstanding programs at the forefront of Chemistry.
- To produce strong annual cohorts of creative, competitive Chemistry graduates at all levels.
- To establish and enhance interdisciplinary research collaboration with other departments, institutions and industries.
- To be the Canadian Department of Chemistry that best integrates research, teaching and experiential learning.
- To promote policies emphasizing safe practices, responsibility and sustainability.
- To maintain lifelong interactions with alumni and regional stakeholders of the Department and as members of a wider Chemistry community.
- To promote national and international collaboration and valuable learning opportunities for all students.

Initiatives:

In the context of the mission and vision above, members of the Department and other stakeholders provided input to formulate the following strategic initiatives:

1) To enhance recruiting activities at the graduate level, both nationally and internationally.
2) To enhance recruiting and retention activities at the undergraduate level with guidance for career opportunities.
3) To explore the possibility of developing a materials science or equivalent physical science BSc program modeled after BSc in Chemistry for the Medical Sciences.
4) To develop an honours BSc in Chemistry for the Medical Sciences and apply for CSC accreditation of the Chemistry for the Medical Sciences programs.
5) To promote and facilitate the completion of a BSc degree in Chemistry within 4 years, an MSc degree within 2 years and a PhD degree within 4 years.
6) To assess the current status of the Faculty of Science Machine Shop and formulate a plan to enable high-efficiency use of the services provided.
7) To appoint a professor in chemistry through the NSERC Industrial Research Chair (IRC) program.

8) To promote research involving collaborative teams of professors within the Department of Chemistry and outside chemistry.
9) To raise the profile and reputation of the Department nationally and internationally, including enhancing the promotion of research and teaching achievements of the members.
10) To enhance experiential learning opportunities for undergraduate and graduate students and develop a definition of experiential learning in Chemistry to inform the Faculty of Science and the University of Victoria.

Operations:

The Department of Chemistry plans to augment the following ongoing operations:

1) To evolve the existing hiring plan of the Department to better enable the members to achieve the mission of the Department, and consider the diversity of the personnel.
2) To document processes and procedures for regular review and for revision of the undergraduate and graduate curricula.
3) To support and promote new teaching initiatives in lectures and labs.
4) To develop plans for the integration of undergraduate teaching with research laboratory instrumentation and space.
5) To review and revise the PhD transfer and candidacy procedures and timing.
6) To promote and facilitate research that is driven by potential applications and industrial collaboration.
7) To evolve procedures to assist faculty with management of research accounts.
8) To evolve the finance plan for the maintenance and replacement of key research and teaching instrumentation.
9) To regularly review the technical support facilities.

Strategic Research Plan:

As the 'Central Science', Chemistry plays a key role in many scientific discoveries and chemical processes or phenomena are often pivotal in technological developments that impact society on a daily basis. The Department values mechanistic and hypothesis-driven chemistry and believes that fundamental science is the driver for innovation. The University of Victoria has appointed some of the nation's top researchers into the Department, establishing a nationally competitive academic unit that provides international leadership in several research areas.

The Department of Chemistry at the University of Victoria is a research-intensive unit. Each professor is leading an independent research program in areas ranging from biology to materials science. Research activities are funded by a variety of agencies including the Natural Sciences and Engineering Research Council (NSERC), the Canada Research Chairs (CRC), the Canadian Institutes of Health Research (CIHR), the Canada Foundation for Innovation (CFI), the BC Knowledge Development Fund (BCKDF), the Michael Smith Foundation for Health Research (MSFHR), multiple Genomics and Cancer Research Foundations, and the Petroleum Research Fund (PRF). Grants in excess of 2 million dollars per year support research in the Department resulting in high impact scientific discoveries that are published in the most prominent journals

and enable research training for undergraduate students, graduate students and postdoctoral fellows.

Researchers in the Department occupy research space in three buildings, including a state-of-the-art green building (Bob Wright Centre, 2008). The research activities within the Department are supported by instrumentation facilities in Nuclear Magnetic Resonance spectroscopy (NMR), Mass Spectrometry (MS), Laser spectroscopy, and a nanofabrication lab that are managed and maintained by Departmental staff with first-class expertise.

The interdisciplinary nature of many of the research programs within the Department requires strong collaborative interactions with research centres within the University of Victoria, and across Canada. In particular, members of the Department lead programs supported by the Centre for Advanced Materials and Related Technology (CAMTEC), the Proteomics Centre, the Integrated Energy Systems Research Centre (IESVic) and the Centre for Biomedical Research (CBR). In addition, UVic chemists have strong interactions with researchers in the Division of Medical Sciences and with other departments in the Faculty of Science. Moreover, extensive collaboration with Canadian industrial partners provides vital mechanisms for innovation, development and experiential learning.

The Department excels in fundamental chemical research, much of which encompasses the spectrum of all other science disciplines. The Department has identified Health, Energy and Materials as the three strategic research areas of emphasis that will have the greatest societal impact. Many members of the Department have established expertise and demonstrated impact through their research contributions in these three areas: new therapeutic molecules, complex bio-molecular systems and surfaces, control and study of dynamic molecular systems, chemical and bio-analytical devices for health diagnostics and imaging, catalysis and materials for environmental sustainability, design and fabrication of new functional materials, and new molecular strategies and building blocks for sensors and devices.