



UNIVERSITY OF
REGINA

FACULTY OF SCIENCE



A N N U A L R E P O R T

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■ *Dean's Comments*

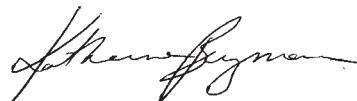
The Faculty of Science Strategic Plan *Creating Our Future: 2005 - 2010* serves as the framework for guiding decision-making and resource allocation in the Faculty. An executive summary of this document follows. The Faculty faces the challenge of retaining new colleagues, who are shaping the research directions and programs of the Faculty, in new and innovative ways, promoting both independent and integrated collaborative research and teaching programs in the Faculty and the University, Provincially, Nationally and Internationally. Our faculty members have attracted significant external research and infrastructure funding through the Natural Sciences and Engineering Research Council of Canada (NSERC), the Social Sciences and Humanities Research Council of Canada (SSHRC), the Canada Foundation for Innovation (CFI), Western Economic Diversification (WED), other government funding councils and the private sector. The Faculty has continued to expand and develop the research enterprise and the infrastructure to support these programs because of the funding success of the faculty members. The Faculty of Science boasts an ongoing high success rate with NSERC, supporting both new and existing faculty members' research programs. The Faculty was successful this year in securing CFI funding and NSERC Research, Technology and Innovation (RTI) grants to support new laboratories and research facilities. The Faculty of Science looks forward to the increased infrastructure and space that the new laboratory building on campus will provide. This new building and the research facilities contained within will be a powerful retention tool for the high quality faculty members that were recently recruited.

The Faculty of Science is increasing the opportunity for students to follow a wide variety of career options by developing new programs within Science and in collaboration with other faculties at the University of Regina and with the Saskatchewan Institute of Applied Science and Technology (SIAST). These partnerships allow us to expand our program offerings using existing resources to build capacity and provide new opportunities for our students and the residents of Saskatchewan, Canada and abroad. The Faculty of Science is exploring collaborative opportunities with international institutions.

The Faculty of Science is an active participant and contributor to the local community and the Province of Saskatchewan. The Department of Mathematics and

Statistics hosted Math Camp 2006 that attracted participants from across the Province. Math Central is a community based interactive math website, which attracted significant financial support (\$150,000 over 5 years) from Imperial Oil Foundation. Many of our faculty members and students have been invited to elementary and high school classrooms. Others have given demonstrations and presentations to various community organizations or sit as board members or volunteers on a number of community based organizations. The Faculty of Science is a continuing supporter of the Saskatchewan Science Centre, and the Virtual Science Fair open to elementary and secondary students across the country. Most recently the Faculty has partnered with the NSERC Prairie WISE (Women in Science and Engineering) Chair at the University of Saskatchewan to create a website (www.sasksciencenetwork.ca) that will facilitate teachers' access to scientific material suitable for enhanced classroom learning through the Saskatchewan Science Network. Ultimately teachers will be able to incorporate science into their classrooms more readily and thereby improve the general level of scientific literacy in all students.

The Faculty of Science is proud of its accomplishments over the past year. I would like to take this opportunity to thank the faculty and staff for their dedication and support. In particular I would like to thank the two Assistant Deans (Drs. Larry Saxton and Scott Wilson) and the Faculty Administrator (Audrey Perra), Science Operations (Lee Aument) and the Department Heads (Drs. William Chapco, Biology; Andrew Wee, Chemistry and Biochemistry; Brien Maguire, Computer Science; Janis Dale, Geology; Stephen Kirkland, Mathematics and Statistics; Zisis Papandreou, Physics) for their assistance in compiling this report. I would also like to thank Sandy Barker and Candace Aveyard in the Student Program Centre, Janet Campbell, Office of Research Services, and Karen Wiome, Faculty of Graduate Studies and Research, and Charles Phelps (Librarian for Science) for providing the necessary data. Finally I would like to thank Marlene Miller and Catherine Kossatz for their efforts in formatting this document. If you have any comments please do not hesitate to send them to the Dean's Office.



Dr. Katherine Bergman
Dean of Science

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CREATING OUR FUTURE: 2005 - 2010 STRATEGIC PLAN FOR THE FACULTY OF SCIENCE

High quality, original research and teaching are the fundamental cornerstones of a university. These activities distinguish the University from government research facilities, industry, colleges and technical institutes. In this context, the Faculty of Science is driven by curiosity, creativity and imagination, for knowledge and an understanding of our environment. This drive is fulfilled by the creation, enhancement and dissemination of knowledge. The catalyst for these activities is curiosity even where it may ultimately lead to a direct practical or economical application. Curiosity driven research is critical to the development of practical applications. Recruiting and retaining the best faculty and students are the most important goals for future success. High quality and innovative researchers are self-motivating. The role of the Faculty is to provide these researchers with an environment that is flexible and facilitates their research programs through the provision of adequate financial and human resources. Students are an important part of the success of these research programs.

The Faculty of Science will continue to promote an environment of individual responsibility and teamwork encouraging collaboration among faculty, students and staff. As a result, individual and/or collaborative research and teaching are expected and will be supported. The mandate of the Faculty of Science is to develop scientific and technological expertise within Saskatchewan, and to provide a supportive environment for retaining this expertise. Excellence in discipline-based research provides a solid foundation for collaboration and allows opportunities for interdisciplinary/collaborative research to grow as trends and needs dictate. At the same time, discipline-based research serves the long-term interests of student education, because research informs teaching. A strong research program enhances our teaching programs, discipline-based or interdisciplinary, at the undergraduate and graduate level. The Faculty has an established record of excellence in discipline-focused and interdisciplinary/collaborative research and teaching programs.

The Faculty of Science is committed to the following core values and principles, and will continue to build and expand based on these principles:

1. **Research and Teaching** are key activities of the Faculty of Science and it is important that these be of the highest quality;
2. **A Respectful Workplace** fosters an environment of individual responsibility and teamwork respecting academic and cultural diversity, and promoting cooperation and collaboration, among faculty, students and staff;
3. **Safety** means promoting a safe workplace environment that is compliant with the relevant legislation;
4. **Collegial governance** arises from the University of Regina and the Faculty of Science operating under a model of shared responsibility where it is expected that faculty and staff will contribute to the governance of the University and the Faculty;
5. **Accountability** to the relevant internal and external communities is the ultimate responsibility.

The Faculty of Science plans to develop its strengths further, guided by the above principles. In so doing, it will meet its commitment to its faculty members, students, staff, the University and the Province of Saskatchewan.

FACULTY PRIORITIES OVER THE NEXT FIVE YEARS

Over the past six years the Faculty of Science has been through an intensive phase of active recruitment and infrastructure upgrading, and has been successful in attracting high quality personnel to drive the research and teaching enterprises. These last six years have been exciting times in the Faculty with new colleagues bringing new ideas, new infrastructure requirements and new program directions. Looking to the future, the Faculty now faces the challenge of retaining these new colleagues and sustaining the new initiatives in teaching and research that have come as a result of this renewal and growth. The focus of the Faculty's objectives will need to shift over the next five years from one of recruitment and infrastructure acquisition to one of retention and sustainability.

Over the next five years the Faculty needs to address the following concerns to sustain the current level of high calibre teaching and research, and to support continued growth in research and teaching excellence. These issues focus largely around infrastructure, particularly if we are to retain these highly qualified members and nourish the growth of the Faculty. These priorities will be achieved by securing funds as the result of a number of ongoing opportunities.

1. Facilitate and support the research enterprise to allow for continued and sustained growth;
2. Develop core infrastructure to support the variety of research programs in the departments;
3. Initiate and sustain a Visiting Scholars Program to increase the potential for national and international interaction and collaboration;
4. Provide increased funding for undergraduate and graduate student support;

5. Secure sustained funding to renew and maintain the existing undergraduate laboratories and to develop modern laboratory facilities designed to meet the needs of new or revised programs;
6. Develop our programs to meet current educational priorities and opportunities in the Province while reflecting the expertise in the Faculty;
7. Propose and develop courses for delivery using Technology Enhanced Learning (TEL) opportunities and Campus Saskatchewan where appropriate.

This shift in focus to retention and sustainability however, does not mean that new opportunities will not be pursued and that new colleagues will not be recruited. Rather the Faculty needs to ensure that the current investment is sustained, and is allowed to grow and develop, to support the goals and objectives, in research and teaching highlighted in the Faculty of Science Strategic Plan *Creating Our Future: 2005-2010* (www.uregina.ca/science). The Vision, Mission and Goals statement, and a summary of the objectives follow. Achieving this plan will require a considerable investment of time and resources from all parties responsible, however the potential return is worth the commitment of time and the investment of resources.

The Faculty of Science faces the new challenges and opportunities that lie ahead with confidence and optimism. The renewal of the Faculty, coupled with the experience and established records of existing colleagues, provides a solid foundation for growth of the Faculty over the next five years. The future of the Faculty of Science is grounded in two fundamental principles, excellence in discipline-based research and recruiting/retention of high quality people, and our future is very bright.

■ *Vision*

The Faculty of Science is committed to sustain excellence in the creation and dissemination of knowledge by research, scholarly publication and teaching in both basic and applied sciences.

■ *Mission*

The mandate of the Faculty of Science is the creation and application of knowledge through pure and applied research and the dissemination of this knowledge through scholarly publication and teaching. Research and Teaching are the fundamental activities of the Faculty. The Faculty of Science has a dynamic, externally funded, peer-evaluated, nationally and internationally recognized research base. This base provides a solid foundation for our undergraduate and graduate programs, and is a mechanism for attracting and retaining high quality faculty, students and staff to the Faculty of Science.

■ *Achieving Our Vision and Mission*

To meet the objectives described in our Vision and Mission statement the Faculty must focus on six key goals:

- **Research and Teaching:** The Faculty must provide an environment that promotes individual and collaborative research and teaching activities of its faculty, students and staff;
- **Faculty and Staff:** The Faculty must attract and retain high quality faculty and staff members, and support them in their academic responsibilities because the quality of the faculty and staff defines the quality of the Faculty;
- **Students:** The Faculty must provide high quality programs, which develop critical thinking and problem solving skills that build a solid scientific base of knowledge, and the Faculty must enhance these programs by introducing students to research at an early stage;
- **Recognition:** The Faculty must continue to promote the development of national and international research and teaching reputations by actively encouraging research and teaching collaborations;
- **Service:** The Faculty must continue to provide high quality community service delivery and to provide programs and lectures, for schools and community organizations;
- **Accountability:** The Faculty must be accountable to the University of Regina, the national granting councils, the community of its peers and the public for the evaluation of performance.

Since these goals are entwined, the mechanisms for achieving them are described under the following five main subject headings: People, High Quality Programs, Community Service, Resources, and Implementation and Accountability.

■ Objectives

<p>⊗ Objective 1: That all policies and procedures in the Faculty of Science reflect the Principles of Natural Justice to ensure fairness and equity for all members.</p>	<p>⊗ Objective 2: To attract and retain high quality faculty in areas of identified strength in the Faculty.</p>
<p>⊗ Objective 3: To attract and support high quality sessional lecturers to contribute effectively to the teaching goals of the Faculty.</p>	<p>⊗ Objective 4: To recruit and retain high quality staff to provide administrative and technical support for the activities of the Faculty of Science.</p>
<p>⊗ Objective 5: To recruit and retain high quality undergraduate students both locally and from diverse regions.</p>	<p>⊗ Objective 6: To increase the number of First Nations students registered and successfully completing degrees in the Faculty of Science.</p>
<p>⊗ Objective 7: To build a sense of community among all students in the Faculty of Science.</p>	<p>⊗ Objective 8: To recruit and retain high quality graduate students both locally and from diverse regions.</p>
<p>⊗ Objective 9: To increase the engagement and involvement of our alumni in the support of the activities of the Faculty of Science.</p>	<p>⊗ Objective 10: To continue to explore international opportunities in the research and teaching programs in the Faculty of Science.</p>
<p>⊗ Objective 11: To sustain and grow a strong national and international calibre research enterprise in the core disciplines of the Faculty of Science.</p>	<p>⊗ Objective 12: To sustain and grow a strong integrated collaborative research program in the Faculty, with other faculties and with other institutions locally, nationally and internationally.</p>
<p>⊗ Objective 13: To increase the awareness and recognition of the research contributions of members of the Faculty of Science.</p>	<p>⊗ Objective 14: To continue to sustain and develop high quality undergraduate and graduate programs.</p>
<p>⊗ Objective 15: To provide the necessary support services for the research and teaching programs.</p>	<p>⊗ Objective 16: To continue to build our relationship with other institutions, government and industry.</p>
<p>⊗ Objective 17: To continue to improve service delivery to other programs on campus.</p>	<p>⊗ Objective 18: To enhance the public perception and appreciation of the importance of the role of the Faculty of Science in the community.</p>
<p>⊗ Objective 19: To obtain sufficient financial and physical resources to meet the current and future needs of the Faculty of Science.</p>	<p>⊗ Objective 20: To develop continuous and growing revenue for the Faculty of Science from private donations.</p>

□ PART 1: INTRODUCTION

The Faculty of Science has enjoyed a successful year in research and teaching. New people have joined the Faculty this year and new initiatives have been successfully pursued. This report highlights the major accomplishments in the Faculty of Science between January 1, 2006 and December 31, 2006. The Faculty commitment to research and teaching demonstrates to others that we are a critical and innovative part of the University of Regina, the City and the Province.

This document summarizes accomplishments of 2006 and gives an indication of future directions and potential. Many exciting new initiatives in both research and teaching within the Faculty, between faculties and with outside agencies and institutions are currently being explored and will be reported next year. Additional and more detailed information about our programs and program requirements, research, faculty members, students and staff is available on our website at www.uregina.ca/science.

The Faculty currently offers Bachelor of Science and Bachelor of Science Honours degrees in a number of disciplines as well as Certificates in Computer Science and Indian Health Studies. There are joint degrees with the faculties of Arts and Education, and combined degree programs with SIAST including the new Bachelor of Medical Imaging. The Faculty is exploring collaborative opportunities with foreign institutions particularly in China. Many of the programs in the Faculty of Science offer a Co-operative Education option. Laboratory work is a compulsory aspect of the degree programs because it provides students with practical experience in a controlled environment. The Faculty of Science has a strong commitment to teaching and our members are commonly recognized for their contributions to teaching. Dr. Mark Brigham, Head of Biology, was awarded the Alumni Award for Teaching at the Fall 2006 Convocation.

The Faculty of Science offers graduate programs in the various disciplines leading to a Master of Science degree or a Doctor of Philosophy degree. Each student in these thesis-based degree programs works under the direct supervision of a faculty member.

Faculty members continue to develop research initiatives in the Faculty of Science. The results of their research are published in a variety of peer-reviewed journals and conference proceedings. New research opportunities, either individual or collaborative are proposed and developed on an ongoing basis. The Faculty of Science has a strong commitment to research and our members are commonly recognized for their contributions to research.

Fundraising will take on a new profile in the Faculty over the next few years. Our focus will be on the development of student scholarships at both the undergraduate and graduate level to support our goal of attracting high quality students. The government announced in Fall 2005 the commitment of funds to build a new Laboratory Building Addition. This building will enhance the research and teaching programs in the Faculty of Science and will provide the necessary infrastructure to recruit and retain high quality faculty to the University of Regina.

Many faculty members and students are active in the community both in local and rural locations giving lectures and demonstrations in elementary and high school classrooms, conducting campus tours and/or organizing camps. This aspect of public service is an important component of our contribution to the community that supports us.

Late fall of 2006, the Faculty of Science lost a long serving member of our community. Dr. George Ledingham, Professor Emeritus (Biology) passed away on October 18th, 2006. George was a faculty member in the Department of Biology for 40 years. He retired in 1978, although he continued to teach as a Sessional Lecturer until 1983 and continued to come to work everyday (until late in 2005) in the Herbarium, which was named after him in 1990. Dr. Ledingham was a passionate advocate for Conservation and was the founding member of the Saskatchewan Natural History Society (now Saskatchewan Nature). His accomplishments and awards are many, but he is commonly singled out as the driving force behind the creation of Grasslands National Park in the 1970's. Additional information on Dr. Ledingham is available at www.uregina.ca/biology/herb/GeorgeLedinghamTribute.html.

□ PART 2: FACULTY OVERVIEW

The University of Regina Planning Document, and the Faculty of Science Vision, Mission and Goals Statement guide the decision making process of the Faculty. The Faculty of Science Strategic Plan *Creating Our Future: 2005-2010* was approved at the September 2004 meeting of Faculty Council. The Faculty of Science is committed to developing a strong foundation of inquiry-based research to support integrated collaborative research programs internally and externally, nationally and internationally, and to support the development of practical applications derived from this research. A strong NSERC supported base of research will ensure that the University maintains a stable level of funding from NSERC to support the indirect costs of research across the Institution. A strong research program is the key to the success of the teaching program at both the undergraduate and graduate levels because research informs teaching and maintains its currency. Our researchers serve as role models and mentors for our students. Our students are a reflection and measure of the success of the research and teaching programs of the Faculty as well as of the Institution.

The Faculty of Science has been working steadily to support the specific goals and initiatives identified in the Strategic Plan:

- Increase funding for graduate students;
- Increase enrolment, both graduate and undergraduate, including international students;
- New program development (teaching and research) that reflects the University's and the Faculty's strategic areas of emphases in both discipline-based and integrated collaborative programs;
- Continue to recruit and retain high quality faculty, academic staff members and support staff;
- Upgrade the undergraduate laboratories to maintain program currency and to meet legislated safety standards;
- Removal and disposal of chemical wastes, and establishment of policies and procedures for safe handling of biological, chemical and radioactive wastes.

The Faculty has been successful in meeting these goals but most require an ongoing commitment if these objectives are to be sustained. Many have required significant resources to address the accumulated deferred maintenance and infrastructure problems, and if not given a commitment of ongoing support will not be sustained. These goals reflect the objectives stated in the University of Regina document entitled *Reaching Our Potential: Planning for Progress 2004-09* as well as the Student Recruitment Task Force Report, Faculty Recruitment and Retention, and *Creating Our Future: 2005-2010, A Strategic Plan for the Faculty of Science*. These goals provide the framework for the allocation of Faculty resources and ongoing support to the individual departments. The Departments have each developed planning documents that have undergone external review and are consistent with the University of Regina *Reaching Our Potential*, the University of Regina Strategic Research Plan and the Faculty of Science Strategic Plan. The departmental documents guide faculty recruitment, program development (teaching and research) and infrastructure support. In this context the Faculty of Science through the various departments has had a very successful year. The accomplishments and initiatives of each department are highlighted below. The activities of the Faculty of Science for the year 2006 will be reported in detail in the Faculty of Science Annual Report.

□ 2.1 DEPARTMENTS

A brief overview of each department and highlights of their accomplishments for the year 2006 are described on the following pages.



DEPARTMENT OF BIOLOGY

The Department has identified two areas of focus (Environmental/Ecology Stream and Molecular Biology Stream) that were supported by the External Review Team in 2000. These areas provide the framework for recruitment and program development (teaching and research) in the Department, and are consistent with the strategic research areas of emphases in Energy and Environment, and Health Research, described in the University of Regina Strategic Research Plan. The Department has acquired a strong team of academics

Accomplishments

- Collectively 11 faculty members in the Department of Biology held plus the laboratory manager of Environmental Quality Analysis Laboratory (EQAL) 10 NSERC Discovery Grants, 4 NSERC RTI Grants and 12 other grants and contracts totalling about \$981,000.
- The Department supported 4 Postdoctoral Fellows. Faculty members supervised 5 Honours students to completion, 21 Masters students (2 completed) and 9 PhD students (3 completed).
- Dr. Peter Leavitt holds an additional \$1.5 M in CFI and matching funds.
- Dr. Peter Leavitt received the Frank H. Rigler Award, the highest honour given by the Society of Canadian Limnologists to aquatic scientists whose work is recognized for its influence and importance.
- Dr. Mark Brigham received the Gerrit S. Miller Jr. Award for lifetime service and contributions to the study of bat biology.
- Dr. Stacey Singer (former PhD student) received the President's Distinguished Graduate Student Award at the Fall 2006 Convocation.
- Essential Science Indicators (<http://in-cites.com/institutions/UnivofRegina.html>) recognized the Department as having entered the top 1% of institutions in the field of Plant and Animal Science.
- Dr. Britt Hall received the Faculty's first NSERC University Faculty Award.

whose collective expertise addresses important issues in Environmental Biology, an important core aspect of the University of Regina's Strategic Research Plan. All these activities are central to the idea of a University and are consistent with the University's Vision, Mission, Goals and Values statements on page iii of its document entitled "Building on Progress: The Plan for 2004-2009" and the Faculty of Science Creating Our Future: 2005-2010 Strategic Plan.

- Dr. Christopher Yost was nominated for a Canada Research Chair Tier 2 in Microbes, Environment and Food Safety.
- Dr. Chris Somers was nominated for a Canada Research Chair Tier 2 in Molecular Ecology and Prairie Conservation.
- Collectively, faculty members published 27 refereed articles or book chapters in national and international journals. A total of 51 conference papers were presented.



- Faculty members participate in the larger academic community by reviewing manuscripts and grant applications, and serving on editorial boards of scholarly journals.
- The Department has also demonstrated its public accountability as evidenced by the numerous presentations made to schools, community interest groups and the media.

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

The Department has identified two areas of emphases (Chemistry of Biologic Systems and Chemistry of Environmental/Energy Systems) in their planning document of 2000 that builds on the four pillars of chemistry: Analytical, Inorganic, Organic and Physical Chemistry. These areas provide the framework for recruitment and program development (teaching and research) in the Department and are consistent with the strategic areas of emphases in Energy and Environment, and Health Research, described in the University of Regina Strategic Research Plan. The ideas and plans described in the Department's Chemistry Plan (December 12, 2000) are still relevant and the Department is working hard toward fulfilling the key goals delineated in the plan, namely, a) to achieve and maintain excellence in its execution of Teaching and

Research, and b) to build a "critical mass" of faculty members, which will facilitate the process of building and sustaining cohesive research programs in the chemical and biological sciences, environmental sciences, and to foster meaningful research collaborations with other departments within the Faculty of Science, in particular the department of Biology, and with the Faculty of Engineering, especially the Greenhouse Gas Technology group and the Petroleum Technology Research Centre. All these activities are central to the idea of a University and are consistent with the University's Vision, Mission, Goals and Values statements on page iii of its document entitled "Building on Progress: The Plan for 2004-2009" and the Faculty of Science Creating Our Future: 2005-2010 Strategic Plan.

Accomplishments

- Collectively 10 faculty members in the Department of Chemistry and Biochemistry held 8 NSERC Discovery Grants, 1 CIHR Grant and 5 other grants and contracts totalling about \$1,300,000.
- The Department supported 4 Postdoctoral Fellows. Faculty members supervised 6 Honours students to completion, 16 Masters students (4 completed) and 5 PhD students (1 completed).
- The initial commitment from the Faculty of Science, the University and the Department to invest in recruiting new faculty members has contributed to the positive results in external grant successes.
- Research Laboratories: The construction of Dr. Renata Bailey's new Trace Analysis Facility located in LB 314 is completed and the lab is now fully operational.
- Collectively, faculty members published 13 refereed articles or book chapters in national and international journals. A total of 11 conference papers were presented.
- Faculty members participate in the larger academic community by reviewing manuscripts and grant applications, and serving on editorial boards of scholarly journals.
- The Department has also demonstrated its public accountability as evidenced by the numerous presentations made to schools, community interest groups and the media.



DEPARTMENT OF COMPUTER SCIENCE

The Department has identified three principal areas of focus (Data Mining and Databases, Digital/Multi Media and Software Systems Development). These areas provide the framework for recruitment and program development (teaching and research) in the Department and are consistent with the strategic areas of emphases in Energy and Environment, Informatics and Health Research, described in the University of Regina Strategic

Research Plan. Members of the Department are actively involved with the Sustainable Communities Initiative. All these activities are central to the idea of a University and are consistent with the University's Vision, Mission, Goals and Values statements on page iii of its document entitled "Building on Progress: The Plan for 2004-2009" and the Faculty of Science Creating Our Future: 2005-2010 Strategic Plan.

Accomplishments

- Collectively 19 faculty members in the Department of Computer Science held 17 NSERC Discovery Grants and 9 other grants and contracts totalling about \$800,000.
- Faculty members supervised 1 Honours student to completion, 69 Masters students (14 completed) and 18 PhD students (1 completed). The department hosted 3 International Visiting Scholars.
- Dr. Howard Hamilton is chair of the NSERC Discovery Grants committee for Computer Science.
- The Department's revised undergraduate curriculum came into effect in Fall 2006 with complete implementation by Winter 2008.
- TEL Grants: course grants continue to be a popular mechanism with Computer Science faculty for updating course material and making material more accessible by students. New submissions approved by the University for 2007 include Dr. Daryl Hepting (CS325).
- **SKITs.** In cooperation with the Co-op Office, the Department has partnered with SGI, SaskTel, Shell Oil and RSI in the presentation of career opportunities in the information technology sector. The acronym SKIT represents Saskatchewan IT and reflects the priority of assisting Saskatchewan organizations in recruiting students to work in Saskatchewan.
- Shell Oil recently provided \$150,000 for Computer Science Scholarships and continues to be a major employer of both graduate and Co-op students.
- Collectively, faculty members published 60 refereed articles or book chapters in national and international journals. A total of 36 conference papers were presented.
- Faculty members participate in the larger academic community by reviewing manuscripts and grant applications, and serving on editorial boards of scholarly journals.
- The Department has also demonstrated its public accountability as evidenced by the numerous presentations made to schools, community interest groups and the media.



DEPARTMENT OF GEOLOGY

The Department has identified field-based resource geology as the principal area of focus, and this provides the framework for recruitment and program development. The focus on field-based geology complements the focus of the Department of Geology at the University of Saskatchewan, and at Saskatchewan Industry and Resources allowing for extensive collaboration between the different groups. Field-based resource geology with practical hands-on experience is a hallmark of the training that our students receive. Graduate and undergraduate students were supported in numerous field and laboratory based thesis projects by individual faculty research grants, government surveys and industry. This focus is consistent with the strategic areas of emphases in Energy and

Environment described in the University of Regina Strategic Research Plan. Members of the Department are actively involved in the Petroleum Technology Research Centre (PTRC), Prairie Adaptation Research Collaborative, (PARC), Canadian Plains Research Center (CPRC) and Environmental Quality Analysis Laboratory (EQAL) as well as a number of international research projects. All these activities are central to the idea of a University and are consistent with the University's Vision, Mission, Goals and Values statements on page iii of its document entitled "Building on Progress: The Plan for 2004-2009" and the Faculty of Science Creating Our Future: 2005-2010 Strategic Plan.

Accomplishments

- Collectively 6 faculty members in the Department of Geology held 4 NSERC Discovery Grants, 2 NSERC RTI Grants, and 3 other grants and contracts totalling \$206,000.
- Faculty members supervised 2 Honours students to completion, 25 Masters students (4 completed) and 3 PhD students and 1 Postdoctoral fellow. The department hosted 3 International Visiting Scholars.
- The Department has a new Joint Geology/Geography degree for BSc students who wish to obtain professional accreditation with Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS) in the area of Environmental Geosciences. This has attracted 36 BSc students.
- Student numbers continue to grow and there are 83 declared Geology majors, 36 joint Geol/Geog BSc students and minors in related fields in Geography and Engineering.
- Dr. Guoxiang Chi and Dr. Hairuo Qing report that the "Geofluids Characterization and Modeling Laboratory" developed using a CFI grant is now fully operational. This facility is used by faculty, graduate students and visiting scientists studying a wide range of applications in the movement of geofluids in many geological settings such as sedimentary basins, hydrocarbon systems, mineral deposits, and the feasibility of long-term greenhouse gas storage.



- A number of our students were honoured in 2006 by external agencies. Ms. Chelsey Ebel was the recipient of the Gold medal for the top Geoscience student at the U of R from the Association of

Professional Engineers and Geoscientists. Ms. Jeanette Marcotte was selected to participate in the Petroleum Industry SIFT conference in Calgary and won the best student poster at the Saskatchewan Industry and Resources (SIR) Open House in Saskatoon and the R.L. Milner Memorial Award from Sask. Geological Society. Mr. Cameron Toews received honourable mention for the CSPG MSc thesis award.

- Collectively, faculty members published 17 refereed articles or book chapters in national and international journals. A total of 35 conference papers were presented.
- The Department gratefully acknowledges the donation from Dr. Donald Kent, to establish the D.M. Kent Consulting Geologist Prize in Sedimentary Geology for a deserving undergraduate student and the donation from Imperial Oil Resources to host visiting speakers in the department.

DEPARTMENT OF MATHEMATICS AND STATISTICS

The Department of Mathematics and Statistics offers programs in mathematics, statistics and actuarial science. This variety of programs provides the framework for recruitment and development initiatives. The principal areas of research are algebra and number theory, discrete mathematics, geometry and topology, matrix theory, operator algebras, and probability theory and statistics. The active colloquium series and research seminars in the Department exemplify the University's goal in scholarship and research to "sustain a vibrant research enterprise where faculty members are enthusiastic about intellectual activity." The actuarial program and the variety of outreach initiatives in the Department meet the University's goal in service to "Take our academic expertise into the community..." These

areas of focus are consistent with the University of Regina Strategic Research Plan that commits to supporting high quality areas of basic research and the strategic research emphasis in Informatics. The Department is also active in public outreach through Math Central and Math Camp. This is one of the stated goals of the University of Regina in the Strategic Planning Document under public service and accountability. All these activities are central to the idea of a University and are consistent with the University's Vision, Mission, Goals and Values statements on page iii of its document entitled "Building on Progress: The Plan for 2004-2009" and the Faculty of Science Creating Our Future: 2005-2010 Strategic Plan.

Accomplishments

- Collectively 22 faculty members in the Department of Mathematics and Statistics held 17 NSERC Discovery Grants and 1 other grant totalling about \$201,000.
- Faculty members supervised 1 Honours student to completion, 16 Masters students (4 completed) and 11 PhD students and 2 Postdoctoral Fellows. The department hosted 6 International Visiting Scholars.
- Dr. Karen Meagher was nominated for an NSERC University Faculty Award.
- Dr. Martin Argerami was awarded funding from Pacific Institute for the Mathematical Sciences (PIMS) to support Postdoctoral Fellow Dr. Pedro Massey.
- The Department recruited Dr. Remus Floricel.
- AON has renewed their sponsorship of the Actuarial Science Program at \$7,500 over three years.
- The Mathematics Enrichment Camp is in its 7th year and attracted more than 40 participants from across the province.
- Five undergraduate students received NSERC USRA's and 1 graduate student holds an NSERC PGSM.
- TEL Grants: Dr. Chris Fisher was awarded \$15,000 to update the online version of Math 101.
- TEL Grants: the Department is assuming the project formerly held in Sociology to develop online learning materials for a first year course in Statistics.
- Math Central is in the second year of a grant from the Imperial Oil Foundation that will allow continuation of its services to the K-12 mathematics community. Progress reports can be found at <http://MathCentral.uregina.ca/reports/>.
- The 2008 Society of Actuaries, Actuarial Research Conference will be held in Regina. Mr. Larry Miller is the conference organizer.
- Prairie Network for Research in the Mathematical Sciences is a joint initiative between the University of Regina, the University of Saskatchewan and the University of Manitoba. The network will encourage and advance mathematical research in the provinces of Manitoba and Saskatchewan.
- Collectively, faculty members published 40 refereed articles or book chapters in national and international journals. A total of 36 conference papers were presented.
- Dr. Augustin-Liviu Mare is organizing the PIMS 2007 Summer School on Combinatorial Models in Geometry and Topology of Flag Manifolds.
- Canadian University Publications Special Report on Canada's Top Universities based on Publication Rankings by Subfield ranked the University of Regina 8th in Mathematics for Comprehensive Universities.

DEPARTMENT OF PHYSICS

The Physics Department has identified experimental and theoretical subatomic physics as principal areas of expertise, with closely-related activities in computational physics and additional involvement in astronomy. This research focus was supported by the most recent external review of the department, and is consistent with the University of Regina Strategic Research Plan that commits to supporting high quality areas of basic research and the strategic research emphasis in Informatics. The

department is committed to providing an enviable learning experience for students, and is constantly enhancing the classroom, laboratory, and co-operative education opportunities. All these activities are central to the idea of a University and are consistent with the University's Vision, Mission, Goals and Values statements on page iii of its document entitled "Building on Progress: The Plan for 2004-2009" and the Faculty of Science Creating Our Future: 2005-2010 Strategic Plan.

Accomplishments

- Collectively 8 faculty members in the Department of Physics held 5 NSERC Discovery Grants, 1 NSERC RTI Grant and 3 other grants and contracts totalling about \$558,000.
- Faculty members supervised 3 Honours students to completion, 6 Masters students (3 completed), 6 PhD students and 9 Postdoctoral fellows. The department hosted 5 International Visiting Scholars.
- The department recruited Dr. Kamal Benslama, whose research is part of the ATLAS experiment at CERN (the world's largest particle physics laboratory). Already, Dr. Benslama has been appointed to the ATLAS International Board and the ATLAS Canada Board, and has brought the prestige of official "institutional membership in ATLAS" to the University of Regina.
- Dr. Mauricio Barbi has been welcomed into the T2K Collaboration, an international research project to study long baseline neutrino oscillations. The neutrinos will be produced in Tokai, Japan and travel 295 km to a detector in Kamioka.
- Collectively, faculty members published 13 refereed articles or book chapters in national and international journals. A total of 22 conference papers were presented.
- Canadian University Publications Special Report on Canada's Top Universities based on Publication Rankings by Subfield ranked the University of Regina 10th in Physics for Comprehensive Universities.



■ 2.2 HUMAN RESOURCES

Dean's Office

Dean:	Dr. Katherine Bergman	
Assistant Dean (Research):	Dr. Scott Wilson	
Assistant Dean (Undergraduate):	Dr. Larry Saxton	
Faculty Administrator:	Audrey Perra	
Coordinator, Science Operations:	Lee Aument	
Academic Program Advisor:	Raeanne Thompson	
Program Coordinator (Computer Science):	Lois Adams (resigned December 31st)	
Program Coordinator (Mathematics and Statistics):	Barb Pidkowich	
Dean's Office:	Marlene Miller	
	Ev Pow	
	Sarah Savage (resigned)	
	Candace Aveyard	
Student Program Centre:	Sandy Barker	
	Sorcha O'Rorke (on leave)	
	Candace Aveyard	
Environmental Quality Analysis Laboratory (EQAL):	Dr. Björn Wissel	
Laboratory for Computational Discovery (LCD):	John Jorgensen	
Science Stores:	Joe Zieger	
	Marsha Bahador (term)	
Machine Shop:	Dan Kolybaba	
Electronics Shop:	Keith Wolbaum	
Science Technicians (as of June 1, 2006)		
Technician (Biology):	Joanne Downing	
Technician (Biology):	Jackie Rorquist	
Technician (Chemistry and Biochemistry):	Christine Dehm	
Technician (Geology):	Mets Ritsema	
Technician (Trace Analysis Facility):	TBA	

Department of Biology

Department Head:	Dr. William Chapco (to June 30th)	
	Dr. Mark Brigham (as of July 1st)	
Graduate Student Coordinator:	Dr. Harold Weger	
Department Office:	Jill Medby	Susie Munro (resigned)
	Catherine Kossatz	
Faculty:	Dr. Neil Ashton	Dr. William Chapco
	Dr. Britt Hall	Dr. Peter Leavitt
	Dr. Susan Lund	Dr. Richard Manzon
	Dr. Pedro Peres-Neto (on leave)	Dr. Chris Somers
	Dr. Harold Weger	Dr. Scott Wilson
	Dr. Christopher Yost	
PDFs/Research Associates:	Dr. Lynda Bunting	Dr. Kerri Finlay
	Dr. Blake Matthews	Dr. Alain Patoine
Lab Instructors:	Lauri Lintott	Terry Ross
	Heather Stanley	
Technicians:	Joanne Downing	Jackie Rorquist

Department of Chemistry and Biochemistry

Department Head:	Dr. Andrew Wee (to June 30th) Dr. Lynn Mihichuk (as of July 1st)	
Graduate Student Coordinator:	Dr. Scott Murphy	
Co-op Coordinator:	Dr. Lynn Mihichuk	
Department Office:	Teri Dibble Catherine Kossatz	Susie Munro (resigned)
Faculty:	Dr. Athar Ansari (resigned) Dr. Tanya Dahms Dr. Andrew Freywald Dr. Scott Murphy Dr. Dae-Yeon Suh	Dr. Renata Bailey Dr. Allan East (sabbatical) Dr. Rod Kelln Dr. Brian Sterenberg Dr. Andrew Wee
PDFs/Research Associates:	Dr. Phillip Bailey Dr. Gaojun Fan Dr. Pavel Tsitovitch	Dr. Tatiana Freywald Dr. Sun Young Kim
Lab Instructors:	Donna Draper Mark Tymchak (term)	Danny Ng Henry Yee
Technician:	Christine Dehm	

Department of Computer Science

Department Head:	Dr. Brien Maguire	
Graduate Student Coordinator:	Dr. Daryl Hepting	
Undergraduate Coordinator:	Dr. Cory Butz	
Co-op Coordinator:	Dr. Lisa Fan	
Program Coordinator:	Lois Adams (resigned December 31st)	
Department Office:	Michelle Kowbel	Marilyn Hepp (term)
Faculty:	Dr. Cory Butz Dr. Lisa Fan Dr. David Gerhard Dr. Daryl Hepting Dr. Malek Mouhoub Dr. Larry Saxton Dr. Boting Yang Dr. JingTao Yao Dr. Chang Zhang	Dr. Terence Chan (on leave) Dr. Philip Fong Dr. Howard Hamilton (sabbatical) Dr. Robert Hilderman Dr. Samira Sadaoui Dr. Dominik Slezak (on leave) Dr. Xue-Dong Yang Dr. Yiyu Yao Dr. Wojciech Ziarko
Lab Instructors:	Alex Clarke Nova Scheidt Pauline van Havere (retired)	Guili Liu Catherine Song (on leave) Sarah (Peng) Yao (on leave)
Systems Support:	Joseph Herbert (term)	

Department of Geology

Department Head:	Dr. Janis Dale	
Graduate Student Coordinator:	Dr. Stephen Bend	
Department Office:	Margaret Friebe (resigned)	Van Tran
Faculty:	Dr. Stephen Bend Dr. Kathryn Bethune (sabbatical) Dr. Ian Coulson Dr. Osman Salad Hersi (resigned)	Dr. Katherine Bergman Dr. Guoxiang Chi Dr. Hairuo Qing Dr. Maria Vélez (term)
PDFs/Research Associates:	Dr. Qilong Fu	Tatiana Freywald
Lab Instructor:	Syed Abbas-Hasanie (resigned)	Evanna Simpson
Technician:	Mets Ritsema	

Department of Mathematics and Statistics

Department Head	Dr. Steve Kirkland	
Graduate Student Coordinator:	Dr. Doug Farenick	
Coordinator of Undergraduate Programs:	Dr. Allen Herman	
Co-op Coordinator:	Dr. Marie Torres (on leave)	
	Dr. Denis Hanson and Mr. Peter Douglas	
Program Coordinator:	Barb Pidkowich	
Department Office:	Karen Howden	Nadine Griffiths (retired)
	Susie Munro	
Faculty:	Dr. Martin Argerami	Dr. Dianliang Deng
	Dr. Ed Doolittle (term)	Mr. Peter Douglas
	Dr. Julianna Erlijman (on leave)	Dr. Shaun Fallat (sabbatical)
	Dr. Doug Farenick	Dr. Chris Fisher
	Dr. Remus Floricel	Dr. Bruce Gilligan
	Dr. Chun-Hua Guo	Dr. Denis Hanson (retired)
	Dr. Kathy Heinrich	Dr. Allen Herman
	Dr. Michael Kozdron	Mr. Patrick Maidron
	Dr. Augustin-Liviu Mare	Dr. Richard McIntosh
	Mr. Larry Miller	Dr. Sergei Panafidin (term)
	Mr. John Sandalack (term)	Dr. Donald Stanley
	Dr. Fernando Szechtman	Dr. Jim Tomkins (retired)
	Dr. Maria Torres (on leave)	Dr. Andrei Volodin
	Dr. Yang Zhao	
PDFs/Research Associates:	Dr. Andrew Douglas	Dr. Pedro Massey
Lab Instructor:	Sarah Carnochan Naqvi	

Department of Physics

Department Head:	Dr. Zisis Papandreou	
Graduate Student Coordinator:	Dr. Garth Huber	
Undergraduate Coordinator:	Dr. Nader Mobed (sabbatical)	Dr. Zisis Papandreou
Co-op Coordinator:	Dr. Randy Lewis	
Department Office:	Carol Allen	
Faculty:	Dr. Mauricio Barbi	Dr. Kamal Benslama
	Dr. Garth Huber	Dr. Randy Lewis
	Dr. George Lolos	Dr. Edward Mathie
	Dr. Nader Mobed (sabbatical)	Dr. Pierre Ouimet (term)
Research Scientist:	Dr. Roman Tacik	Dr. Rafael Hakobyan
PDFs/Research Associates:	Dr. Georg von Hippel	Dr. Ali Sabetfakhri
	Dr. Chuncheng Xu	Dr. Meng Wang
Lab Instructors:	Dr. Peter Bergbusch	Shaun Szymanski
	Gerry Zimmer (retired)	

Adjunct, Associate and Professor Emeritus:

The Faculty recognizes the contributions made by emeritus professors, as well as the contribution of adjunct and associate members to the Departments. They are listed in Appendix 1: Professor Emeriti and Appendix 2: Adjunct and Associate Members.

Sessional Appointments:

Many staff and faculty are employed in the faculty on a sessional lecturer basis. The Faculty recognizes the contributions made by sessional lecturers to the programs offered by the Faculty of Science. These appointments are listed in Appendix 3.

■ 2.3 FACULTY COMMITTEES

Dean's Executive Committee

Chair (Dean): Dr. Katherine Bergman

Biology	Dr. William Chapco (to June 30th)
	Dr. Mark Brigham (effective July 1st)
Chemistry and Biochemistry	Dr. Andrew Wee (to June 30th)
	Dr. Lynn Mihichuk (effective July 1st)
Computer Science	Dr. Brien Maguire
Geology	Dr. Janis Dale
Mathematics and Statistics	Dr. Steve Kirkland
Physics	Dr. Zisis Papandreou
Assistant Dean (Undergraduate)	Dr. Larry Saxton
Assistant Dean (Research)	Dr. Scott Wilson
Dean	Dr. Katherine Bergman
Faculty Administrator	Ms. Audrey Perra

Admissions And Studies Committee

Chair (Assistant Dean Undergraduate): Dr. Larry Saxton

Biology	Dr. Harold Weger	(2009)
Chemistry and Biochemistry	Dr. Allan East	(2008)
Computer Science	Dr. Howard Hamilton	(2007)
Geology	Dr. Stephen Bend	(2009)
Mathematics and Statistics	Dr. Michael Kozdron	(2008)
Physics	Dr. Edward Mathie	(2009)
Dean Ex-Officio	Dr. Katherine Bergman	

Dean's Public Relations Committee

Chair (Dean): Dr. Katherine Bergman

Biology	Dr. Mark Brigham
Chemistry and Biochemistry	Mr. Henry Yee
Computer Science	Dr. Wojciech Ziarko
Geology	Dr. Ian Coulson
Mathematics and Statistics	Mr. Patrick Maidorn
Physics	Dr. Edward Mathie
Assistant Dean (Undergraduate)	Dr. Larry Saxton
Assistant Dean (Research)	Dr. Scott Wilson
Faculty Administrator	Ms. Audrey Perra

Library Committee

Biology	Dr. Mark Brigham
Chemistry and Biochemistry	Dr. Tanya Dahms
Computer Science	Dr. Philip Fong
Geology	Dr. Stephen Bend
Mathematics and Statistics	Dr. Chris Fisher
Physics	Dr. Nader Mobed
Dean Ex-Officio	Dr. Katherine Bergman

Nominating Committee

Mathematics and Statistics	Dr. Shaun Fallat	(2007)
Biology	Dr. Pedro Peres-Neto	(2009)
Computer Science	Dr. Robert Hilderman	(2009)

Safety Committee

Chair (Faculty Administrator): Audrey Perra

Biology Faculty Member
Chemistry and Biochemistry Faculty Member
Geology Faculty Member
Physics Faculty Member
Lab Instructor Representative
Graduate Student Representative
Biology Technician
Chemistry and Biochemistry Technician
Geology Technician
Coordinator, Science Operations
Storekeeper, Science Stores
Human Resources, Health and Safety Consultant

Dr. Christopher Yost
Dr. Brian Sterenberg
Dr. Stephen Bend
Dr. Edward Mathie
Mr. Henry Yee
Mr. Ryan Fisher
Ms. Jackie Rorquist
Mrs. Chris Dehm
Mr. Mets Ritsema
Mr. Lee Aument
Mr. Joe Zieger
Ms. Jennifer Fabian

Scholarship Committee

Chair (Assistant Dean Undergraduate): Dr. Larry Saxton

Chemistry and Biochemistry
Computer Science
Mathematics and Statistics
Dean Ex-Officio

Dr. Renata Bailey (2008)
Dr. Samira Sadaoui (2009)
Dr. Bruce Gilligan (2009)
Dr. Katherine Bergman

Student Appeals Committee

Chair (Assistant Dean Undergraduate): Dr. Larry Saxton

Biology
Chemistry and Biochemistry
Computer Science
Geology
Mathematics and Statistics
Physics
Dean Ex-Officio

Dr. Richard Manzoni (2008)
Dr. Andrew Freywald (2009)
Dr. Xue-Dong Yang (2007)
Dr. Kathryn Bethune (2009)
Dr. Dianliang Deng (2008)
Dr. Garth Huber (2007)
Dr. Katherine Bergman

FACULTY REPRESENTATIVES TO OTHER FACULTIES

Faculty of Business Administration

Dr. Daryl Hepting (Computer Science)

Faculty of Arts

Dr. Brian Sterenberg (Chemistry and Biochemistry)
Dr. Boting Yang (Computer Science)

Faculty of Education

Dr. Christopher Yost (Biology)
Dr. Andrei Volodin (Mathematics and Statistics)

Faculty of Engineering

Dr. Martin Argerami (Mathematics and Statistics)
Dr. Lisa Fan (Computer Science)

Faculty of Fine Arts

Dr. Ian Coulson (Geology)

Faculty of Kinesiology and Health Studies

Dr. Guoxiang Chi (Geology)

Faculty of Social Work

Dr. Edward Mathie (Physics)

Centre for Continuing Education

Mr. Peter Douglas (Mathematics and Statistics)

2.4 FUNDRAISING

Scholarships are awarded annually in the Faculty. The Faculty of Science has ongoing discussions with the University Relations Office to develop a fundraising strategy. The target for this fundraising program will be to increase the number and value of the scholarships available to students in

the Faculty of Science, to develop a Visiting Scholars Program and to support the outreach activities of the Faculty. This will provide increased leverage to recruit and retain high quality faculty members and to attract top quality students into our programs at both the undergraduate and graduate levels.

■ 3.1 FACULTY MEMBERS

Department of Biology



Dr. Mark Brigham is a Professor and as of 1 July 2006, Head of the Department of Biology. He joined the Faculty in 1990. His research interests focus on the behaviour and ecology of bats and nightjars (nocturnal insect eating birds). Specifically he and his students are

addressing questions about the context in which these animals use metabolic depression (torpor and hibernation) as a means of saving energy during periods when food availability is low. Dr. Brigham has published over 110 papers in peer-reviewed journals and is currently an associate editor for the *Journal of Mammalogy*. He has received the University Alumni Awards for both Public Service and Teaching. He is the co-chair of the Terrestrial Mammal Specialist for COSEWIC (Committee on the Status of Endangered Wildlife in Canada).



Dr. Britt Hall is an assistant professor in the Department of Biology. Her research focuses on environmental controls regulating the formation and bioaccumulation of methyl mercury in aquatic ecosystems. She is particularly interested in factors controlling mercury methylation in wetlands

and has recently initiated a new research program examining mercury cycling in Saskatchewan prairie wetlands. Prairie lakes and wetlands are critical wildlife habitats, providing cover and nesting sites for hundreds of game and non-game wildlife species and containing the some of the most important waterfowl breeding habitat remaining in North America. Examining environmental factors regulating mercury cycling in prairie wetlands will provide information necessary to protect wildlife populations inhabiting these vulnerable habitats.



Dr. Chris Somers is an Assistant Professor of Biology who joined the Faculty in October 2006. His research interests focus on interactions between humans and wildlife, and the responses of animals to human-modified environments. Specifically, his current research program is

addressing issues in three areas: (1) foraging and diet of fish-eating birds and interactions with fisheries resources, (2) genetic diversity and gene flow in colonial waterbirds of the Great Plains, and (3) conservation genetics of prairie endemic animals. Dr. Somers is committed to education and outreach and works closely with stakeholder groups that are often in conflict with wildlife over resources. Having grown up in Toronto, Dr. Somers profoundly enjoys the low population density and wide-open spaces of Saskatchewan.

Department of Chemistry and Biochemistry



Dr. Lynn Mihichuk is an Associate Professor and Head of the Department of Chemistry and Biochemistry for a three-year term. Dr. Mihichuk completed his Ph.D. in Chemistry at the University of British Columbia in 1974 and joined our Faculty in 1980. His research interests include the synthesis of

potential catalysts for ring opening metathesis polymerization reactions and modeling studies (including the calculation of nuclear magnetic resonance parameters) of these reactions using computational chemistry. The computational studies have been extended to the study of paramagnetic germanium compounds involving the calculation of electron paramagnetic resonance parameters.

Department of Geology



Dr. Maria Vélez has been appointed for a three year term in the Department of Geology in a Lecturer position. She received her PhD in Quaternary Studies at the University of Amsterdam, The Netherlands, M.Res. in the Natural Environment at the University of Edinburgh, U.K. and B.Sc.

in Geology at EAFIT University in Columbia. Her research interests include the reconstruction of Quaternary climates and environments from the tropics, diatom paleoecology, and high resolution climate records recorded by diatoms and sediments, and studies of Devonian and Ordovician trilobites. Dr. Vélez brings her extensive expertise to numerous courses in Geology including Paleontology, Siliciclastic rocks and the Internal Processes of the Earth.

Department of Mathematics and Statistics



Dr. Remus Floricel is an Assistant Professor. He joined the Department of Mathematics and Statistics in August 2006. After receiving his PhD in Mathematics from Queen's University at Kingston in 2002, Dr. Floricel taught at the University of Ottawa and

University of California, Berkeley. His general areas of research interests/activities are in Functional Analysis and Operator Theory: in particular, Operator Algebras. The current research topics include classification of noncommutative and quantum information.

Department of Physics



Dr. Kamal Benslama has a BSc in physics from the University of Geneva, Switzerland, a MSc in High Energy Physics (HEP) from the University of Geneva, and received his PhD in HEP from the University of Lausanne, Switzerland. He has worked as a research

associate on the CLEO experiment at Cornell University and as a research scientist with Columbia University on the ATLAS experiment at the Large Hadron Collider (LHC) at the CERN laboratory in Geneva. His research interests include experimental high energy physics, computational physics, and advanced statistical methods used in HEP.

Dr. Benslama is currently leading the research project of the newly formed ATLAS group in Regina. ATLAS is a particle physics experiment that will explore the fundamental nature of matter and the basic forces that shape our universe. The ATLAS detector will search for new discoveries in the head on collisions of protons of extraordinarily high energy. ATLAS is one of the largest collaborative efforts ever attempted in the physical sciences. There are 1800 physicists (including 400 students) participating from more than 150 universities and laboratories in 35 countries. The protons will be accelerated in the LHC, an underground accelerator ring 27 km in circumference at the CERN Laboratory. The particle beams are steered to collide in the middle of the ATLAS detector. The debris of the collisions reveals fundamental particle processes. The energy density in these high-energy collisions is similar to the particle collision energy in the early universe less than a billionth of a second after the Big Bang.

■ 3.2 LABORATORY INSTRUCTORS

Department of Chemistry and Biochemistry



Mark Tymchak joined the Department of Chemistry and Biochemistry in July 2006 as a Laboratory Instructor II. After receiving a BSc Honours in Biochemistry (University of Saskatchewan) and a BEd (University of Regina), he continued in graduate research in biochemistry, pursuing a MSc degree, and has taught as a Laboratory Instructor and Sessional Lecturer.

Department of Computer Science



Alex Clarke joined the Department of Computer Science as a Laboratory Instructor I in August 2006. He received his Bachelor degree in Computer Science from the University of Regina in 2001 and has come to us with a Master of Mathematics in Computer Science from the University of Waterloo where he studied computer graphics. In addition to teaching and computing, he likes to sing and has already enjoyed a semester with the UofR Chamber Singers.

Department of Physics



Shaun Szymanski is the newest laboratory instructor for the Physics Department. Currently, he is finishing a MSc degree in theoretical particle physics with research in lattice quantum chromodynamics (QCD). Lattice QCD is a quantum description of the strong nuclear force and specifically describes the interactions of quarks and gluons using a 4-dimensional space-time lattice. Before starting his Master's program here at the University of Regina, he obtained a Bachelor's degree in physics and math from the University College of the Fraser Valley.

Shaun is originally from British Columbia and lived his whole life in the city of Langley before moving to Regina. In the two years he has been here he has tried to enjoy everything Regina has to offer and especially the amount of sunshine for outdoor activities. Shaun is looking forward to teaching more labs in future semesters and meeting more of the friendly people at the University of Regina.

■ 3.3 ADMINISTRATIVE STAFF

Dean's Office



Candace Aveyard joined Science in April 2006 to provide administrative support in the Dean's Office and the Student Program Centre just in time for spring Convocation.

Candace had been working at the University of Regina for over a year and a half spending the majority of

this time in the Faculty of Kinesiology and Health Studies. Candace is an energetic individual with more than 7 years experience working in an office environment and has a wide array of skills in customer services and computer based applications from Banner to Microsoft to CASPUR reports and FAST. In her spare time, Candace is a Sprints and Jumps coach for Excel Athletika as well as a Basketball coach for the RCBA. Any spare time she has beyond coaching is spent with her daughter, Milan having quality time and going to the movies.

Departments of Biology; Chemistry and Biochemistry



Catherine Kossatz accepted a position in Science in September working every morning in the Department of Chemistry and Biochemistry and every afternoon in the Department of Biology. Catherine has more than 17 years of experience in customer service and most recently has worked in the

Printing Services unit of the University of Regina. Catherine indicated one of her best assets is her ability to multi-task, a skill highly recommended for working in any department office in the Faculty of Science! Her interests include house painting, crocheting, shopping, dancing, collecting rocks, reading and taking university classes.

Department of Computer Science



Marilyn Hepp accepted the term position as Clerk Steno II in the Department of Computer Science March 1, 2006. Marilyn began working at the University of Regina in 2002. Since then she has held positions in the University Bookstore where she has developed and acquired a range of

skills and abilities she can exercise in this busy department office. Marilyn has already proven to be a friendly, considerate, reliable, responsible and conscientious colleague with first-class customer service skills and we're glad she has joined Science. Marilyn had a grand time on an European tour this fall visiting Portugal, Spain and England and she is looking forward to more international travel in the future.

Department of Geology



Van Tran was hired as a secretary for the Department of Geology as of July 10, 2006. Van has a Bachelor Degree in Education, an Associate in Business and Administration Diploma, and has currently been pursuing a Master Degree in Public Administration.

She has more than nine years of working experience in a variety of administrative positions plus three years as an administrative assistant with SPHERU, the Saskatchewan Population Health Evaluation Research Unit at the University of Regina. In her spare time, Van goes swimming, plays badminton, walks on the treadmill, watches movies, or reads novels.

Department of Mathematics and Statistics



Susie Munro joined the Department of Mathematics and Statistics in August 2006. She came with direct experience in Science having moved from the shared Clerk Steno II position in the Department of Biology and the Department of Chemistry and Biochemistry. Susie came to the university in October 2005 with years of work experience in Regina and Edmonton. This experience coupled with her friendly and cooperative manner were good preparation for the rigours of a busy academic unit. In the year Susie has been at the UofR she has quickly grasped the Science processes and procedures and now will have added opportunity to use these new skills in her new location. Susie and her husband Brian and one of their three sons, Steven, live in Balgonie, Saskatchewan where Brian is a Baptist Minister. Their two eldest sons and one daughter-in-law live in Edmonton, AB. Susie loves to read, do needle work and spend time with friends and family.



Barb Pidkowich was appointed as the first Program Coordinator in the Department of Mathematics and Statistics effective March 1, 2006. Barb is a University of Regina and University of Saskatchewan alumna with degrees in Commerce, Science and Education. She has a wealth of experience as a teacher and an auditor. She has also been a sessional lecturer in the Department of Mathematics and Statistics and filled other administrative support positions in Science. This wide range of experience combined with firsthand university knowledge made Barb the top candidate for this new position and she has already proved to be a valuable addition to the department. Outside work hours Barb spends time with her two children, is an executive member of St. Gabriel's Home and School Association, and is an active member of the Regina Ballroom Dancing Club.



■ **4.1 ENROLMENT TRENDS**

There was about a 4% decrease in the number of credit hours taught by the Faculty and a 3.5% decrease in the number of students in Science during 2006 as shown in Tables 4.1 and 4.2. During 2006-30, the number of students enrolled through the University of

Regina from last year rose; the number of students enrolling through the federated colleges however was lower. About 43% of all students in Science are registered in the three Federated Colleges, a decrease of 3% over last year.

TABLE 4.1 REGISTRATION CREDIT HOURS:

	2006-10	(2005-10)	2006-20	(2005-20)	2006-30	(2005-30)
University of Regina	14676	(15405)	1879	(2010)	17109	(17643)
Campion College	318	(243)	0	(0)	303	(318)
Luther College	974	(997)	6	(5)	987	(1347)
First Nations University of Canada	1044	(801)	237	(303)	888	(733)
Semester Total	16769	(17689)	2122	(2318)	19287	(20061)
Yearly Total	38178	(40068)				

TABLE 4.2 REGISTERED STUDENTS:

	2006-10	(2005-10)	2006-20	(2005-20)	2006-30	(2005-30)
University of Regina	605	(625)	211	(198)	682	(660)
Campion College	287	(316)	56	(65)	285	(328)
Luther College	208	(229)	47	(52)	218	(221)
First Nations University of Canada	14	(17)	3	(2)	11	(18)
Semester Total	1114	(1189)	317	(317)	1196	(1227)
Yearly Total	2627	(2731)				

Of the students registered in degree programs (Table 4.3) less than 7% are in an Honour's program. A large number of students (40%) are declared pre-professional students or are undecided in their degree aspirations. The largest decrease in declared majors occurred in Computer Science (Table 4.4), down 12% compared to the same semester last year (which, in turn, was 24% below the number the year before).

TABLE 4.3 STUDENTS REGISTERED BY DEGREE OR CERTIFICATE:

	2006-10	2006-30	Average
BMI	0	0	0
BSc	648	625	636.5
BSc (Hon)	52	40	46
Certificate in CS	2	6	4
Undeclared/Other	412	525	468.5
Total	1114	1196	1155

TABLE 4.4 MAJORS IN 2006-30:

	<u>Number</u>	<u>(Co-op Program)</u>
Undeclared/Undecided	182	
Actuarial Science	65	(15)
Biology/Biochemistry	4	
Biology/Geography	1	
Biology/Statistics	1	
Biochemistry	48	(5)
Biochemistry/Chemistry	4	
Biology	124	
Chemistry	54	(12)
Computer Science	171	(45)
Computer Science/Mathematics	5	(2)
Electronic Physics	0	
Environmental Biology	11	
Geography	28	
Geology	71	
Mathematics	26	
Mathematics/Computer Science	1	
Mathematics/Statistics	3	(1)
Physics	25	(2)
Software System Development	4	
Statistics	17	(1)
Statistics/Economics	5	
Pre-Professional	343	
Certificate in Computer Science	6	

In 2006, 153 Bachelors degrees were awarded (Table 4.5). The number of certificates rose slightly. While more than 21% of the degrees were in Computer Science, Biology, Actuarial Science and Chemistry produced more than 17%, 14% and 10% of the graduates, respectively. 9%, 8%, 6% and 5% of the graduates were in Biochemistry, Geography, Geology, and Mathematics respectively, with another 2 to 4% in each of Environmental Biology, Statistics and Physics (Table 4.6).

TABLE 4.5 DEGREES AND CERTIFICATES AWARDED:

	<u>Spring 2006</u>	<u>(2005)</u>	<u>Fall 2006</u>	<u>(2005)</u>	<u>Total 2006</u>	<u>(2005)</u>
BSc	112	(121)	22	(11)	134	(132)
BSc (Hon)	18	(21)	1	(1)	19	(22)
Total Degrees	130	(142)	23	(11)	153	(154)
Certificate in CS	7	(3)	2	(1)	9	(4)
Total Certificates	7	(3)	2	(1)	9	(4)

Of the 153 BSc degrees awarded, 18 were to students in the Co-operative Education Program.

TABLE 4.6 DEGREES AND CERTIFICATES AWARDED BY AREA IN 2006:

	Spring	Fall	Total
Actuarial Science	18	3	21
Biochemistry	10	1	11
Biochemistry/Chemistry	3	0	3
Biology	23	3	26
Biology/Geography	1	0	1
Chemistry	12	0	12
Computer Science	23	9	32
Computer Science/Mathematics	1	0	1
Environmental Biology	4	0	4
Geography	10	1	11
Geology	7	2	9
Mathematics	7	1	8
Mathematics/Statistics	1	0	1
Physics	4	2	6
Statistics	5	0	5
Statistics/Economics	1	1	2
Certificate in CS	7	2	9

As Table 4.7 shows, the number of credit hours taught by areas in Science is down in 2006, mainly in Computer Science. It should be noted that much of that reduction occurred in the lower level courses. Less than 12% of Science course credit hours are taught by the Federated Colleges, 5.1% by Luther, 1.6% by Campion and 4.6% by First Nations.

TABLE 4.7 CREDIT HOURS TAUGHT BY ACADEMIC AREAS (FIGURE 3):

	2006-10 (2005-10)		2006-20 (2005-20)		2006- 30 (2005-30)	
Biology	1826	(1823)	66	(33)	2051	(2054)
Biochemistry/Chemistry	2330	(2526)	118	(60)	2504	(2518)
Computer Science	2613	(2865)	447	(556)	3215	(3779)
Geology	1315	(1284)	221	(212)	1508	(1395)
Mathematics/Statistics	5208	(5702)	1018	(1125)	6303	(6772)
Physics	1384	(1205)	9	(24)	1528	(1125)
First Nations University of Canada	888	(1044)	237	(303)	888	(753)
Luther College	801	(997)	6	(5)	987	(1347)
Campion College	243	(273)	0	(0)	303	(318)
Total	16769	(17689)	2122	(2318)	19287	(20061)

□ 4.2 STUDENT RECRUITMENT STRATEGIES

The Faculty of Science is actively involved in school (elementary and secondary) and community organization programs. The Faculty sponsors various functions as well as being involved in science and career fairs. A number of faculty members visit classrooms or host classes on campus. The interaction with students early in their

careers makes us visible to them and provides them with contact people at the University to discuss their options. The Faculty will continue to develop a fundraising program to increase the number and value of our scholarships as a means of recruiting top undergraduate and graduate students.

■ 4.3 CO-OPERATIVE EDUCATION PROGRAM

The Faculty offers programs in co-operative university education in Biochemistry, Chemistry, Computer Science, Mathematics, Physics and Statistics. Students spend alternate four-month periods taking university courses and working in related, salaried jobs. There were about 80 students

registered in the co-operative education program this year. Actuarial Science offers an internship program whereby students can take jobs in cooperating companies during their academic program.

■ 4.4 DEPARTMENTAL PROGRAMS

The following undergraduate programs are available:

- 4.4.1 Actuarial Science BSc;
- 4.4.2 Biology BSc and BSc (Hons) including areas of concentration in Cellular & Molecular Biology and Ecology & Environmental Biology;
- 4.4.3 Biology/Biochemistry BSc;
- 4.4.4 Biology/Geography BSc;
- 4.4.5 Biology/Statistics BSc;
- 4.4.6 Environmental Biology (with SIAST Woodlands Campus) BSc and BSc (Hons);
- 4.4.7 Biochemistry BSc and BSc (Hons);
- 4.4.8 Biochemistry/Chemistry BSc;
- 4.4.9 Chemistry BSc and BSc (Hons);
- 4.4.10 Chemistry/Education Combined BEd/BSc;
- 4.4.11 Chemical Technology (with SIAST Kelsey Campus) BSc;
- 4.4.12 Computer Science Certificate, BSc and BSc (Hons);
- 4.4.13 Computer Science Post-Diploma BSc (after diplomas from SIAST Kelsey and Palliser Campuses);
- 4.4.14 Computer Science Software Systems Development, BSc;
- 4.4.15 Computer Science/Mathematics BSc and BSc (Hons);
- 4.4.16 Electronic Physics
- 4.4.17 Geography BSc and BSc (Hons);
- 4.4.18 Combined Geography/Geology BSc and BSc (Hons);
- 4.4.19 Geology BSc and BSc (Hons);
- 4.4.20 Combined Geology/Geography BSc and BSc (Hons);
- 4.4.21 Indigenous Health Studies Certificate;
- 4.4.22 Mathematics BSc and BSc (Hons);
- 4.4.23 Mathematics/Education Combined BEd/BSc;

- 4.4.24 Mathematics/Computer Science BSc and BSc (Hons);
- 4.4.25 Mathematics/Statistics BSc;
- 4.4.26 Medical Imaging Degree Program (with SIAST Kelsey Campus);
- 4.4.27 Medical Laboratory Science Degree Program (with SIAST Kelsey Campus);
- 4.4.28 Physics BSc and BSc (Hons);
- 4.4.29 Physics/Education Combined BEd/BSc;
- 4.4.30 Applied Industrial Physics with Emphasis in Computation and Physical Modeling BSc;
- 4.4.31 Applied Industrial Physics with Emphasis in Electronics and Modern Physics BSc;
- 4.4.32 Statistics BSc;
- 4.4.33 Statistics/Economics BSc

There are also Minors available in Biochemistry, Biology, Chemistry, Computer Science, Geology, Mathematics, Physics and Statistics.



■ 4.5 UNDERGRADUATE SOCIETIES

The academic year kicked off with the Faculty of Science hosting its third Student Social in October. This year all students in the Federated colleges were welcomed to the Social. The event was a huge success and we were very pleased to have all of the student societies participate throughout the planning process, and by setting up displays and assisting with registration at the event in the Multi-Purpose Room on campus. Since that time the student societies have taken on a number of initiatives representing their respective groups.

BIOLOGY UNDERGRADUATE AND GRADUATE SOCIETY (BUGS)

The Biology Undergraduate and Graduate Society (BUGS) has had a very full year in 2006. The year started off strong with a Career Fair put on by us in cooperation with the Biochemistry and Chemistry Students Association. Following that was a visit from the Saskatchewan Burrowing Owl Interpretive Center, which included a live burrowing owl for everyone to meet close up. Other educational events also took place including The Great Canadian Shoreline Cleanup and a guest lecture by Dr. Paul Levett from the Provincial Lab. BUGS also organized many social events for our members in the past year. Bowling nights, trips to the Saskatchewan Science Center and IMAX Theatre, BBQs, a movie night and various social gatherings have all taken place to ensure that biology students are able to have as much fun as possible while in university. I am pleased to announce that BUGS has seen its membership increase and has had many more individuals taking part in events than ever before. The future looks bright for BUGS.

BIOCHEMISTRY AND CHEMISTRY STUDENTS' ASSOCIATION (BSCA)

The Biochemistry and Chemistry Students' Association made no report in time to appear in this document.

COMPUTER SCIENCE STUDENTS' SOCIETY (CSSS)

The CSSS played a major role in hosting the first annual banquet to celebrate the Computer Science graduands for Spring 2006. The banquet was held in March at Queensbury Downs. There were 135 in attendance.

D.M. KENT CLUB (GEOLOGICAL STUDENTS' SOCIETY)

In the past year the D.M. Kent Club has provided many educational, professional, and social opportunities for our members. In cooperation with the geology department, the weekly seminar series has continued, where students and the general public are invited to hear about the recent research of faculty, students, and professionals. Plans are proceeding at the moment to set up a number of facility tours, in order to familiarize students with environments they may be working on in the future, like an operating oilrig, and the diamond exploration facilities at Fort a la Corne. The club has provided opportunities to attend courses required for work in isolated regions of northern Saskatchewan, including a firearms safety course, which is a requirement for employment with the exploration branch of Saskatchewan Industry and Resources.

Finally, the D.M. Kent Club has been involved in many social events for students. The meet and greet held in September provides students and department staff a chance to get to know one another in a relaxed setting, and has been subject to rapidly increasing attendance over the last couple of years. The annual Christmas party, held last year at a professor's home, was a big success, with many students and department members attending. The party will be held again this year in much the same way. The club has also hosted a number of very well received bowling and curling events. Last year, the club took part in the Saskatchewan Industry and Resources Open House in Saskatoon by sending a couple of delegates, and hosting a display poster. The club also sends a number of students to WIUCG, a geological students conference held last year in Calgary and this year in Winnipeg. The club has cooperated with a number of other student societies in various social events. In the very near future, the club will be hosting an open bonspiel, with the intention of introducing students from other faculties to the geological club.

MATHEMATICS, ACTUARIAL SCIENCE AND STATISTICS STUDENTS' SOCIETY (MASS)

The purpose of MASS is to create an understanding of Mathematics, Statistics, and Actuarial Science in a social setting, to act as medium between faculty and students, and to create a support system for students which will grow through the activities that MASS has planned. This year, we have already held a clothing sale so that students could buy quality clothing with the MASS logo. We are also planning an undergrad talk with Dr. Doolittle discussing some of his interests and a movie and pizza night to encourage Math/Stats/ACSC students to socialize. We will also likely be sponsoring the delegates to the Actuarial Students' National Association meeting in January.

PHYSICS STUDENTS' SOCIETY

The Physics Student Society provided the following social events for its members:

- 2 Pizza Parties;
- 1 Dodgeball/ fun in the gym night;
- 1 Bowling night;
- Founding Club of Capture the Flag.

PRE-MED CLUB

The week of September 25-29, we had our table drive in the Riddell and Classroom buildings to spread the news about our club and to sign up new members. On October 8th, we had our first Pre-med club meeting where the entire executive and all new members were welcome to come to discuss the activities and socials for the year. During that meeting many of the executives offered to research all of the possible events (cabarets, fieldtrips, fundraising, volunteer opportunities etc.) that were discussed and to report back to Taffeta. On October 17th, two of us helped at the Faculty of Science Student Pizza Social and set up a booth for our club. On November 1st we had a lecture with Dr. Kuzmicz who spoke about family medicine. On November 16th we had a movie night with free pizza and free promo materials provided by Princeton Review were given away.

■ 4.6 UNDERGRADUATE SCHOLARSHIPS

- 4.6.1.1 The University Prize in Science was awarded to David Conrad Roettger (High Honours in Chemistry - minor in Mathematics and Biology) at the Spring 2006 Convocation, and to Qiong Wu (Great Distinction in Computer Science - minor in Mathematics) at the Fall 2006 Convocation. Qiong Wu also was awarded the President's medal at the Fall convocation.
- 4.6.1.2 The Faculty of Science 10th Anniversary Entrance Scholarship was awarded to Richard Boulding.
- 4.6.1.3 The Coca-Cola Student Award was awarded to Benjamin Freitag.



■ 4.7 DEAN'S HONOUR LIST (Campion*, Luther**, First Nations University of Canada***)

Winter 2006

Andersen, Melissa**
Baidoo, Kezia
Bailey, Gillian
Bazin, Paul*
Block, Sarah
Bodani, Vivek
Budd, Alison**
Christie, Marina
Colpitts, Che
Culig, Jennifer*
Dreger, Jill
Dressler, Nicole*
Du, Chen
Durnaine, Chance
Escanlar, Peter*
Filipic, Lana
Fink, Kristen*
Gurney-Dunlop, Tanner
Guo, Xiao Hai
Hart, Caroline
Healey, Ryan

Hladky, Stephen**
Johnson, Eve Marie**
Kelly, Jacob**
Kingston, Brent*
Larwood, Michael
Lash, Colin*
Li, Hao
Liang, Yanlin
Long, Michelle**
Magnus, Samantha*
Malawski, Andrew*
Martin, Kristen*
Miller, Lana**
Moore, Ian*
Nguyen, Rita*
Nie, Fan
Nordick, Kendra*
O'Kranczy, Steven*
Oldershaw, Anastasia
Oleskiw, Timothy*
Overli-Domes, Taffeta

Petrychyn, Kevin
Plosker, Sarah**
Pollard, Janette
Ramsey, Christopher
Schauenberg, Jennifer
Schmuecker, Johanan
Sinclair, Caitlin*
Smith, Shari**
St. Onge, Caleigh
Stark, Kevin
Talbot, Mark**
Thomas Amy*
Van Nes, Dalene
Verhelst, Laura*
Wang, Lingshu
Weininger, Dean
Wilson, Lesley*
Wolfe, Cassidy**
Woolhouse, Carter**
Wu, Qiong

Summer 2006

Hicks, Tara
Nie, Fan

Wiens, Luke
Wu, Qiong

Xu, Xiaolong

Fall 2006

Abbas, Fatima
Abbas, Mariam
Ahmed, Syed
Bailey, Gillian
Bailey, Robert
Baron, Kristin*
Bazin, Christine*
Beattie, Kayla
Bourgault, Joanne
Brown, Michael
Budd, Allison**
Cabigon, Neal*
Chow, Alicia
Chow, Sidney*
Cote, Leonard*
Dean, Jonathan
Dreger, Sasha**
Du, Chen
Ferguson, Jackie*
Filipic, Lana
Fink, Kristin*
Herauf, Patrick
Hui, Tiffany

Hung, Loren
Hunter, Kristine
Jo, Patricia*
Johnson, Eve Marie**
Kruzeniski, Steven*
Lackhan, Alyssa**
Laprairie, Mark
Lawn, Rebecca**
Leslie, Steven
Liu, Xing
Lohans, Christopher
Long, Michelle**
Madden, Christopher***
Magnus, Samantha*
Malawski, Andrew*
Marcotte, Ryan
McMillan, Kaitlyn**
Misskey, Jonathan**
Musleh, Jordan
Natrasany, Sarah
Nel, Cara-Lee**
Nguyen, Nghia
Nguyen, Thomas*

Nie, Fan
Olson, Lanna
Parsons, Sasha*
Plosker, Sarah**
Ramadan, Eman
Ramsey, Christopher
Reeson, Marc*
Sahlu, Samra
Sauchyn, Hannah**
Smith, Patricia**
Song, Xiaopu
Spencer, Kali*
St. Onge, Caleigh
Tabin, Camolyn*
Talbot, Mark**
Tuchscherer, Jonathon*
Vinge, Sarah
Verhelst, Laura*
Wasyliw, Sanchea
Wiens, Luke
Wolfe, Cassidy**
Woolhouse, Carter**

□ PART 5: GRADUATE PROGRAM

Graduate education is an integral part of Faculty of Science activity. Graduate students obtain training in scientific research by working alongside professors in the laboratory, field and office. Much of the research undertaken by scientists could not be realized without the support of graduate students. To underscore the crucial role of graduate education in research, NSERC requires that each research program receiving NSERC funding be structured to provide for the education of highly qualified personnel.

Graduate students enjoy individual attention from their supervising professors and benefit from low student-to-professor ratios. The Faculty of

Science fosters a collegial atmosphere whereby students and professors interact as colleagues. The student body comprises a mix of first-rate domestic and international students, which enhances the learning experiences for each graduate student and brings useful expertise to the province.

The Faculty of Science offers programs leading to the Master of Science (MSc) and Doctor of Philosophy (PhD) degrees. The MSc degree typically requires one or two years of study after the BSc, while the PhD normally takes four years to complete after the BSc or three after the MSc.

■ 5.1 ENROLLMENT TRENDS

Recruitment of high quality graduate students is a challenge for the Faculty of Science. Many of the best undergraduate students in Science pursue graduate work elsewhere and it is difficult to attract large numbers of high-quality graduate students from other regions of Canada. However, this is

somewhat compensated for by the high international demand for our graduate programs. The presence of international students enhances the University and community at large, and enables the Faculty of Science to fulfill its mandate of research and graduate education.

TABLE 5.1 REGISTRATION STATISTICS

	Students Registered		Degrees Conferred	
	2006	2005	2006	2005
MSc				
Biology	18	15	2	0
Chemistry & Biochemistry	12	11	3	2
Computer Science	68	69	15	13
Geology	19	19	1	3
Mathematics & Statistics	15	14	1	2
Physics	4	6	2	1
Total	136	134	24	21
PhD				
Biology	5	3	3	1
Chemistry & Biochemistry	3	4	1	1
Computer Science	17	22	1	3
Geology	3	3	0	1
Mathematics & Statistics	10	5	0	0
Physics	4	1	0	0
Total	42	43	5	6

In addition to graduate students, the Faculty also trains postdoctoral fellows, individuals who hold PhDs and receive advanced research training for 2-4 years before moving on to permanent positions. Postdoctoral fellows were trained in Biology (3), Chemistry (4), Geology (1), Mathematics (2) and Physics (5).

■ 5.2 DEPARTMENTAL PROGRAMS

A brief overview of the graduate programs in each department in the Faculty of Science is provided below.

Department of Biology

The Department of Biology offers graduate programs in areas of active research by faculty members: moss developmental regulation, insect evolutionary genetics, bacterial/plant interactions, food microbiology, spatial analysis of ecological systems, plant respiratory metabolism, regulation of vertebrate endocrine systems, comparative and ecological physiology of fish and invertebrates, plant community ecology, terrestrial vertebrate ecology and limnology. The Department is equipped with modern research laboratories, including plant and aquatic facilities, a herbarium, a field station in the Cypress Hills (southwestern Saskatchewan), the CFI-sponsored Environmental Quality Analysis Laboratory, and long-term ecological research plots in the Research Park. The research capabilities of the Department are enhanced through association with local, provincial and federal government facilities and scientists, as well as research connections with a number of other universities.

Department of Chemistry and Biochemistry

Graduate studies in the Chemistry and Biochemistry Department involves programs in selected areas of analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, physical chemistry, computational chemistry and theoretical chemistry.

Department of Computer Science

The Department of Computer Science offers programs of study involving interdepartmental, multi-institutional and inter-institutional collaboration that has attracted faculty members and graduate students from all over the world. Students may pursue full-time or part-time graduate study leading toward the MSc and PhD degrees. The MSc program contains a project option and a co-op option that will be of interest, especially to IT practitioners. Students are currently conducting research in the

areas of multimedia, music and acoustics, pattern recognition, knowledge representation, knowledge discovery in databases, temporal reasoning, constraint programming, machine learning, rough sets and applications, uncertainty management, distributed systems, parallel processing, neural networks, theory of computing, computational geometry, virtual reality and computer animation, interface design, data communication, internet applications, structured text processing, data security, software security, network security, formal specification, software engineering, information theory, network communications, and agent technologies. The Department is well-equipped with modern computing facilities including the CFI-sponsored Laboratory for Computational Discovery and numerous SGI and Sun workstations. For parallel and graphics computing research, there is a 24-processor SGI Onyx2 graphics supercomputer.

Department of Geology

The Department of Geology offers graduate programs in fields that include petrological, geochemical, igneous, metamorphic, mineralogical, metallogenic, and structural studies including the Canadian Shield, Phanerozoic carbonate, clastic and evaporite sequences, as well as coal, petroleum, uranium and Quaternary studies. Resources are available for particular western regional projects. Close co-operation with Saskatchewan Industry and Resources provides excellent opportunities for field-based studies in the Shield, and access to sedimentary cores and data relating to the Phanerozoic rocks of Saskatchewan. On campus, staff and students of the department work in co-operation with other departments and with PTRC, PARC, CPRC and Communities of Tomorrow.

Department of Mathematics and Statistics

The Department of Mathematics and Statistics offers graduate programs in a wide variety of areas in pure and applied mathematics, and statistics. Recent graduate students have completed degrees in the areas of statistics, matrix theory, number theory and operator algebras. Graduate students enjoy the guidance of several faculty experts and participate in field-specific seminars.

Department of Physics

The Department of Physics offers graduate degrees in the areas of Experimental and Theoretical Subatomic Physics, and Astronomy. Faculty members and graduate students pursue their research locally and at locations elsewhere in Canada, the United States and Europe. The Department is an associate member of the TRIUMF subatomic physics laboratory located at the

University of British Columbia in Vancouver, B.C. The department is also a member of ATLAS at CERN, Switzerland, and has a close relationship with the Jefferson Laboratory (formerly the Continuous Electron Beam Accelerator Facility) in Newport News, Virginia, U.S.A.

■ 5.3 GRADUATE SCHOLARSHIP AND SUPPORT

Graduate education in Science is demanding and intensive, and normally continues through twelve months of the year. Full-time graduate students devote most of their time to their studies and research, making it difficult for these students to hold part-time jobs. Support for graduate students is made available through the research

grants of supervising professors, the Faculty of Graduate Studies and Research, and government and private-sector agencies.

The Faculty of Graduate Studies provides financial support (Table 5.2) for graduate students through scholarships and teaching assistantships.

TABLE 5.2: GRADUATE FUNDING

	Summer 2006			
	Teaching Assistantship	Research Award	Scholarship	Value
Biology	0	2	1	12,500
Chemistry and Biochemistry	0	1	1	9,000
Computer Science	0	4	4	36,500
Geology	0	1	1	9,000
Mathematics and Statistics	1	1	1	18,794.46
Physics	0	0	1	4,500
TOTAL	1	9	9	90,284.46

	Fall and Winter 2006-2007			
	Teaching Assistantship	Research Award	Scholarship	Value
Biology	4	1	3	35,825.82
Chemistry and Biochemistry	4	0	3	33,413.81
Computer Science	11	1	13	115,946.99
Geology	3	0	2	22,119.37
Mathematics and Statistics	2	0	3	24,500.90
Physics	2	0	2	20,000.91
TOTAL	26	2	26	251,807.80

■ 5.4 NATIONAL SCHOLARSHIPS AND FELLOWSHIPS

NSERC funds promising graduate students (Table 5.3) through the Canada Graduate Scholarship (CGS) and Post-Graduate Scholarship (PGS) programs. The value of the CGS-M (Master's) is \$17,500 for one year; PGS-M is \$17,300. The value of the PGS-D (Doctoral) is \$21,000 annually for three years.

Promising undergraduate students receive Undergraduate Summer Research Awards (Table 5.4) which allow them to gain research experience during the summer. Each award is for \$4,500.

TABLE 5.3 PGS AND CGS RECIPIENTS

Category	Student's Name	Department
PGS-D	Barker, Elizabeth	Biology
PGS-D	Contreras, Daniel	Biology
PGS-M	Tifenbach, Ryan	Mathematics and Statistics
CGS-M	Pfeifer, Laura	Biology
CGS-M	Dohms, Kimberly	Biology
CGS-M	Ranalli, Melissa	Biology

TABLE 5.4 NSERC Undergraduate Summer Research Awards

Student's Name	Supervisor	Department
Arbuthnott, Devin	Dr. Mark Brigham	Biology
Hart, Caroline	Dr. Christopher Yost	Biology
Lozinsky, Shannon	Dr. Susan Lund	Biology
Martin, Kristen	Dr. Mark Brigham	Biology
Overli-Domes, Taffeta	Dr. William Chapco	Biology
Schaunenberg, Jennifer	Dr. Susan Lund	Biology
Sinclair, Caitlin	Dr. Richard Manzon	Biology
Smith, Shari	Dr. Susan Lund	Biology
Walker, Crystal	Dr. Harold Weger	Biology
Askew, Christopher	Dr. Dae-Yeon Suh	Chemistry and Biochemistry
Boire, Lisa	Dr. Rod Kelln	Chemistry and Biochemistry
Colpitts, Che	Dr. Dae-Yeon Suh	Chemistry and Biochemistry
Jackson, Jessica	Dr. Rod Kelln	Chemistry and Biochemistry
Miller, Lana	Dr. Brian Sterenberg	Chemistry and Biochemistry
Nguyen, Rita	Dr. Dae-Yeon Suh	Chemistry and Biochemistry
O'Kraney, Steven	Dr. Athar Ansari	Chemistry and Biochemistry
Ulmer, Tiffany	Dr. Brian Sterenberg	Chemistry and Biochemistry
Nicolai, Garrett	Dr. Robert Hilderman	Computer Science
Oleskiw, Timothy	Dr. Xue-Dong Yang	Computer Science
Rizvi, Syed Ali Abbas	Dr. Daryl Hepting	Computer Science
McCann, Shawn	Dr. Doug Farenick	Mathematics and Statistics
Ramsey, Chris	Dr. Doug Farenick	Mathematics and Statistics
Wist, Sarah	Dr. Michael Kozdron	Mathematics and Statistics
Bodani, Vivek	Dr. Zisis Papandreou	Physics
Freitag, Benjamin	Dr. Mauricio Barbi	Physics
Harack, Benjamin	Dr. Randy Lewis	Physics
Janzen, Kathryn	Dr. George Lolos	Physics
Jasper, Blair	Dr. Nikolay Kolev	Physics
Nie, Wenshuan (Wendy)	Dr. Martin Beech	Physics

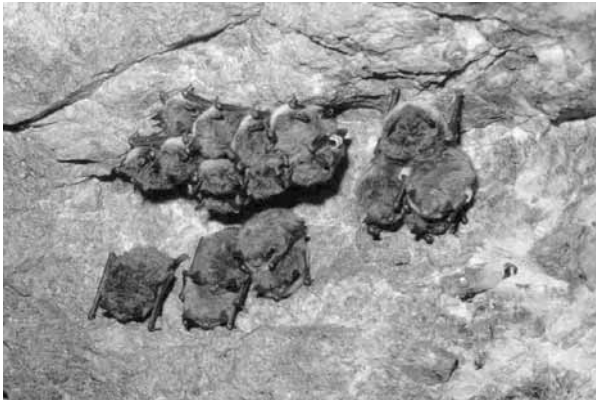
■ 5.5 NSERC SCHOLARS AND POSTDOCTORAL FELLOWS ATTRACTED TO THE FACULTY

NSERC scholarships and fellowships are portable. Students and fellows are encouraged to move to new institutions to broaden their experience. Two NSERC postdoctoral fellowships were attracted to the Department of Biology and from UBC and McMaster. In addition, the Pacific Institute of Mathematical Sciences funded a

postdoctoral fellow from Universidad Nacional de La Plata, Argentina in the Department of Mathematics and Statistics. This represents a “brain gain” for the community as well as a direct economic input to the province because salaries are provided from outside Saskatchewan.

■ 5.6 NSERC COMMITTEES

It is important for the University of Regina to have representation at the national level on the committees that oversee the policies for and the selection of graduate scholarships and postdoctoral fellowships. Dr. Rod Kelln, Department of Chemistry and Biochemistry, sits on the NSERC Standing Committee on Grants and Scholarships.



Research is a fundamental activity in the Faculty of Science. Through research, the Faculty, the University and the Province of Saskatchewan are significantly involved in the creation and dissemination of scientific knowledge. It is through research and teaching that high-level expertise is maintained and developed in the province.

In 2006 faculty members and students published 204 scientific papers in journals that were circulated throughout the world. One book and 47 technical reports were produced.

Scientific papers are published only after peer-review, which is an evaluation by experts in the field. Faculty members reviewed 191 papers for national and international journals. Peer review is organized by the editors of scientific journals: 13 editorships are held within the Faculty.

Because of the relatively long time required for publishing, it is vital to communicate research

findings rapidly through talks at meetings, and 137 presentations were made at national and international meetings. Sixty-four of these were invited by conference organizers, indicating our faculty members are recognized as leaders in their fields.

Research funding from national and international agencies is awarded on the basis of international activity, as evidenced by the quantity and quality of scientific publications. The Faculty received 129 research grants from national agencies, as well as 6 from international agencies. In addition, faculty members reviewed 6 grant applications on behalf of those agencies.

Lastly, the Department of Biology was recognized as being in the top 1% of institutions worldwide in terms of its research impact in the field of plant and animal science. This was achieved because 136 publications from Biology had been discussed in other scientific papers a total of 1,260 times.

■ 6.1 DEPARTMENTAL RESEARCH ACTIVITIES

A brief overview of the research activities and expertise in each department in the Faculty of Science is presented.

Department of Biology

Research interests include aquatic and terrestrial ecology, genetics, developmental biology, and microbiology. Field studies for a number of research projects are undertaken around the world. In addition, research by members of the Department is relevant to the environmental, health and economic concerns of Saskatchewan including research on the quality of freshwater, climate change, drought, ecosystem variability and

native plant ecology. The Department is home to a Canada Research Chair Tier I (Leavitt), a University Faculty Award holder (Hall), and two Canada Research Chair Tier II nominees (Yost, Somers) and Biology attracts and oversees a large complement of research assistants at levels varying from undergraduate students through to postdoctoral fellows.

The Department expertise is broadly grouped as follows:

Environmental biology:

Genetics, cellular and molecular biology:

Microbiology:

Physiology, development and behaviour:

M. Brigham, P. Leavitt, S. Lund, C. Somers, S. Wilson

N. Ashton, W. Chapco, S. Lund, R. Manzon,

C. Somers, C. Yost

C. Yost

N. Ashton, M. Brigham, R. Manzon,

C. Somers, H. Weger

The newest members of the department include Britt Hall, a biogeochemist, Susan Lund, a physiologist, and Chris Somers, an ecologist using genetic approaches.

Department of Chemistry and Biochemistry

Research interests of the Department of Chemistry and Biochemistry include analytical and environmental chemistry, asymmetric synthesis and methodology, biophysical biochemistry, cell biochemistry,

photochemistry, theoretical and computational chemistry, chemical biology, inorganic chemistry, organometallic chemistry and catalysis, nucleic acid biochemistry, enzymology and protein chemistry.

The Department expertise is broadly grouped as follows:

Analytical chemistry:

R. Bailey

Biochemistry:

T. Dahms, A. Freywald, R. Kelln, D.-Y. Suh

Inorganic chemistry/Organometallic

(includes Computational Chemistry):

L. Mihichuk, B. Sterenberg

Physical (includes Physical Organic) and

Theoretical/Computational chemistry:

A. East, S. Murphy

Organic synthesis and methodology:

A. Wee

Department of Computer Science

Research in the Department of Computer Science is both discipline and applications based. Research activity includes computing theory, theory and application of rough sets, information retrieval, graphics, computer visualization, machine learning, expert systems, human-computer interaction, databases, data communications, computer security, and distance education. The CFI-funded Laboratory for Computational Discovery (LCD) provides the necessary infrastructure for discipline based and

interdisciplinary research projects. The Rough Set Technology Laboratory (RSTL) is a focal point for growth in research activity in Rough Sets, Bayesian Networks, Data Mining and Web Intelligence. The Undergraduate Digital Media Lab continues to be a joint effort by the Department of Media Production and Studies in the Faculty of Fine Arts, and the Department of Computer Science. It provides state-of-the-art facilities for interdisciplinary research in multimedia.

The Department expertise is broadly grouped as follows:

Artificial intelligence:

C. Butz, D. Gerhard, H. Hamilton, M. Mouhoub, S. Sadaoui, D. Slezak, J.T. Yao, Y. Yao, W. Ziarko
C.N. Zhang

Parallel processing and VLSI architecture:

Computers in education:

D. Hepting, R.B. Maguire

Computational acoustics:

D. Gerhard

Computing theory, computational

geometry and algorithmic graph theory:

M. Mouhoub, L. Saxton, B. Yang

Constraint Programming

Computer security:

M. Mouhoub, S. Sadaoui
P. Fong, B. Yang, J.T. Yao, C.N. Zhang

Databases:

C. Butz, L. Saxton, W. Ziarko

Data communications:

T. Chan

Data mining:

H. Hamilton, R. Hilderman, D. Slezak, J.T. Yao, Y. Yao, W. Ziarko

Electronic Commerce:

J.T. Yao

Enviromatics:

D. Hepting

Human-computer interaction:

D. Gerhard, D. Hepting, R. Hilderman, R.B. Maguire

Informational retrieval and rough sets:

D. Slezak, J.T. Yao, Y. Yao, W. Ziarko

Languages, compilers, text processing:

D. Barnard, P. Fong, L. Symes

Multimedia:

D. Gerhard, H. Hamilton, D. Hepting, X.D. Yang

Robotics:

M. Mouhoub

Software technology/engineering:

L. Fan, P. Fong, D. Hepting, S. Sadaoui, W. Ziarko

Department of Geology

Research addresses volcanology, igneous and metamorphic petrology, structural geology, organic petrology, geochemistry, clastic and carbonate sedimentology and basin analysis, mineralogy, geomorphology, Quaternary geology and economic geology. The department maintains research collaborations with Saskatchewan Industry and Resources (SIR) and Geological Survey of Canada

(GSC). This collaboration gives faculty access to the SIR Subsurface Laboratory and core depository. SIR is also a source of research funding and provides some graduate and undergraduate student support. Some members of the department contribute to the research activities of the Petroleum Technology Research Centre (PTRC) situated in the University of Regina's Research Park.

The Department expertise is broadly grouped as follows:

<i>Organic petrology/geochemistry:</i>	S. Bend
<i>Clastic sedimentology and stratigraphy:</i>	K. Bergman
<i>Structural geology and metamorphic petrology:</i>	K. Bethune
<i>Economic geology and geofluids:</i>	G. Chi
<i>Volcanology, igneous petrology and mineralogy:</i>	I. Coulson
<i>Geomorphology and Quaternary environments:</i>	J. Dale
<i>Carbonate petrology and geochemistry:</i>	H. Qing
<i>Paleontology and Quaternary paleoenvironments:</i>	M. Velez

Department of Mathematics and Statistics

There is a strong core of researchers in several areas of mathematical science, particularly algebra and number theory, discrete mathematics, geometry and topology, matrix theory, functional analysis, numerical analysis, probability, and applied statistics. In addition, the department engages in consulting activities in actuarial science and statistics.

A number of mathematicians are affiliated with the department. Dr. Brian Alspach, a distinguished Canadian mathematician, is an adjunct professor, while Drs. Iqbal Husain and Fotini Labropulu are faculty members at Luther College. Dr. Pedro Massey is a PIMS postdoctoral fellow, and Dr. Andrew Douglas is also a postdoctoral fellow.

The Department expertise is broadly grouped as follows:

<i>Actuarial mathematics:</i>	L. Miller, P. Douglas
<i>Algebra and number theory:</i>	A. Douglas, A. Herman, R. McIntosh, F. Szechtman
<i>Algebraic topology:</i>	D. Stanley
<i>Applied analysis:</i>	E. Doolittle, I. Husain, F. Labropulu
<i>Discrete mathematics:</i>	B. Alspach, K. Heinrich
<i>Functional analysis:</i>	M. Argerami, J. Erlijman, D. Farenick, R. Floricel, P. Massey, M. Torres.
<i>Geometric analysis:</i>	B. Gilligan, A.L. Mare, S. Panafidin
<i>Geometry:</i>	J.C. Fisher
<i>Mathematics education:</i>	P. Maidorn
<i>Matrix theory:</i>	S. Fallat, C.-H. Guo, S. Kirkland
<i>Statistics and probability:</i>	D. Deng, M. Kozdron, A. Volodin, Y. Zhao

Dr. Floricel joined the department on August 1, 2006.

Department of Physics

The Department of Physics has active research programs in experimental and theoretical subatomic physics, and in observational astronomy. The research of many of the faculty members is collaborative in nature and the department organizes most of its

research infrastructure under four areas: Hadronic QCD Physics, High Energy Physics, Weak Interactions and Neutrino Physics, Observational Astronomy and Cosmology.

The Department expertise is broadly grouped as follows:

Experimental subatomic physics:

M. Barbi, K. Benslama, G. Huber, G. Lolos, E. Mathie, Z. Papandreou

Theoretical subatomic physics:

R. Lewis, N. Mobed

Observational astronomy:

P. Bergbusch

Planetary astronomy:

M. Beech

6.2 EXTERNAL FUNDING AND GRANTING AGENCIES

Research in the Faculty of Science is supported by a number of external agencies. The Natural Sciences and Engineering Research Council of Canada (NSERC) provides the majority of external funding to the faculty. This funding is awarded on the basis of national competitions that evaluate research productivity and international impact.

The Canada Foundation for Innovation (CFI), in partnership with the Government of Saskatchewan, provides infrastructure support for high-quality

research proposals. At the provincial level, researchers are eligible to compete for funds from the Health Services Utilization and Research Commission (HSURC).

Table 6.1 summarizes by department the sources of funds received by Faculty of Science researchers in the last fiscal year. The table does not reflect the total amount of funding awarded because in many instances the award is paid out over a number of years.

TABLE 6.1. Sources of funds received by Faculty of Science researchers in the fiscal year 2005-2006.

	NSERC	SSHRC	CIHR	CRC	FEDERAL GOV'T	PROV GOV'T	IND.	TRUSTS	TRANSFERS	MISC.	TOTALS
Dean's Office	\$0	\$0	\$0	\$0	\$30,777	\$0	\$0	\$7,600	\$3,750	\$0	\$42,127
Biology	\$356,716	\$0	\$0	\$200,00	\$94,947	\$79,849	\$2,700	\$37,514	\$1,732	\$0	\$773,458
Chemistry and Biochemistry	\$294,373	\$0	\$45,026	\$0	\$171,257	\$572,311	\$0	\$0	\$0	\$0	\$1,082,967
Computer Science	\$348,840	\$1,778	\$0	\$0	\$385,608	\$0	\$6,693	\$0	\$82,260	\$0	\$825,179
Geology	\$132,310	\$0	\$0	\$0	\$15,690	\$25,000	\$25,000	\$0	\$0	\$0	\$198,000
Mathematics and Statistics	\$237,030	\$0	\$0	\$0	\$0	\$52,500	\$67,500	\$0	\$0	\$34,000	\$391,030
Physics	\$256,320	\$0	\$0	\$100,00	\$0	\$100,00	\$99,227	\$0	\$0	\$0	\$555,547
Total	\$1,625,589	\$1,778	\$45,026	\$300,000	\$698,279	\$829,660	\$201,120	\$45,114	\$87,742	\$34,000	\$3,868,308

Abbreviations: NSERC: Natural Sciences and Engineering Research Council; SSHRC: Social Sciences and Humanities Research Council; CIHR: Canadian Institute for Health Research; Ind.: private industry.

Support from NSERC for ongoing research is mostly in the form of 'Discovery Grants' awarded to individual professors. Additional NSERC funding comes from Research Tools and Instrument (RTI) grants, group discovery grants, project grants, industrial collaborative grants, and strategic-research grants. The University of Regina is represented at the national level by members of the Faculty of Science who serve on committees that allocate NSERC research funding. This year Dr. Howard Hamilton

(Computer Science) served on the Grant Selection Committee for Computing and Information Science-B. In addition, Dr. Rod Kelln serves on the NSERC Standing Committee on Grants and Scholarships, and Dr. Doug Farenick represents NSERC at the University of Regina. The University is also represented at the national level by Dr. Katherine Bergman who serves on the board of PIMS (Pacific Institute of Mathematical Sciences).

■ 6.3 CANADA RESEARCH CHAIRS

The Faculty hosts a CRC Tier I in the area of Energy and Environment (P. Leavitt), and a CRC Tier II in Computational Physics (R. Lewis). The Faculty nominated two candidates for CRC Tier II in 2006.

Dr. Christopher Somers, nominee Canada Research Chair Tier II, in the Prairie Environment. Dr. Christopher Yost, nominee Canada Research Chair Tier II, Microbes and the Environment.

■ 6.4 INTERNATIONAL RESEARCH DEVELOPMENT

International impact is a key criterion for receiving NSERC funding, (Table 6.1) and our success in obtaining NSERC support attests to the ongoing level of activity in this area. This is achieved primarily by publishing scientific papers in international journals that are circulated globally.

It is also common for members of the Faculty of Science to be involved in fieldwork abroad or in international collaborations. Faculty members also serve on the grant selection committees of other countries, review for these agencies, and serve as editors for international journals.

University of Regina scientists routinely travel to present the results of their research at international symposia, and to attend conferences and workshops to keep up to date with cutting-edge developments in their discipline. The Faculty helped fund 35 professors to make presentations at international conferences last year, with the balance of funds coming mostly from NSERC grants. Participation by students and postdoctoral fellows at international meetings is also common.

■ 6.5 RESEARCH OPPORTUNITIES FOR UNDERGRADUATE STUDENTS

NSERC UNDERGRADUATE SUMMER RESEARCH AWARDS

NSERC annually allocates a number of awards for undergraduate students to obtain significant research experience under the direction of NSERC researchers (refer to Table 5.4).

UNDERGRADUATE RESEARCH ASSISTANTS

Many undergraduate students were hired by Faculty of Science researchers to assist in laboratories, fieldwork and other research-related activities over the summer months.

■ 6.6 ARCHER LIBRARY

Online Journals

Sage Journals

The Library, through the Canadian Research Knowledge Network, has acquired access to Sage Journals Online, a full-text online journal collection that includes over 300 journal titles.

Sage Journals Online includes the following subject specific collections: Materials Science, Health Sciences, Management and Organization Studies, Communication Studies, Criminology, Education, Political Science, Sociology and Urban Studies and Planning.

Each of these collections can be searched individually, or the entire collection can be searched at once.

British Medical Association Journals

This is a collection of over 20 medical journals from the British Medical Association.

Online Encyclopaedias

The library has added three science-related online encyclopaedias to its electronic collection:

Encyclopaedia of Statistical Sciences, second edition

This is a major reference work from the publisher John Wiley, and gives thorough coverage of most areas of statistical science.

Ullmann's Encyclopaedia of Industrial Chemistry

Subject areas include inorganic and organic chemicals, advanced materials, pharmaceuticals, polymers and plastics, metals and alloys, biotechnology and biotechnological products, food chemistry, environmental protection, and more. Chemical substances are described in detail. Information on physical and chemical properties, production, applications, economic data, toxicology and occupational health is provided for each substance. Relevant patent information is supplied wherever applicable.

Birds of North America

This online encyclopaedia provides scientific information for all species of birds nesting in the USA and Canada, with image and video galleries showing behaviours, habitats, nests, eggs and nestlings, and recordings of songs and calls selected from the collection in Cornell's Macaulay Library of Natural Sounds. It also includes an extensive bibliography for each species.

Online Reference Databases

ASTM Standards Online

Several sections of the ASTM (American Society of Testing and Materials) standards are available online.

Digital Engineering Library

This resource includes chapters from many McGraw-Hill reference sources. Although geared mainly toward engineers, many topics may be of interest to scientists as well.

E-book Collection

SAFARI TECH BOOKS ONLINE

This new e-book collection offers the latest books from many technical publishers, and includes over 1,000 titles. This collection replaced Books 24x7, which was not renewed.

Note: The books in Safari are included in the library catalogue; there is a link in the catalogue record of each Safari book to the book's online content.



□ **7.1 REPRESENTATION ON UNIVERSITY COMMITTEES**

Members of the Faculty of Science serve as representatives to other faculties and are members of University committees including:

- | | |
|---|--|
| Senate | President's Advisory Committee in Information Technology (PACIT) |
| Executive of Council | Senior Leadership Team (SLT) |
| Planning and Priorities Committee (PPC) | University Committee for Promotion to Professor |
| Council Admissions and Studies | Campus Administrative and Technical Staff (CATS) |
| Council Scholarship Committee | Committee on Administrative Computing Systems (COACS) |
| Deans' Council | Chemical Safety Committee |
| President's Research Committee | Fire Safety Committee |
| President's Committee on Animal Care (PCAC) | |
| Research Ethics Board | |

□ **7.2 PROFESSIONAL ORGANIZATIONS**

Faculty members of each academic department belong to various professional organizations. These organizations are named for each department below:

Department of Biology

- Animal Behaviour Society
- American Ornithologists Union
- American Society of Limnology and Oceanography
- American Society of Mammalogists
- American Society of Zoologists
- British Ecological Society
- Canadian Entomological Society
- Canadian Society of Environmental Biologists
- Canadian Society of Plant Physiologists
- Canadian Society of Zoologists
- Ecological Society of America
- Geological Society of America
- International Association of Great Lakes Research
- North American Benthological Society
- Phycological Society of America
- Sigma Xi
- Society of Canadian Limnologists
- The Wildlife Society

Department of Computer Science

- American Association of Artificial Intelligence
- Association for Computing Machinery
- Canadian Information Processing Society
- Canadian Society for Computational Studies on Intelligence
- Entity Relationships Society
- Florida Artificial Intelligence Research Society
- Institute of Electrical and Electronic Engineers
- International Roughset Society
- North American Fuzzy Set Society
- Society for Industrial and Applied Mathematics
- Special Interest Group Information Retrieval Artificial Intelligence Models of Data

Department of Chemistry and Biochemistry

- American Chemical Society
- Biophysical Society
- Canadian Institute of Chemistry
- Canadian Society for Chemistry
- Federation of American Society for Biochemistry
- International Society for Heterocyclic Chemistry
- American Association of Cancer Research



Department of Geology

Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS)
American Association of Petroleum Geologists (AAPG)
American Association of Petroleum Geologists Student Chapter
Canadian Association of Geographers
Canadian Sedimentology Research Group
Canadian Society of Organic Petrologists
Canadian Society of Petroleum Geologists (CSPG)
European Association of Organic Geochemists
International Association of Sedimentologists (IAS)
International Committee of Coal Petrologists
Geological Association of Canada (GAC)
Geological Society of America
Geological Society of London
Geological Society of South Africa
Mineralogical Association of Canada (MAC)
Mineralogical Society of Great Britain
National Association of Geology Teachers
Royal Canadian Geographical Society
Saskatchewan Geological Society (SGS)
Society for Sedimentary Geology (SEPM)
Society of Organic Petrologists

Department of Mathematics and Statistics

American Mathematical Society
American Statistical Association
Association for Women in Mathematics
Bernoulli Society for Probability and Statistics
Canadian Applied and Industrial Mathematics Society
Canadian Mathematical Society
Canadian Mathematics Education Study Group
Combinatorial Mathematics Society of Australia
German Mathematical Society
Institute for Combinatorics and Its Applications
Institute for Mathematical Statistics
International Chinese Statistical Association
International Indian Statistical Association
International Linear Algebra Society
International Statistical Institute
Mathematical Association of America
National Council of Teachers of Mathematics
Royal Statistical Society
Statistical Society of Canada
Society for Industrial and Applied Mathematics
The American Academy of Actuaries
The Canadian Institute of Actuaries
The Society of Actuaries

Department of Physics

American Physical Society (APS)
Canadian Association of Physicists (CAP)



■ **8.1 SCHOOLS**

Our faculty members are regularly invited to give lectures and presentations at elementary and secondary schools, as well as community organizations (e.g., Beavers, Cubs). These visits are well received by the school children and their teachers, and provide the faculty a means of

interacting with potential students. The Faculty of Science sponsors several events organized by various local and regional school systems such as science fairs and career fairs. The Faculty also provides displays and volunteers (e.g., judges, mentors) to these functions.

■ **8.2 COMMUNITY**

The mandate of the Saskatchewan Science Network (SSN) is to increase scientific literacy and promote science culture within Saskatchewan schools and the general community through partnerships with the education, science, and business communities of Saskatchewan. One of the goals of the SSN is to improve access for teachers to the pool of scientific and technological expertise and educational material available in Saskatchewan. The SSN has recently collaborated with the University of Regina, Faculty of Science and the NSERC WISE Chair at the University of Saskatchewan to create a website (<http://www.sasksciencenetwork.ca/ssn/>) that will facilitate access for teachers to scientific material suitable for enhanced classroom learning. Ultimately teachers will be able to incorporate science into their classrooms more readily and thereby improve the general level of scientific literacy in all students. The SSN looks forward to future collaborations with the Faculty of Science that will increase local interest in and awareness of science and technology occurring in Saskatchewan.

The Department of Mathematics and Statistics hosted the annual Mathematics Enrichment Camp for students from grades 7 to 12. Students from across the province attended and were engaged in a wide variety of activities to develop mathematical skills and to expose them to different opportunities available in mathematics. The two-day camp includes activities, games and presentations on a wide variety of topics designed to spark and enrich student interest in mathematical science. Topics include logic games, fractals and robotics. The Department also sponsors the Problem of the Month Contest. Each month a challenging math problem appears on the Department web page and in the Carillon (the University student newspaper). Local responses are received and many responses are from other provinces as well as Spain and Russia. The Department maintains Math Central a web-based interactive resource for teachers and students.

Many of our faculty are members of the Saskatchewan Science Centre and give public presentations or assist with the development of displays. The Faculty of Science is a gold sponsor of the Science Centre and was a corporate sponsor for the Fantasy Food 2006 Charity Gala Event.





□ APPENDIX 1: PROFESSOR EMERITI AND LAB INSTRUCTOR EMERITI FOR 2006

PROFESSOR EMERITI:

Department of Biology

Dr. Keith Denford
Dr. George Ledingham
Dr. George Mitchell
Dr. William Quick
Dr. M.V. Sethu Raju
Dr. Diane Secoy
Dr. A. Walther
Dr. Melvin Weisbart
Dr. Russell Zacharuk

Department of Chemistry and Biochemistry

Dr. David Chandler
Dr. Keith Johnson
Dr. Donald Lee

Department of Computer Science

Dr. Michael Wong

Department of Geology

Dr. Pier Binda
Dr. Donald Kent
Dr. Laurence Vigrass
Dr. Brian Watters

Department of Mathematics and Statistics

Mr. Norman Biernes
Dr. James Conlan
Dr. Audrey Duthie
Dr. Haragauri Gupta
Dr. Denis Hanson
Dr. Saroop Kaul
Dr. Eusebio Koh
Mrs. Joanne McDonald
Dr. R. Ian McDonald
Dr. Dieter Ruoff
Dr. Daihacharo Sato
Dr. Jim Tomkins
Dr. C.L. Wang
Dr. Harley Weston

Department of Physics

Dr. Leonard Greenberg
Dr. Joseph Kos
Dr. S. Ishrat Naqvi
Dr. Giorgio Papini
Dr. Bev Robertson

LAB INSTRUCTOR EMERITI:

Department of Computer Science

Ms. Pauline Van Havere

ADJUNCT MEMBERS

Department of Biology

Dr. Harold Bryant
Dr. Stephen Davis
Dr. Rod Kelln
Dr. Gregory Horsman
Dr. Paul Levett
Dr. Pedro Peres-Neto
Dr. Peter Pieroni
Dr. Glen Sutter
Dr. Rolf Vinebrooke
Dr. Mel Weisbart
Dr. Björn Wissel

Department of Chemistry and Biochemistry

Dr. Athar Ansari
Dr. Keith Johnson
Dr. Lynn Kirkpatrick
Dr. Ron Treble
Dr. Dunling Wang

Department of Computer Science

Dr. David Barnard
Dr. Nick Cercone
Dr. Darryl Dormuth
Dr. Dominik Slezak
Dr. Yang Xiang
Dr. Michael Wong

Department of Geology

Dr. Kenneth Ashton
Dr. Pier Binda
Dr. Ralph Cheesman
Dr. Donald Kent
Dr. R. Macdonald
Dr. Per Kent Pedersen
Dr. Osman Salad Hersi
Dr. Laverne Stasiuk
Dr. Laurence Vigrass

Department of Mathematics and Statistics

Dr. Ejaz Ahmed
Dr. Brian Alspach
Dr. Jonathon Funk
Dr. Denis Hanson
Dr. Jim Tomkins

Department of Physics

Dr. Bhaskar Dutta
Dr. Nikolay Kolev
Dr. Roman Tacik

ASSOCIATE MEMBERS

Department of Biology

Dr. Dennis Alfano
Dr. Stephen Davis
Dr. Mary Vetter (Luther College)

Department of Chemistry and Biochemistry

Dr. Neil Ashton

Department of Computer Science

Dr. Gordon Huang
Dr. Sheila Petty

Department of Mathematics and Statistics

Dr. Iqbal Husain (Luther College)
Dr. Fotini Labropulu (Luther College)

Department of Physics

Dr. Martin Beech (Campion College)

■ APPENDIX 3: SESSIONAL LECTURERS FOR 2006

Department of Biology

Michelle Wall
Craig Willis
Björn Wissel

Department of Chemistry and Biochemistry

David Chandler
Stephen Cheng
Donna Draper
Robert Smyj
Mark Tymchak

Department of Computer Science

Janine Bernat
Nova Scheidt
Marcin Szczuka
Xin Wang
Hong Yao

Department of Geology

Ken Ashton
Pier Binda
Robert Macdonald
Evan Morris

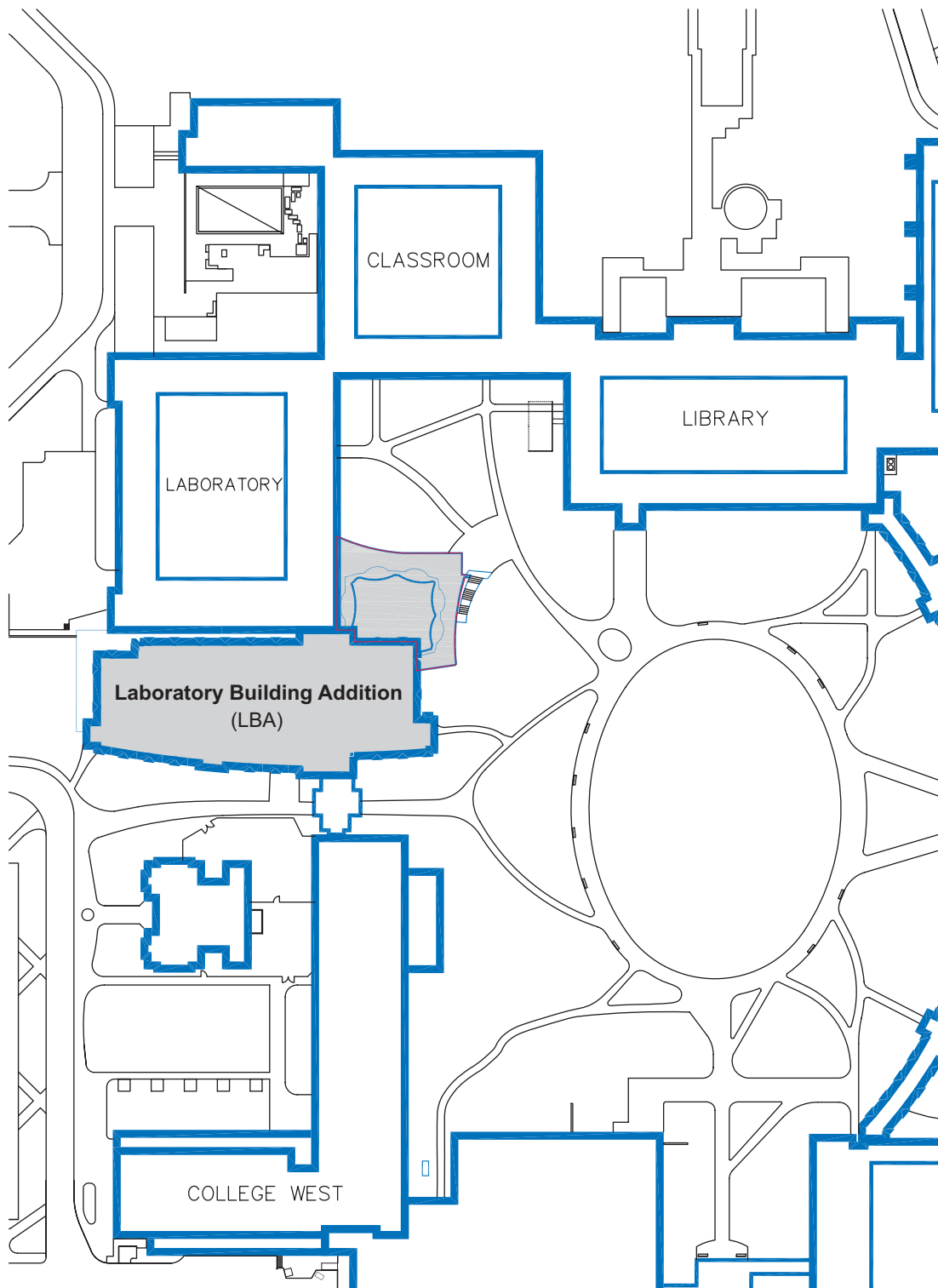
Department of Mathematics and Statistics

Brian Alspach
Colin Bailey
Peter Banh
Andrew Douglas
Darren Kalaman
Supanee Lisawadi
XiaoPing Liu
Leight Anne MacKnight
George Marshall
Dipra Mitra
Dieter Ruoff
Ryan Tifenbach
Phairat Usubharatana
Yuxin Zhang

Department of Physics

Nikolay Kolev
Dinesh Singh





Currently, the Faculty of Science has faculty members, staff and students located in spaces in the Laboratory Building, the Classroom Building, the Library, the Centre for Kinesiology and Health Studies and College West and we have been allocated space in the Laboratory Building Addition (LBA).



Check out our webcam at <http://webcam2.is.uregina.ca/view/view.shtml>