UNIVERSITY OF REGINA

FACULTY OF SCIENCE

Annual Report

January 1, 2005 – December 31, 2005

(www.uregina.ca/science/)

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 particularly in China.

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 2005 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.

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 Sorcha O'Rorke in the Student Program Centre, Janet Campbell, Office of Research Services, and Karen Wiome, Faculty of Graduate Studies and Research, and Peter Resch (Librarian for Science) for providing the necessary data. Finally I would like to thank Marlene Miller for her effort 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

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

Executive Summary

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

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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 several new initiatives have been successfully pursued. This report highlights the major accomplishments in the Faculty of Science between January 1, 2005 and December 31, 2005. 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 2005 and gives an indication of future directions and potential. The Faculty has undergone many changes over the last year as long time members retired, while others pursued opportunities in other locations and were replaced by new faculty members with new ideas about future directions and expectations. 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 Cooperative 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. Ms. Gwen Jones a Laboratory Instructor was awarded the Alumni Award for Teaching at the Fall 2005 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.

PART 2: FACULTY OVERVIEW

The Faculty of Science has 82 faculty members, 3 instructors, 15 laboratory instructors, 6 technicians, 22 administrative staff, 1091 full-time and 136 part-time undergraduate, and 165 graduate students. Members of the Faculty of Science have a strong commitment to research and teaching excellence. The Faculty of Science is composed of six departments: Biology, Chemistry and Biochemistry, Computer Science, Geology, Mathematics and Statistics, and Physics. Each department offers both undergraduate (BSc and BSc Honours) and graduate (MSc and PhD) degrees. Opportunities for interdepartmental programs (eg., Biology and Chemistry, Biology and Statistics) and interfaculty programs [eg., Mathematics and Education, Statistics and Economics (Arts)] are available, as are joint programs with SIAST. The Faculty is currently evaluating collaborative opportunities with international institutions (eg., China).

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 base of research supported by the Natural Sciences and Engineering Research Council of Canada (NSERC) 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 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 following specific goals and initiatives identified in our Strategic Plan:

- Upgrade the undergraduate laboratories to maintain program currency and to meet legislated safety standards;
- Remove and dispose of chemical wastes, and establishment of policies and procedures for handling of biological, chemical and radioactive wastes;
- Continue to recruit and retain high quality faculty, academic staff members and support staff;
- 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;
- Increase enrollment of both graduate and undergraduate students including international students;
- Increase funding for graduate students.

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 Building on Progress: The Plan for 2004 - 2009 as well as the Student Recruitment Task Force Report, Faculty Recruitment and Retention, and the Faculty of Science Strategic Plan Creating Our Future: 2005 - 2010. 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 in this report.

2.1 DEPARTMENTS

A brief overview of each department and highlights of their accomplishments for the year 2005 are described below.

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 very strong team of academics 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 14 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 Biology held 8 NSERC Discovery Grants, 2 NSERC RTI Grants, and 7 other grants and contracts totalling about $458,342.
- The Department supported 4 Postdoctoral Fellows (3 held NSERC PDF's). Faculty members supervised 2 Honours students to completion, 19 Masters students (4 completed) and 6 PhD students (1 completed).
- Dr. Peter Leavitt holds an additional $1.5 M in CFI and matching funds.
- Dr. Peter Leavitt recently received research funding from the Betty and Gordon Moore Foundation (Intel), with D.E. Schindler, B. Finney and R. Gregory-Eaves. The total value of the grants is $2.5M (USD). The University of Regina's share is $425,000 USD.
- Dr. Chris Yost received, in collaboration with Agriculture and Agrifood Canada, Saskatchewan Vegetable Growers Association and Dalhousie University, funding for $72,000 from the Canada-Saskatchewan Water Supply Expansion Program to manage pathogen levels in irrigation water supply reservoirs through natural and mechanical inactivation and aeration.
- Dr. Chris Yost has formed a successful relationship with Becker Underwood (an agricultural biotechnology company) and has been conducting contract work for them. He has also been communicating with Philom Bios to create collaborative ventures with them.
- Dr. Scott Wilson serves on the NSERC Major Facilities and Access Subcommittee.
- Collectively, Faculty Members published 27 refereed articles or book chapters in national and international journals. A total of 35 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.
- Dr. Pedro Peres-Neto joined the Department in January 2005. As a quantitative ecologist and modeler, he adds quantitative expertise to the Department's environmental teaching and research programs.
- The Department appointed Dr. Susan Lund in June 2005. Dr. Lund's expertise focuses on the ecological physiology of aquatic organisms, particularly in stressful environments. Her approach is molecular and as such she will be an active participant in the Department's molecular biology program.
- The Department was also successful in recruiting Dr. Britt Hall, who has applied for an NSERC University Faculty Award. Dr. Hall, a biogeochemist, is presently a Research Associate in the Faculty of Science. Her research focuses on environmental controls that influence the presence of methylmercury in aquatic ecosystems.
- Two students, associated with S. Lund at her previous institution, were recognized for making the best presentations at two conferences.
- K. Patel (BSc 2003), former student of Dr. William Chapco was awarded top student award in the Forensic Genetics Department at the University of North Texas Health Science Centre (Featured in the Third Degree 17(2).

Initiatives

- The molecular biology researchers will be exploring areas to establish new collaborations with the Provincial Labs once they move to the University Research Park.

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 14 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 NSERC RTI Grant, and 5 other grants (1 CFI innovation, 2 CFI New Ops, 1 CIHR and 1SHRF) and contracts totalling about $2,851,000.
- The Department supported 5 Postdoctoral Fellows. Faculty members supervised 5 Honours students to completion, 13 Masters students and 4 PhD students.
- The initial commitment from the Faculty of Science, the University and the Department to invest in new faculty members has contributed to the positive results in external grant successes.
- **Equipment Cost-Recovery Fee:** Nominal user fees for equipment use are now in effect for researchers who use departmental equipment such as the NMRs and GC-MS, as well as for the use of dry ice. Note that undergraduate students also use the NMRs with the assistance of laboratory instructors, the GC-MS (Honours students) and dry-ice, but are not assessed a fee. The user fees collected from researchers will not be adequate to fully offset the maintenance costs of the equipment.
- The Department was successful in recruiting Dr. Athar Ansari, in June 2005 to the Biochemistry Unit of the Department. Dr. Ansari's area of expertise is in gene regulation.
- The Department has successfully completed the upgrade and acquisition of equipment for use in teaching and research. Undergraduate and graduate students now have access to and have hands-on experience in the use of modern equipment. The undergraduate laboratories, LB 306, 308, 309 and 312 have received major facelifts. For example, benches were resurfaced and/or repaired, all plumbing was inspected and repaired where applicable, and the labs were painted.

Initiatives

- **Review of Chemistry & Biochemistry Undergraduate Curricula:** The Department has initiated a complete review of the chemistry and biochemistry programs and curricula. A first draft of the report has been prepared by the Curriculum Committee. The main objective is to arrive at a cohesive, comprehensive and effective program for chemistry and biochemistry. The courses and the laboratory components, where applicable, within each program area were examined and suggestions for improvement, addition of or deletion of lab courses were made. The curricula review process will take at least 2 years to implement.
- The Department is examining the graduate curricula in chemistry and biochemistry. Minor changes and additions have already been made to the graduate programs in terms of course credit requirements in the thesis-based M.Sc and Ph.D programs. The next step will be to update graduate courses to include the new graduate courses that have been developed by new faculty members.

- Research Laboratories: The construction of Dr. Renata Bailey's new Trace Analysis Facility located in LB 314 is nearing completion (Construction started a year ago).
- Laboratory Building Addition (LBA): The Department has formulated a plan regarding the relocation of chemistry faculty members and their research groups to the new LBA and the related infrastructure requirements that are essential in the LBA for the success of the relocation to be realized.

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 14 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 16 NSERC Discovery Grants, 2 NSERC RTI Grants, and 11 other grants and contracts totalling about $757,976.
- Faculty members supervised 9 Honours students to completion, 69 Masters students (14 completed) and 22 PhD students (1 completed).
- Dr. Howard Hamilton is chair of the NSERC Discovery Grants committee for Computer Science.
- Ms. Mishayla Potts was the winner of the second annual Mantle-Blachford Award as top student in the Cooperative Education Program.
- **Open Systems Lab.** The Open Systems Lab, funded by Western Economic Diversification (WED) with an additional financial contribution from the Faculty of Science, went into operation in the Fall of 2005. The Open Systems Lab serves the dual purposes of enhancing opportunities for our undergraduate students and building an active research program that will make important contributions to the Open Source community. The Open Source initiative is of growing importance in the information technology sector and this lab illustrates the Department's responsiveness to community needs.
- **Interactive Media Lab.** This laboratory, funded by WED with an additional financial contribution from the Faculty of Science, also went into operation in the Fall of 2005. Students are learning about the technical and creative aspects involved in the development of computer games and interactive television, and preparing to deal with the convergence of entertainment and networking in the home. It is complementary to the existing Undergraduate Digital Media Lab used by Computer Science and Fine Arts students.
- **Rough Music and Audio Digital Interactive Lab (aRMADILo).** This research laboratory also opened in 2005. It supports researchers and students interested in applications of rough sets, data mining, and artificial intelligence to the analysis of real-life data concerned with sound and speech recognition, and modeling. The lab received funding of $59,655 from the Canada Foundation for Innovation (CFI); $59,655 from the provincial government; and a contribution of $29,700 from the Faculty of Science.
- **International Visitors and International Reputation.** The highlight of 2005 was hosting the Tenth International Conference on Rough Sets, Fuzzy Sets, Data Mining, and Granular Computing (RSFDGrC 2005) in early September. This four day conference was devoted to rough sets and related research and drew more than 100 delegates to the UofR campus. Faculty members do collaborative research with colleagues from around the world, and in particular with those in Poland and China. They are all associated through the International Rough Set Society, which is based at the UofR.
- **TEL Grants.** TEL 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 2006 include Dr. Daryl Hepting (CS305), Dr. Philip Fong (CS170) and Dr. Samira Sadaoui (CS372).
- **Curriculum Accreditation.** The Department's CIPS (Canadian Information Processing Society) accreditation was renewed for 2005-2008. Computer Science was one of the four charter members of the CIPS accreditation process that began in 1982 and is the only department in Canada to have continuously maintained its accreditation since then.

- **Masters Program Options.** The Department of Computer Science is now offering two additional Master of Science program options – project and co-op. The Master's project option allows students to choose project research to address and solve applications of significant interest. As expected, the project option is of special interest to practitioners working in the local IT sector and, consequently, we are offering additional value to the community.

Initiatives

- **Undergraduate Programs.** Computer science is a dynamic and vibrant discipline that continues to experience rapid and dramatic development. With a significantly revised curriculum and new expertise from our recently renewed faculty, we are able to deliver new knowledge in existing courses, as well as introduce a number of new courses related to emerging areas in the IT industry. The requirements of scientific knowledge, technical and analytical skills for IT professionals from industry today are different from a decade ago. It becomes more and more important that our graduates have adequate professional knowledge in one or more application fields. The Department has recognized this shift and is putting increased emphasis on interdisciplinary studies. Close collaboration exists with the Faculty of Fine Arts and the Faculty of Engineering. Potential collaborative opportunities include scientific computing with Mathematics, Physics, and Chemistry, bio-informatics with Biology, Biochemistry, and other Health related disciplines.
- **Research Clusters.** Twelve of the nineteen faculty members in Computer Science have been recruited since the year 2000. Though all faculty members are actively carrying their own individual research projects, we are increasingly focusing on research teams or clusters that can pursue large projects and attract major research funding. The long-term objective is to establish several unique research programs with national and international reputations. A successful example is our internationally recognized Rough Set Research Group that hosted the 10th International Conference on Rough Sets, Fuzzy sets, Data Mining, and Granular Computing (RSFDGrC 2005) in Regina this year. The cluster structure will facilitate and encourage joint research among faculty members within Computer Science, as well as external collaboration.
- **Space.** The shortage of space and the temporary nature of space we are using are a major concern and impediment to the health of the Department. Considerable time is spent trying to optimize the use of currently limited available space. This practice requires senior faculty members to make sacrifices to allow new faculty members to have a part of desperately needed space to accommodate research equipment and graduate students. Borrowed space cannot be renovated. Faculty members are reluctant to invest in costly improvements such as additional network drops. Funded research projects are slowed down because of the shortage of suitable space. As one of our recently hired faculty members commented, planning and developing the infrastructure that you need for a successful research career is difficult at an institution where it seems access to space is a once in a lifetime opportunity. Part of the message was that he was not prepared to wait a lifetime to obtain the space his research activities require.

DEPARTMENT OF GEOLOGY

The response to the Unit Review (Fall 2002) was presented Winter 2004. 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 14 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, 7 faculty members in the Department of Geology held 4 NSERC Discovery Grants, 2 NSERC CRD Grants, and 9 other grants and contracts totalling about $402,000.
- The Department supported 2 Postdoctoral Fellows and was host to 3 Visiting Scholars. Faculty members supervised 5 Honours students to completion, 20 Masters students (1 completed) and 4 PhD students (1 completed).
- Dr. Guoxiang Chi and Dr. Hairuo Qing have developed a "Geofluids Characterization and Modeling Laboratory" with a grant from CFI and matching funds from the Province and the Faculty of Science. This facility will support a wide range of applications used to assess 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.
- Dr. Stephen Bend has set up the "Geomodeling and GIS Laboratory," an advanced computer facility with equipment and software packages that support a wide range of Geoscience applications using funding from Western Economic Diversification and the Faculty of Science.
- "Faculty of Science Scanning Electron Microscope Laboratory" has a state-of–the–art scanning electron microscope with an attached cathodluminescence system to collect images and spectra for a wide range of applications. Funds for the equipment came from the Faculty of Science and a CFI grant with matching funds from the Province awarded to Dr. Ian Coulson. System users come from a variety of disciplines in the UofR, other universities and government.
- The department has upgraded the optics and petrology labs to better meet the needs of students and faculty.
- The Department encourages collaboration with other institutions, government, industry and universities. Ongoing collaboration includes Saskatchewan Industry and Resources, Geological Survey of Canada and industry connections IMC Potash Corporation, Alcan Canada, Gatan U.S.A. Inc., Jeol USA Inc., Aramco and Nexen. University collaboration includes the Chinese Academy of Sciences, Saskatchewan, Winnipeg, British Columbia, and Sir Wilfred Laurier, Quebec, Carleton and Queen's Universities. Various collaborative efforts on campus include Petroleum Technology Research Centre, Prairie Adaptation Research Collaborative, Canadian Plains Research Center and Environmental Quality Analysis Laboratory. Current Canadian research projects occur in Saskatchewan, Alberta, Manitoba, British Columbia, Ontario, New Brunswick, Quebec and Nunavut. Ongoing international projects include those in the United States, China, Italy, Costa Rica, east and southeast Africa, Somalia, Pakistan and Greenland.
- To increase public awareness of the Graduate Program in Geology a poster highlighting the graduate programs, research opportunities, facilities and expertise of faculty members was updated and displayed at the Saskatchewan Industry and Resources open house in December 2004 and 2005. The audience included potential graduate students, industry representatives, government employees and the public. It will be shown at other venues this coming year.
- The Department has continued public outreach through presentations, labs and field trips for local school groups, by Faculty and Graduate students. School visits this year include St. Pius X, Massey, Sedley and Dr. A.E. Perry.
- The student society, the D.M. Kent Club of Geology, continues to be very active holding seven events and increasing their membership. They are established student chapters of the Geological Association of Canada, Canadian and American Association of Petroleum Geologists, and Association of Professional Engineers and Geoscientists of Saskatchewan. They have their own GSS-web-page and newsletter.
- Dr. Guoxiang Chi was awarded a Certificate of Appreciation by the Chinese National Office for Science and Technology. Dr. Ian Coulson was invited to serve as guest editor for a series of publications in the American Mineralogist and, with Dr. Martin Beech, has secured the loan of several rock specimens including meteorites from Mars and rock fragments from the moon. Dr. Hairuo Qing was invited to join the CAS International Research Team program studying karst catchments in China.
- A number of our graduate and undergraduate students were honoured in 2005 by external agencies. Mr. William Clark was the recipient of the Association of Professional Engineers and Geoscientists (APEGS) Gold medal award. Ms. Sarah Ranson won the APEGS book award. Ms. Chelsey Ebel was selected to participate in the Petroleum Industry Student Industry Field Trip.
- The Department has benefited from several generous donations this year. Dr. Donald Kent has established the Donald M. Kent Student Travel Award to support field trips and the D.M. Kent Consulting Geologist Prize in Sedimentary Geology for a deserving undergraduate student. Mr. Curry from DZ Resources has

donated the Surfer 8 software program to the department. Michelangelo Marble and Granite Company Ltd. donated nine pallets of natural stone to make thin sections and hand specimens for undergraduate and graduate courses. Tubello Stoneworks donated samples for our rock wall located at the departmental entrance, which will also be used for teaching purposes.

Initiatives

- **Review of Geology Undergraduate Curricula:** The Curriculum subcommittee has completed a course-by-course evaluation of our undergraduate program and identified and prioritized several areas requiring attention. Several courses require revamping (or level change) and the development of several new courses that better fit the needs of students and the expertise of current staff have been proposed. We are exploring new innovative ways to maintain the high standards and practical based program so valued by government and industry alike are being explored. Offering a wide variety of courses that permit professional registration, while balancing individual areas of expertise and research programs will be a continuing challenge.

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 very 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 14 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, 17 faculty members in the Department of Mathematics and Statistics held 17 NSERC Discovery Grants, totalling about $164,500.
- The Department supported 2 Postdoctoral Fellows (1 NSERC PDF) and was host to 12 Visiting Scholars. Drs. Akbari and Barghi, stayed for significant lengths of time (5 months and 6 weeks, respectively) and their visits laid the foundation for future research links between the UofR and the mathematical research community in Iran. Faculty members supervised 1 Honours student to completion, 13 Masters students and 6 PhD students. In 2005, 9 students graduated from the mathematics majors program, 3 from the statistics majors program, and 6 students graduated from the Actuarial Science program.
- Two of our undergraduate students were awarded NSERC Undergraduate Student Research Awards.
- Dr. Yang Zhao (Applied Statistics) joined the Department in September 2005 at the Assistant Professor rank.
- Largely because of the Department's initiative, the University of Regina became an affiliate member of the Pacific Institute for the Mathematical Sciences (PIMS) in 2005. Dr. S. Fallat is the PIMS site director for the UofR.
- Department members published 30 papers in internationally refereed journals in 2005.
- Department members serve in 12 editorial positions for refereed journals.
- Dr. D. Farenick organized the Northwest Functional Analysis Seminar, a two-day meeting at BIRS, in March 2005.
- Drs. D. Farenick and A. Herman co-organized the 2005 Saskatchewan Mathematics Mini-Meeting. Held at the UofR on a weekend in April 2005, the meeting featured talks by mathematicians from both the UofR and the UofS.

- Drs. S. Fallat, D. Farenick, C-H Guo and S. Kirkland organized the 12th Conference of the International Linear Algebra Society, which was held in Regina in June 2005. The conference attracted over 150 participants, many of whom are from abroad, and was supported by the Fields Institute, the Pacific Institute for the Mathematical Sciences, the University of Regina, the Faculty of Science and several publishing companies.
- In the Department Colloquium series, 9 colloquia were presented, including 6 by visitors to the University.
- Two regular seminar series took place in the Department during 2005: the Shubert Calculus Working Group (weekly in the winter of 2005) and the Toric Varieties Working Group (weekly in the fall of 2005).
- 16 Graduate Seminars were given, as well as one Honours Undergraduate talk.
- Dr. A. Volodin is co-founder and secretary for the Probability Section of the Statistical Society of Canada.
- Dr. S. Fallat is the web master for the International Linear Algebra Society (ILAS).
- Dr. K. Heinrich won the Adrien Pouliot Award, given by the Canadian Mathematical Society for outstanding contributions in the area of mathematics education in Canada.
- At the 2005 spring convocation, Mathematics Honours student Chris Ramsey was awarded the University Medal for having the highest GPA at the UofR in the 2004-2005 year.
- The Department has many ongoing outreach activities. These include:
  - A problem-solving workshop that meets every second week with students from the local schools, grades 7 through 12.
  - Our sixth annual Math Camp was held in October 2005, and attracted some forty participants.
  - Math Central, is a collection of Internet services for K-12 level mathematics. This unique and well-used service (over 50,000 hits per day) recently received a five-year grant in the amount of $150,000 from Imperial Oil Foundation.
  - Dr. H. Weston, recently retired from the Department, is the director of the Centre for Mathematics, Science and Technology Education.
  - The Department, in partnership with the Saskatchewan Mathematics Teachers Society, hosted the Saskatchewan Mathematics Challenge in March 2005. This mathematics competition for grades 8-10 attracted 270 student participants from across the province.
  - Dr. S. Fallat gave an expository talk on Statistics to the Regina Catholic School Board.
  - Dr. M. Kozdron and undergraduate student Ms. S. Wist gave a talk to high school mathematics teachers in Balgonie.
  - Dr. E. Doolittle is a co-recipient of an NSERC CRYSTAL grant in the amount of $1,000,000 over five years. The CRYSTAL project will explore ways of improving the quality of science and mathematics education (K-12).
  - Dr. E. Doolittle is a co-applicant on a number of SSHRC Aboriginal Research grants on the subject of the mathematics and science education of Aboriginal people.
- The sponsorship contract with the Saskatchewan Workers' Compensation Board for the Actuarial program was renewed. This five year contract is for $50,000 per year for the first two years, with the funding level to be discussed once more for years three through five of the agreement.
- The Department, in partnership with the Faculty of Science, was able to retire its debt (which was incurred in preceding years) to the Faculty.
- The Department conceived of, and began the transition to, a new leadership model, in which the Department is led by a Department Head, with several faculty members taking responsibility for key administrative tasks.

Initiatives

- Faculty members are involved in the organization of conferences at the regional, national and international levels. These include the Canadian Mathematical Society Winter Meeting (Victoria, 2005), Topics on von Neumann Algebras (BIRS, 2006), the Western Canada Linear Algebra Meeting (Victoria, 2006), the 13th meeting of the International Linear Algebra Society (Amsterdam, 2006), the GAMM/SIAM Conference on Applied Linear Algebra (Dusseldorf, 2006), the Statistical Society of Canada (London, 2006), and the Canadian Operator Algebra Symposium (Regina, 2008).
- Mr. L. Miller is pursuing the possibility of the UofR hosting the 2008 Actuarial Research Conference.
- A working group that includes Department members and representatives from Saskatchewan Learning was established in 2005. The working group discusses and strategizes around the issues of teaching and learning of mathematics, and preparedness of incoming students for courses in our department. In particular, the

working group drafted a sequence of sample tests that reflect expected mathematical skill levels for secondary students. Those tests will be posted on the Saskatchewan Learning website as a resource for teachers and students.

- The Department collaborated on a joint TEL proposal with the Centre for Academic Technologies for a revision of the online version of Math 101.
- The Department, in partnership with the Faculty of Science, is undertaking renovations to its main office area.

DEPARTMENT OF PHYSICS

The Physics Department has identified two principal areas of expertise, experimental and theoretical subatomic physics. This concentration in the broad field of subatomic physics (SAP) complements the closely related field of particle astrophysics an area of growth potential given the existing resources on campus. The areas of focus and proposed growth were supported by the 1996 external review. 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 effort to improve the delivery of education (teaching) is one of the stated goals of the University of Regina and the efforts to enhance the teaching environment in Physics are consistent with the goals of the University and the Faculty. 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 14 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 7 NSERC Discovery Grants and 3 other grants and contracts totalling about $900,000.
- The Department supported 4 Postdoctoral Fellows and was host to 3 Visiting Scholars. Faculty members supervised 7 Masters students (1 completed) and 1 PhD student.
- The SPARRO group, that represents half of the Department, is engaged in SAP research at Jefferson Lab (JLab). With a number of high priority experiments already completed and in the preparation stages, all the elements are there for a great program for the next decade and well beyond. The GlueX project has received approval by the Department of Energy (DOE) and the U.S. Congress. Two major reviews have been successfully completed, and a detailed, time-fixed process by the DOE leading to construction and first physics output has been established. GlueX and the JLab energy upgrade will carry the group well past year 2020. JLab Upgrade and GlueX are well-funded, large projects with very high scientific priority in the U.S. In fact, a number of science panels have identified GlueX as potentially Nobel Prize material. SPARRO plays a leading role in GlueX/Hall-D and is funded by both NSERC and DOE/JLab. The respect SPARRO enjoys internationally and nationally is evidenced by the invitation to join the Canadian Linear Collider (LC) Collaboration. Negotiations are ongoing with our Canadian colleagues in LC to define the role SPARRO can play, given the major commitment in GlueX. GlueX and the LC represent the long-term future of particle physics for 2010 - and well beyond - and the physicists involved in these new projects are mainly members of the same international community that will define the longer-term program of SAP as well.
- The past year has been the sixth year in a row that we have focused on the undergraduate labs, and will continue to do so for at least another three years. With the physical renovations completed in three labs between 2000 and 2003, in 2004 and 2005 emphasis was placed on the upgrading of the experimental equipment for the 200- and 300-series labs. Of these, the 200-series have been completed, to a large extent, with only maintenance and minor acquisitions planned for the coming years. As far as the 300-series are concerned, the replacement or refurbishing of obsolete or malfunctioning equipment for Physics 372 (3^{rd} year senior lab) has only begun. In parallel, the equipment for Physics 471 (4^{th} year senior lab) has aged and several experiments need to be redesigned or replaced, to modernize this lab and improve its educational value for the students. These will comprise the department's main expenditures for the next three years.
- While continuous repairs and purchasing of new lab equipment had been the operating mode for a number of years in the past, this was the first time that a significant budget has been requested – and approved – that allowed modernization of the labs in a major and coherent way. A comprehensive equipment and renovations list for Physics 372 and 471 has been compiled and prioritized, and acquisitions have started.

- The early feedback from the students and the lab instructors has been very positive on the equipment purchased last year for Physics 372. As an example, a Rutherford scattering experiment was designed and the acquired apparatus allows precision measurements of this, the foundation experiment of all subatomic physics.
- For new equipment or experiments, at least a year of evaluation and consolidation is usually required (one or two cycles of lab offering) before we can evaluate the results of our efforts and investment. This investment requires a large portion of the Department's financial resources, and infusion from the Dean's Office. We do not expect that such infusion will be required for the next year's budget cycle. It is a milestone in the educational life of the Department that for the first time in its history a sustained and integrated effort of this scope and magnitude was conceived, carried out and completed successfully. The effort to improve the delivery of undergraduate education (teaching) is one of the stated goals of the UofR, thus, all efforts to enhance the teaching environment are entirely consistent with the goals of the University.

Initiatives

- Dr. Brash resigned from the University of Regina and the Department is currently searching to replace his expertise.
- One new initiative, related to, but administratively separate from the Department, is the creation of the Prairie Particle Physics Institute (P3I) with membership drawn from the particle physicists in Physics and two research scientists. Financial support for P3I is provided by the Office of the VP Research and International, the Department, the Faculty of Science and JLab/DOE, the latter for partial salary support of one of the research scientists. The Institute is housed within the Department of Physics in the Faculty of Science. This is a University-wide institute with eventual goals of partnering with institutes in the Prairies. Recently, P3I hosted a successful public event, consisting of a thought-provoking public lecture and a wonderful performance by a string quartet, as part of the celebrations for the World Year of Physics (2005) – the commemoration of Einstein's brilliance in 1905.

2.2 HUMAN RESOURCES

DEAN'S OFFICE

Dean:	Dr. Katherine Bergman
Assistant Dean (Research):	Dr. Scott Wilson
Assistant Dean (Undergraduate):	Dr. David Chandler (retired June 30th) Dr. Larry Saxton (effective July 1st)
Faculty Administrator:	Audrey Perra
Coordinator, Science Operations:	Lee Aument
Academic Program Advisor:	Raeanne Thompson
Program Coordinator (Computer Science):	Lois Adams
Dean's Office:	Marlene Miller Ev Pow Sarah Savage (on leave)
Student Program Centre:	Sandy Barker Sorcha O'Rorke
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

DEPARTMENT OF BIOLOGY

Department Head:			Dr. William Chapco
Graduate Student Coordinator:			Dr. William Chapco
Department Office:	Jill Medby	Marg Friebel (resigned)	Susie Munro
Faculty:	Dr. Neil Ashton		Dr. Mark Brigham
	Dr. Peter Leavitt		Dr. Susan Lund
	Dr. Richard Manzon		Dr. Pedro Peres-Neto
	Dr. Harold Weger		Dr. Scott Wilson
	Dr. Christopher Yost		
PDFs/Research Associates:	Dr. Lynda Bunting	Dr. Sally Cleland	Dr. Britt Hall
	Dr. Alain Patoine	Dr. Chris Somers	
Lab Instructors:	Lauri Lintott	Terry Ross	Heather Stanley
Technicians:	Joanne Downing		Jackie Rorquist

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

Department Head:			Dr. Andrew Wee
Graduate Student Coordinator:			Dr. Allan East
Co-op Coordinator:			Dr. Lynn Mihichuk
Department Office:	Teri Dibble	Marg Friebel (resigned)	Susie Munro
Faculty:	Dr. Athar Ansari		Dr. Renata Bailey
	Dr. David Chandler (retired)		Dr. Tanya Dahms
	Dr. Allan East		Dr. Andrew Freywald
	Dr. Rod Kelln		Dr. Lynn Mihichuk
	Dr. Scott Murphy		Dr. Brian Sterenberg
	Dr. Dae-Yeon Suh		
PDFs/Research Associates:	Dr. Ahmed Bari	Dr. Phillip Bailey	Dr. Shatrugan Shahi
	Dr. Gaojun Fan	Dr. Sun Young Kim	Dr. Pavel Tsitovitch
Lab Instructors:	Donna Draper	Danny Ng	Henry Yee
Technician:	Christine Dehm		

DEPARTMENT OF COMPUTER SCIENCE

Department Head:			Dr. Brien Maguire
Graduate Student Coordinator:			Dr. JingTao Yao
Undergraduate Coordinator:			Dr. Cory Butz
Co-op Coordinator:			Dr. Lisa Fan
Program Coordinator:			Lois Adams
Department Office:	Donalda Kozlowski (resigned)		Janice Savoie (on leave)
	Michelle Kowbel		Barb Pidkowich
Faculty:	Dr. Cory Butz		Dr. Terence Chan
	Dr. Lisa Fan		Dr. Philip Fong
	Dr. David Gerhard		Dr. Howard Hamilton
	Dr. Daryl Hepting		Dr. Robert Hilderman
	Dr. Malek Mouhoub		Dr. Samira Sadaoui
	Dr. Larry Saxton		Dr. Dominik Slezak
	Dr. Larry Symes		Dr. Boting Yang
	Dr. Xue-Dong Yang		Dr. JingTao Yao
	Dr. Yiyu Yao (sabbatical)		Dr. Chang Zhang
	Dr. Wojciech Ziarko		
Lab Instructors:	Guili Liu	Nova Scheidt	Catherine Song	Pauline van Havere

Technical Services:	Florin Palanciuc	Pat Wagner
Systems Support:	Robert Cowles	Sarah (Peng) Yao

DEPARTMENT OF GEOLOGY

Department Head:		Dr. Janis Dale
Graduate Student Coordinator:		Dr. Ian Coulson
Department Office:	Bobbie Ruda (retired)	Marg Friebel
Faculty:	Dr. Stephen Bend	Dr. Kathryn Bethune (sabbatical)
	Dr. Katherine Bergman	Dr. Guoxiang Chi
	Dr. Ian Coulson	Dr. Hairuo Qing (sabbatical)
	Dr. Osman Salad Hersi (term)	Dr. Brian Watters (retired)
PDFs/Research Associates:	Dr. Qilong Fu	Tatiana Freywald
Lab Instructors:	Syed Abbas-Hasanie	Evanna Simpson
Technician:	Mets Ritsema	

DEPARTMENT OF MATHEMATICS AND STATISTICS

Department Head		Dr. Steve Kirkland (July 1st)
Acting Head:		Dr. Harley Weston (retired)
Graduate Student Coordinator:		Dr. Doug Farenick
Coordinator of Undergraduate Programs:		Mr. Patrick Maidorn (on leave July 1st)
		Dr. Allan Herman (effective July 1st)
Co-op Coordinator:		Dr. Marie Torres (on leave)
		Dr. Denis Hanson and
		Mr. Peter Douglas(effective July 1st)
Department Office:	Karen Howden	Nadine Griffiths
Faculty:	Dr. Martin Argerami	Dr. Dianliang Deng
	Dr. Ed Doolittle (term)	Mr. Peter Douglas
	Dr. Julianna Erlijman (on leave)	Dr. Shaun Fallat
	Dr. Doug Farenick	Dr. Chris Fisher
	Dr. Bruce Gilligan (sabbatical)	Dr. Chun-Hua Guo (sabbatical)
	Dr. Denis Hanson	Dr. Kathy Heinrich
	Dr. Allen Herman	Dr. Michael Kozdron
	Mr. Glenn Larson (retired)	Mr. Patrick Maidorn (on leave)
	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
	Dr. Maria Torres (on leave)	Dr. Andrei Volodin
	Dr. Harley Weston (retired)	Dr. Yang Zhao
PDFs/Research Associates:	Dr. Alejandra Premat	Dr. Fei Zhou
Lab Instructors:	Sarah Carnochan Naqvi (on leave)	Supranee Lisawadi (term)
Systems Support:	Gaynor Kybett	

DEPARTMENT OF PHYSICS

Department Head:		Dr. George Lolos (resigned June 30th)
		Dr. Zisis Papandreou (effective July 1st)
Graduate Student Coordinator:		Dr. Bhaskar Dutta (resigned June 30th)
		Dr. Garth Huber (effective July 1st)
Co-op Coordinator:		Dr. Garth Huber
Department Office:		Carol Allen

Faculty:	Dr. Mauricio Barbi	Dr. Bhaskar Dutta (resigned)
	Dr. Garth Huber	Dr. Randy Lewis (sabbatical)
	Dr. George Lolos	Dr. Edward Mathie
	Dr. Nader Mobed	Dr. Pierre Ouimet (term)
Research Scientist:	Dr. Roman Tacik	Dr. Rafael Hakobyan
PDFs/Research Associates:	Dr. Abdou Abdel-Rehim	Dr. Georg von Hippel
	Dr. Vitali Kovaltchouk	Dr. Ali Sabetfakhri Dr. Chuncheng Xu
Lab Instructors:	Dr. Peter Bergbusch	Gerry Zimmer

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
Chemistry and Biochemistry	Dr. Andrew Wee
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	(2006)
Chemistry and Biochemistry	Dr. Allan East	(2008)
Computer Science	Dr. Howard Hamilton	(2007)
Mathematics and Statistics	Dr. Shaun Fallat	(2008)
Dean E*x-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 E*x-Officio*	Dr. Katherine Bergman

NOMINATING COMMITTEE

Mathematics and Statistics	Dr. Shaun Fallat	(2007)
Chemistry and Biochemistry	Dr. Tanya Dahms	(2006)
Computer Science	Dr. Cory Butz	(2006)

SAFETY COMMITTEE

Chair (Faculty Administrator): Audrey Perra

Biology Faculty Member	Dr. Chris Yost
Chemistry and Biochemistry Faculty Member	Dr. Brian Sterenberg
Geology Faculty Member	Dr. Stephen Bend
Physics Faculty Member	Dr. Edward Mathie
Lab Instructor Representative	Mr. Henry Yee
Graduate Student Representative	Mr. Ryan Fisher
Biology Technician	Ms. Jackie Rorquist
Chemistry and Biochemistry Technician	Mrs. Chris Dehm
Geology Technician	Mr. Mets Ritsema
Coordinator, Science Operations	Mr. Lee Aument
Storekeeper, Science Stores	Mr. Joe Zieger

SCHOLARSHIP COMMITTEE

Chair (Assistant Dean Undergraduate): Dr. Larry Saxton

Chemistry and Biochemistry	Dr. Renata Bailey	(2008)
Computer Science	Dr. Philip Fong	(2006)
Mathematics and Statistics	Mr. Larry Miller	(2006)
Dean E*x-Officio*	Dr. Katherine Bergman	

STUDENT APPEALS COMMITTEE

Chair (Assistant Dean Undergraduate): Dr. Larry Saxton

Biology	Dr. Richard Manzon	(2008)
Chemistry and Biochemistry	DR. LYNN MIHICHUK	(2006)
Computer Science	Dr. Xue-Dong Yang	(2007)
Geology	Dr. Stephen Bend	(2006)
Mathematics and Statistics	Dr. Dianliang Deng	(2008)
Physics	Dr. Garth Huber	(2007)
Dean E*x-Officio*	Dr. Katherine Bergman	

FACULTY REPRESENTATIVES TO OTHER FACULTIES

Faculty of Administration	Dr. Daryl Hepting
Faculty of Arts	Dr. Dominik Slezak
	Dr. Brian Sterenberg
Faculty of Education	Dr. Chistopher Yost
	Dr. Andrei Volodin
Faculty of Engineering	Dr. Martin Argerami
	Dr. Lisa Fan
Faculty of Fine Arts	Dr. Ian Coulson
Faculty of Kinesiology and Health Studies	Dr. Stephen Bend
Faculty of Social Work	Dr. Scott Murphy
Centre for Continuing Education	Dr. Denis Hanson

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.

PART 3: NEW FACES IN THE FACULTY

3.1 FACULTY MEMBERS

DEPARTMENT OF BIOLOGY

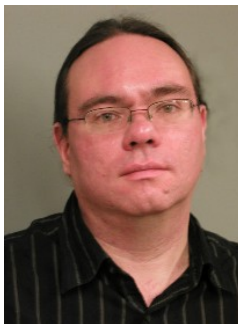
Dr. Pedro Peres-Neto is an Assistant Professor. He is a community ecologist with interests in ecological theory, biogeography, aquatic systems and quantitative methods. Dr. Peres-Neto's research focuses on the mechanisms determining the composition, structure and maintenance of species assemblages. His work is directed at determining how different factors such as species level-traits (e.g., morphology, dispersal capacity), habitat features, landscape structure and species interactions contribute to determine how species are assorted into local communities from regional pools. Dr. Peres-Neto conducts both empirical and theoretical work, mainly involving fish assemblages, putting emphasis on a quantitative framework for assessing the importance of those factors in determining community structure. His research endeavors are in two main directions: 1) conducting appropriate natural and field experiments to assess the relative importance of different ecological factors shaping community structure, and 2) the theory and development of quantitative and empirical modeling tools for conducting this assessment.

Dr. Susan Lund is an Assistant Professor of Animal Physiology. She joined the Department in July. Her research interests are focused on the comparative physiology of freshwater and marine fish. More specifically, Dr. Lund integrates ecological, physiological and molecular techniques to examine the effects of environmental heat stress on the whole organism. On a molecular level, one of the most rapid and sensitive responses to thermal stress is the induction of a group of highly conserved proteins called heat shock proteins (Hsps). In addition to being induced by stress, Hsps have constitutive functions in the cell as 'molecular chaperones' where they have been implicated in numerous processes including protein folding, intracellular transport and signal transduction. Because the heat shock response is vital to all organisms during both normal and stressful conditions, the function and expression patterns of these genes have broad implications for organismal responses to environmental challenges, and provide an important model system in which to study the molecular basis of species adaptation. Her research program will advance our knowledge of the physiological effects of thermal stress on fish and enhance our power to predict, and perhaps even mitigate, some of the biological consequences of future climate change.

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

Dr. Athar Ansari is an Assistant Professor. He obtained his PhD from the University of Delhi and subsequently pursued postdoctoral research at the Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey, USA. His research interest is directed toward understanding the regulation of transcription in eukaryotes. The major emphasis is on two aspects of transcription: 1) the role of chromatin structure and the cofactors involved in transcriptional regulation, and 2) elucidation of the effect of promoter-terminator interaction on transcription reinitiation.

DEPARTMENT OF MATHEMATICS AND STATISTICS



Dr. Ed Doolittle is an Assistant Professor, appointed for a three-year term. He joins the University of Regina after four years in the Department of Science, First Nations University of Canada. His research interests are differential equations, particularly hypoelliptic linear partial differential equations and their applications to several complex variables and quantum mechanics, non-linear ordinary differential equations related to mathematical biology, and other inter-disciplinary applications of differential equations. His current research program focuses on the control of potentially chaotic biological systems described by non-linear ordinary or partial differential equations. Dr. Doolittle is also interested in science education of Aboriginal people and is pursuing a number of research projects in that area in collaboration with education researchers at the University of Regina, University of Manitoba, and Brock University in southern Ontario, near his home reserve of Six Nations.

Mr. John Sandalack is an Instructor, appointed for a one-year term. Mr. Sandalack has a BA, BEd and Postgraduate Diploma in Curriculum and Instruction from the University of Regina. He began teaching at the University of Regina in the fall of 2003 as an Instructor for a one-year term in the Faculty of Arts assigned to First Year Services to teach Adult Mathematics classes. He helped develop an on-line course for AMTH 002, which was offered in 2004.

Dr. Yang Zhao is an Assistant Professor. She joined the Department of Mathematics and Statistics in September**.** Dr. Zhao has a PhD in Statistics from the University of Waterloo (2005) and a MSc in Statistics from the University of Victoria (2000). She is a recipient of the Provost Scholarship (2000) and the Sprott Scholarship (2003) of the University of Waterloo. Her research interests include incomplete data analysis, regression methodology, event history analysis and two-phase study.

DEPARTMENT OF PHYSICS

Dr. Pierre Ouimet is a Lecturer appointed for a three-year term. His general research area is theoretical subatomic physics and he specifically focuses on the connection of chiral perturbation theory to lattice field theory and on quantum anomalies involving lattice fermions. Dr. Ouimet has several highly-cited peer-reviewed publications. Dr. Ouimet has the distinction of being awarded the University of Regina 2005 President's Thesis Award for the best graduate thesis, and of being the University of Regina's nominee for an NSERC Doctoral Prize.

3.2 FACULTY LABORATORY

ENVIRONMENTAL QUALITY ANALYSIS LABORATORY (EQAL)

Dr. Björn Wissel is the new Analytical Chemist and Laboratory Manager of the Environmental Quality Analysis Laboratory (EQAL). He is also appointed as Adjunct Professor in the Department of Biology. His expertise is in stable isotope ecology, whereby all commonly used stable isotopes (carbon, nitrogen, sulfur, oxygen, and deuterium) can be analyzed at the EQAL facilities. His research focuses on food web composition and energy flow in aquatic environments, ranging from lakes and rivers to estuaries and continental shelf systems.

3.3 ADMINISTRATIVE STAFF

ASSISTANT DEAN (UNDERGRADUATE)

Dr. Larry Saxton was appointed Assistant Dean (Undergraduate) for the Faculty of Science on July 1st. He is a Professor in the Department of Computer Science whose research interests are in the theory and application of database models, particularly for the newly emerging areas of the web. He was Head of the Computer Science Department from 1994 until 1999. Dr. Saxton has worked as a Visiting Associate Professor at Vanderbilt University during 1982-1983, as a Visiting Research Scientist at Indiana University during 1990-1991 and as a Visiting Professor at the University of Waterloo during 1999-2000.

DEPARTMENTS OF BIOLOGY AND CHEMISTRY AND BIOCHEMISTRY

Susie Munro arrived on October 3, 2005 to take up the Clerk Steno II duties vacated by Marg Friebel. This is Susie's first position at the University of Regina and her time is split 50-50 between the Department of Biology and the Department of Chemistry and Biochemistry. She had been working with On-Site Solutions in Regina and also brings experience from seven years with the Edmonton Public School Board. Susie and her husband Brian and two of their three sons, Matthew and Steven, moved to Balgonie in 2002 where Brian is a Baptist Minister. Their eldest, Duncan, stayed in Edmonton to complete his schooling and was married in September 2005. Susie loves to read, cook and do needlepoint in her spare time. Susie and her family love to go to movies and concerts.

DEPARTMENT OF COMPUTER SCIENCE

Michelle Kowbel transferred to the Department of Computer Science from the University Bookstore in August 2005. Michelle had been working at the university since 2002 and enthusiastically accepted the promotion to a Clerk Steno II. She was very eager to adapt her strong customer service skills to another environment and to develop the new skills and competencies required to work in an academic unit.

Barb Pidkowich joined the Department of Computer Science as a Clerk Steno II in September 2005 just in time to welcome this year's full complement of undergraduate and graduate students. Barb is a University of Regina alumna with a wealth of experience as a teacher and an auditor and, most recently, as a sessional lecturer in the Department of Mathematics and Statistics. She has taken up the challenges of this busy office with a flourish and has already established herself as a valuable addition to this faculty. Outside the office Barb's time is spent being a mom to her two children.

DEPARTMENT OF GEOLOGY

Marg Friebel made a significant career move in 2005 and we were delighted she made it internally. She left the Departments of Biology and Chemistry and Biochemistry to become the sole office administrative support in the Department of Geology in August. Marg began working for the University of Regina in 1991 in Chemistry and in 1995 her duties expanded to include Biology. She was able to handle the challenges of both positions with skill and expertise and now Geology will benefit from her knowledge and experience. Marg also has a BA from Houghton College in New York. When she's away from the office, Marg enjoys music, flute, worship team at church, hiking, reading and travel.

DEPARTMENT OF MATHEMATICS AND STATISTICS

Dr. Steve Kirkland is a Professor and Head of the Department of Mathematics and Statistics for a two-year term. Dr. Kirkland completed a PhD in Mathematics at the University of Toronto in 1989. His research interests include the theory and applications of nonnegative matrices, as well as combinatoral matrix theory. He serves on the editorial boards of three mathematical journals, and has published upward of 85 research papers. He has also served as an arts advocate, chairing the Regina Arts Commission (2001-2002) and the Friends of the Dunlop Art Gallery (2003-2004).

DEPARTMENT OF PHYSICS

Dr. Zisis Papandreou is a Professor and Head of the Department of Physics. He joined our Faculty in 1995. His research area is subatomic (particle) physics and his main pursuits over the years have been electromagnetic and hadronic studies of pion absorption, eta meson production and rare decays, baryon spectroscopy, electromagnetic form factors of nucleons and mesons, vector meson photoproduction and exotic hybrid mesons. Dr. Papandreou has 70 publications in peer-reviewed journals, over 100 conference proceeding contributions, 20 invited and 30 contributed talks. He is Deputy Director of the Prairie Particle Physics Institute and co-leader of the Hardware Working Group of the International GlueX Collaboration.

PART 4: UNDERGRADUATE PROGRAMS

4.1 ENROLMENT TRENDS

There was about a 2% decrease in the number of credit hours and a 3% decrease in the number of students in Science during 2005 as shown in Tables 4.1 and 4.2. However, the largest decrease occurred in the 2005-20 semester. During 2005-30 there was an increase in the numbers of Luther and First Nations University of Canada Science students. About 46% of all students in Science are registered in the three Federated Colleges, a decrease of 4% over last year.

Table 4.1 Registration Credit Hours:

	2005-10	(2004-10)	2005-20	(2004-20)	2005-30	(2004-30)
University	6992	(7083)	1001	(1182)	7643	(7731)
Campion	3692	(3464)	273	(336)	3998	(4190)
Luther	2561	(2614)	199	(221)	2598	(2967)
First Nations University of Canada	177	(123)	9	(15)	207	(160)
Semester Total	13422	(13284)	1481	(1754)	14445	(15048)
Yearly Total	29342	(29986)				

Table 4.2 Registered Students:

	2005-10	(2004-10)	2005-20	(2004-20)	2005-30	(2004-30)
University	625	(638)	198	(227)	660	(663)
Campion	316	(296)	81	(88)	346	(334)
Luther	229	(226)	52	(60)	221	(253)
First Nations University of Canada	13	(18)	3	(6)	18	(15)
Semester Total	1187	(1173)	317	(371)	1227	(1277)
Yearly Total	2781	(2821)				

Of the students registered in degree programs (Table 4.3) only 6.5% are in an Honour's program. A large number of students (28%) 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 21% compared to the same semester last year (which, in turn, was 21% below the number the year before).

Table 4.3 Students Registered By Degree or Certificate:

	2005-10	2005-30	Average
BMI	0	0	0
BSc	791	787	793
BSc (Hon)	57	54	55.5
Certificate in CS	6	5	5.5
Undeclared/Other	325	311	328
Total	1187	1177	1182.0

Table 4.4 Majors in 2005-30:

	Number	(Co-op Program)
Undeclared/Undecided	168	
Actuarial Science	65	
Biology/Biochemistry	6	
Biology/Geography	2	
Biochemistry	67	(3)
Biology	139	
Chemistry	59	(12)
Computer Science	194	(59)
Computer Science/Mathematics	8	(1)
Electronic Physics	2	(1)
Environmental Biology	16	
Geography	33	
Geology	51	
Mathematics	22	(1)
Mathematics/Computer Science	1	(0)
Mathematics/Statistics	7	(1)
Physics	35	(5)
Software System Development	1	
Statistics	19	(1)
Statistics/Economics	7	
Pre-Professional	342	
Certificate in Computer Science	4	

In 2005, 154 Bachelors degrees were awarded (Table 4.5), down significantly for the Fall. The number of certificates was slightly lower. Slightly more than 34% of the degrees were in Computer Science, 17.6%, 11%, 6.5%, 6.5%, 5.8% and 5.2% in Biology, Chemistry, Biochemistry, Geography, Mathematics and Geology respectively, with another 2 to 4% in each of Environmental Biology and Physics (Table 4.6).

Table 4.5 Degrees and Certificates Awarded in 2005:

	Spring (2004)	Fall (2004)	Total (2004)
BSc	121 (124)	10 (23)	131 (147)
BSc (Hon)	21 (19)	1 (7)	23 (26)
Certificate in CS	3 (4)	1 (3)	1 (7)
Total Degrees	142 (143)	11 (30)	153 (173)
Total Certificates	3 (4)	1 (3)	4 (7)

Of the 154 BSc degrees awarded, 11 were to students in the Co-operative Education Program.

Table 4.6 Degrees and Certificates Awarded by Area in 2005:

	Spring	Fall	Total
Actuarial Science	6	0	6
Biochemistry	9	1	10
Biochemistry/Chemistry	1	0	1
Biology	26	1	27
Biology/Geography	1	0	1
Chemistry	16	1	17
Computer Science	48	5	53
Computer Science/Mathematics	2	0	2
Environmental Biology	3	0	3
Geography	8	2	10
Geology	8	0	8
Mathematics	9	0	9
Physics	2	0	2
Statistics	3	1	4
Certificate in CS	3	1	4

As Table 4.7 shows, the number of credit hours taught by areas in Science is down in 2005, mainly in Computer Science. Nearly 46% of Science students are registered through the Federated Colleges. Less than 12% of Science course credit hours are taught by the Federated Colleges.

Table 4.7 Credit Hours Taught By Academic Areas (Figure 3):

	2005-10	(2004-10)	2005-20	(2004-20)	2005-30	(2004-30)
Biology	1823	(1667)	33	(52)	2059	(2271)
Biochemistry/Chemistry	2526	(2528)	60	(66)	2518	(2685)
Computer Science	2865	(3495)	556	(594)	3779	(4051)
Geology	1284	(1359)	212	(267)	1395	(1321)
Mathematics/Statistics	5707	(6512)	1125	(1266)	6772	(7586)
Physics	1225	(1115)	24	(30)	1125	(1013)
First Nations University of Canada	1044	(999)	303	(129)	753	(438)
Luther	997	(1140)	5	(72)	1347	(1073)
Campion	243	(273)	0	(0)	318	(291)
Total	17689	(19088)	2318	(2476)	20061	(20729)

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 now 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);
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 Geology BSc and BSc (Hons);
4.4.19 Indian Health Studies Certificate;
4.4.20 Mathematics BSc and BSc (Hons);
4.4.21 Mathematics/Education Combined BEd/BSc;
4.4.22 Mathematics/Computer Science BSc and BSc (Hons);
4.4.23 Mathematics/Statistics BSc;
4.4.24 Medical Imaging Degree Program (with SIAST Kelsey Campus);
4.4.25 Physics BSc and BSc (Hons);
4.4.26 Physics/Education Combined BEd/BSc;
4.4.27 Applied Industrial Physics with Emphasis in Computation and Physical Modeling BSc;
4.4.28 Applied Industrial Physics with Emphasis in Electronics and Modern Physics BSc;
4.4.29 Statistics BSc;
4.4.30 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. 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

The Biology Undergraduate and Graduate Society (BUGS) has been very active over the past academic year. In February it held a Biology Career Info Day in their lounge, for which they compiled a booklet with career-based websites for students and collected information from various companies. In March, a guest speaker, Greg Litzenberger (a PhD recipient from the University of Regina), from the RCMP spoke on what forensics is all about and how students could get involved with the RCMP Forensics Lab. The Society held its General Meeting in September. Members also participated in the Great Canadian Shoreline Cleanup. In

November, BUGS sponsored a visit to the Royal Saskatchewan Museum, where Glenn Sutter provided a behind the scenes tour.

BIOCHEMISTRY AND CHEMISTRY STUDENTS' ASSOCIATION

The Biochemistry and Chemistry Students' Society (BCSA) was more active in 2005. In addition to their usual activities, wallyball and pool tournaments, members attended a Halo2 video game tournament and went on a tour to the Canadian Light Source Synchroton in Saskatoon. The tour was followed by a mini pub crawl for socializing. The two pool tournaments provided an excellent chance for students and faculty to socialize.

COMPUTER SCIENCE STUDENTS' SOCIETY

The Computer Science Students' Society (CSSS) was extremely active throughout 2005. It has been involved in a number of activities including a movie night, Beer and Pizza nights, a curling Bonspiel, a Laserquest night, and a post Annual General Meeting dinner during the Winter Semester. The Society also sponsored intra-mural volleyball, soccer and curling teams. During the Spring/Summer period a midsummer barbeque and a Texas Scramble Tournament were held and a softball team sponsored. In the Fall, the Society held a pool night with CIPS, a Halloween bowling night, and a beer and pizza night. It also sponsored intramural volleyball and soccer teams. The CSSS has its own server that hosts their website http://csss.cs.uregina.ca/forum/ and an internet resources chat room (IRC) 24/7 at irc://csss.cs.uregina.ca Port 6667 and room #csss.

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

The Geological Students' Society (GSS) took part in the Western Inter-University Geology Conference in Saskatoon in January for 20 students. Several students presented posters and oral presentations. During the Winter Semester it held a curling bonspiel in February and a year-end banquet, during which Don Kent was recognized for his commitment and the society was renamed in his honour. In the Fall members met with faculty and new students in September, held a bowling night in October, a mini golf tournament in November and Christmas party in December. The Society's website can be viewed at www.uregina.ca/geosoc.

MATHEMATICS, ACTUARIAL SCIENCE AND STATISTICS STUDENTS' SOCIETY

The Mathematics, Actuarial Science and Statistics Students' Society (MASS) has joined the Actuarial Students National Association. Six students attended the Actuarial Students National Association meeting in Calgary. A pizza social was held in the winter semester. In the fall, they held their general meeting and are producing a solutions manual for Stat 151 and Math 110 exams. In October, MASS sponsored a pizza and bowling night.

PHYSICS STUDENTS' SOCIETY

The Physics Students' Society (PSS) held a pizza party/Trivial pursuit night, a bowling night, a cribbage tournament and a pool night in the winter. The society also held a Trivial Pursuit night, a bowling night and faculty versus student paintball sessions in the fall semester.

PRE-MED CLUB

Formed in the Fall of 2004, the Pre-Med Club (PMC) has become one of the largest campus clubs. The club organized an MCAT preparation workshop, two rounds of mock interviews, a seminar on interview preparation, a seminar on the pre-med application process and a seminar on Canada's Healthcare system. Social events included the Children's Health Foundation Chillaxathon fundraiser, Halloween social fundraiser for Team Diabetes Canada and the RIDICULOUS January Back-to-School Beer Bash.

4.6 UNDERGRADUATE SCHOLARSHIPS

4.6.1.1 The University Prize in Science was awarded to David Thue (High Honours in Computer Science – minor in Physics) at the Spring 2005 Convocation, and to Michelle Ng (Great Distinction in Biochemistry) at the Fall 2005 Convocation.

4.6.1.2 Due to a surplus of funds, two Faculty of Science 10th Anniversary Entrance Scholarship were awarded, one to Chance Dumaine of Carnduff and one to Kelly Betker from Balfour Collegiate, Regina.

4.6.1.3 The Coca-Cola Student Award was awarded to Blair Jasper (Physics).

4.7 DEAN'S HONOUR LIST (CAMPION*, LUTHER**, FIRST NATIONS UNIVERSITY OF CANADA***)

Winter 2005

Abdulla, Adam*
Andersen, Melissa**
Askew, Christopher**
Bakouris, Christopher
Barkwell, Jillian*
Beauchesne, Jennifer
Bedel, Kevin**
Belous, Bryan
Bodani, Vivek
Buchko, Jordan*
Carbno, Christine**
Chow, Michael
Colpitts, Che
Cui, Wenming
Culig, Jennifer*
Dreger, Jill
Du, Chen
Durning, Stacy**
Fiege, Simona**
Fink, Kristen*
Fleischhaker, Daniel*
Gao, Qian
Gurney-Dunlop, Tanner
Hanna, Sarah*
Harack, Benjamin*
Hart, Caroline
Healey, Ryan
Henricksen, Rebecca**
Ivanov, Maxim
Jackson, Jessica
Janzen, Kathryn
Jasper, Blair
Johnson, Eve Marie**
Kaytor, Chantel
Kelly, Jacob**
Kozan, Daniel*
Langman, Blaine
Liang, Lingfeng
Lien, Francis
Litzenberger, Jennifer*
Liu, Xing
Long, Michelle**
Marcotte, Jeanette*
Martin, Kristen*
Mazur, Daniel
Milai, Dustin
Miller, Lana**
Morcom, Adam
Nguyen, Rita*
Oleskiw, Timothy*
Park, Brett
Park, Jae Kyoung
Plosker, Sarah**
Pollard, Janette
Potter, Gabriel
Potter, Luke**
Ramsey, Christopher
Rizvi, Syed
Roettger, David*
Schmuecker, Johanan
Schommer, Clark
Schonhoffer, Thomas
Schubert, Alison
Sinclair, Caitlin*
Sluser, Sarah*
Stark, Laura**
Stonechild, Rachel***
Straub, Elana*
Toogood, Ronald*
Truong, Wallace
Ulmer, Sharla**
Verhelst, Laura*
Weninger, Dean*
Wihlidal, Brietta*
Wist, Sarah
Wollbaum, Nathan*
Zhang, Danhua
Zhang, Ting

SUMMER 2005

Boire, Lisa**
Clews, Krystal*
Du, Chen
Ingram, Carolyn**
Sereda, Mark*

Dean's Honour List (Campion*, Luther, First Nations University of Canada***)**

FALL 2005

Adair, Michelle**
Andersen, Melissa**
Askew, Christopher**
Baidoo, Kezia
Bailey, Gillian
Barks, Patrick*
Bazin, Paul*
Bendig, Melissa*
Betker, Angela**
Betker, Kelly**
Block, Sarah
Bodani, Vivek
Brown, Michael
Bryanton, Mark
Budd, Allison**
Culig, Jennifer*
Daaza, Barine
Dreger, Jill
Dressler, Nicole*
Du, Chen
Dumaine, Chance
Escanlar, Peter*
Farmer, Jill*
Fenn, Jonas*
Filipic Lana
Fink, Kristen*
Gosselin, Robert**
Hamilton, Breanna
Harack, Benjamin*
Hart, Caroline
Hladky, Stephen*
Ho, Mary **
Hung, Loren
Jackson, Jessica
Jo, Patricia*
Johnson, Tammy**
Kelly, Jacob**
King, Jenna**
Kloschinsky, Amanda*
Kozan, Daniel*
Levesque, Lori*
Li, Hao
Liang, Yanling
Lohans, Christopher
MacNaughton, Leah
Magnus, Samantha*
Malawski, Andrew*
Mazur, Daniel
Mellor, Simon
Montgomery, Ian*
Natrasany, Sarah
Naylen, Amanda*
Nguyen, Rita*
Nguyen, Thomas*
Nie, Fan
Orr, Meagan
Ottenbreit, Rachel*
Overli-Domes Taffeta
Park, Brett
Petrychyn, Kevin
Pollard, Janette
Ramsey, Christopher
Robinson, Shawn*
Schmuecker, Johanan
Schwartz, Jacob*
Sinclair, Caitlin*
Smith, Shari**
St. Onge, Caleigh
Stark, Laura**
Stark, Kevin
Tacik, Nicholas
Talbot, Mark**
Thiessen, Tiffany
Tuchscherer, Jonathon*
Tyminski, Nicole*
van Nes, Dalene
Verhelst, Laura*
Wang, Linshu
Weisgarber, Danielle*
Weninger, Dean*
Wilson, Leslie*
Wolfe, Kassidy**
Wollbaum, Nathan*
Wu, Qiong
Zhang, Ting
Zhen, Rongshi

PART 5: GRADUATE PROGRAM

Graduate education is an integral part of Faculty of Science activity. Graduate students obtain important advanced education in scientific research by working alongside professors in the laboratory, in the field and in the 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 two years of study after the BSc, while the PhD normally takes three to four years to complete 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. Graduate enrolment increased in 2005 (Table 5.1).

TABLE 5.1 REGISTRATION STATISTICS

	STUDENTS REGISTERED		**Degrees Conferred**	
	2005	2004	2005	2004
MSc				
Biology	15	14	4	0
Chemistry & Biochemistry	11	12	0	2
Computer Science	69	66	14	13
Geology	19	18	1	3
Mathematics & Statistics	14	10	0	2
Physics	6	9	1	1
Total	134	129	20	21
PhD				
Biology	3	4	0	1
Chemistry & Biochemistry	4	3	0	1
Computer Science	22	20	1	3
Geology	3	4	1	1
Mathematics & Statistics	5	6	1	0
Physics	1	3	1	0
Total	43	40	4	6

In addition to graduate students, the Faculty also trains postdoctoral fellows, individuals who already hold PhDs and receive advanced research training for 2-4 years before moving on to permanent positions. Postdoctoral Fellows were trained in Biology (5), Chemistry (5), Geology (1), Mathematics (1) and Physics (6).

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 interaction, food microbiology, spatial analysis of ecological systems, plant respiratory metabolism, regulation of vertebrate endocrine systems, comparative and ecological physiology of freshwater and marine fish and invertebrates, plant community ecology, terrestrial vertebrate ecology and limnology. The Department is well equipped with modern research laboratories, including plant and aquatic facilities, a herbarium, a field station in the Cypress Hills of 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, federal and provincial government facilities, and 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. In 2005, a project option and a co-op option were added to the MSc program. The MSc and PhD degrees in Computer Science focus on four main areas of research: artificial intelligence, databases and information retrieval, graphics and image processing, and software technology. The department is currently conducting research in the areas of information technology security, pattern recognition, knowledge representation, knowledge discovery in databases, temporal reasoning, constraint logic 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, agent technology, 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, discrete mathematics, 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. 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. The Faculty of Graduate Studies and Research offers scholarships and teaching assistantships to qualified graduate students. Additional support for graduate students is made available through the research grants of supervising professors, as well as through scholarships and grants from government and private-sector agencies.

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

TABLE 5.2: GRADUATE FUNDING

	Summer 2005			Fall and Winter 2005-2006			
	Research Assistantship	Scholarship	Value	Teaching Assistantship	Research Assistantship	Scholarship	Value
Biology	2	1	12,500	4	0	3	31,502
Chemistry & Biochemistry	1	1	9,000	5	0	3	37,296
Computer Science	4	3	31,500	13	0	13	119,624
Geology	1	1	8,500	3	0	2	22,207
Mathematics & Statistics	1	1	9,000	3	0	2	23,883
Physics	0	1	5,000	2	0	2	17,413
TOTAL	9	8	75,500	30	3	25	251,926

5.4 NATIONAL SCHOLARSHIPS AND FELLOWSHIPS

NSERC funds promising graduate students 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.

TABLE 5.3 PGS M AND CGS-M RECIPIENTS

Category	Student's Name	Department
CGS M	Barker, Elizabeth	Biology
CGS-D	Fisher, Ryan	Biology
PGS M	Dopson, Brianna	Biology
CGS-M	Schmiedge, Paul	Computer Science
PGS M	Thue, David	Computer Science
PGS M	Widenmaier, Scot	Biology

NSERC also provides summer scholarships (Table 5.4) to allow promising students to gain research experience working with faculty.

TABLE 5.4 NSERC SUMMER SCHOLARSHIPS

Student's Name	Supervisor	Department
Askew, Christopher	Tanya Dahms	Chemistry and Biochemistry
Barker, Elizabeth	Neil Ashton	Biology
Barkwell, Jillian	Cory Butz	Computer Science
Bayda, Michael	Chris Yost	Biology
Bedel, Kevin	Malek Mouhoub	Computer Science
Bodani, Vivek	Scott Murphy	Chemistry and Biochemistry
Buchko, Jordan	Richard Manzon	Biology
Colpitts, Che	Dae-Yeon Suh	Chemistry and Biochemistry
Dopson, Brianna	Peter Leavitt	Biology
Foreman, Dallas	Chris Yost	Biology
Harack, Benjamin	Randy Lewis	Physics
Huang, Christopher	Tanya Dahms	Chemistry and Biochemistry
Jalil, Rabiya	Renata Bailey	Chemistry and Biochemistry
Konkel, Ken	Howard Hamilton	Computer Science
Krupski, Nicole	Andrei Volodin	Mathematics and Statistics
Magnus, Rachel	Peter Leavitt	Biology
Mamchur, Joel	Tanya Dahms	Chemistry and Biochemistry
Mang, Ashley	Doug Farenick	Mathematics and Statistics
Ramsey, Chris	Fernando Szechtman	Mathematics and Statistics
Rizvi, Syed	Chris Yost	Biology
Roettger, David	Allan East	Chemistry and Biochemistry
Schauenberg, Jennifer	Richard Manzon	Biology
Schommer, Clark	Dae-Yeon Suh	Chemistry and Biochemistry
Sinclair, Caitlin	Richard Manzon	Biology
Thue, David	Howard Hamilton	Computer Science
Ulmer, Tiffany	Brian Sterenberg	Chemistry and Biochemistry
Wang, Linshu	Michael Kozdron	Mathematics and Statistics
Wist, Sarah	Doug Farenick	Mathematics and Statistics
Ziegler, Ryan	Zisis Papandreou	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. One student holding an NSERC PhD scholarship is studying in Biology, after previous training at the University of Saskatchewan in Saskatoon. Three NSERC postdoctoral fellowships were attracted to Science, two in Biology and one in Mathematics and Statistics. Postdoctoral fellows came from UBC, McMaster, and Calgary. This represents a "brain gain" for the community as well as a direct economic input to the province because salaries are provided from Ottawa. Each scholarship is worth $35,000 per year for up to four years, and each postdoctoral fellowship is worth $40,000 per year for up to two years.

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 Standing Committee on Grants and Scholarships.

PART 6: RESEARCH

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, acquisition and dissemination of scientific knowledge. It is through research and teaching that high-level expertise is maintained and developed in the province.

In 2004 we published 195 scientific papers in journals that were circulated throughout the world. Four books and 38 technical reports were produced.

Scientific papers are published only after peer-review, which is an evaluation by experts in the field, and faculty members reviewed 41 papers for national and international journals. Peer review is organized by the editors of scientific journals: 19 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 144 presentations were made at national and international meetings. Nine 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 these agencies.

In summary, the quantity of our research is reflected by the numbers of publications and grants, and the quality is reflected in the number of leadership roles (reviews, editorships, invited talks) awarded to the Faculty.

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 in the Department of Biology addresses a variety of fundamental interests that include: animal, aquatic and plant ecology, genetics, molecular and developmental biology, and microbiology. The field studies for a number of research projects are undertaken around the world. In addition, research by the Department of Biology is relevant to the environmental, health and economic concerns of Saskatchewan including freshwater research, climate change research, drought studies, research into ecosystem variability and plant ecology. The Department of Biology attracts and oversees a large complement of research assistants at levels varying from undergraduate students through to postdoctoral fellows.

The expertise of the Department is broadly described as follows:

Environmental biology:	M. Brigham, P. Leavitt, S. Lund, P. Peres-Neto, S. Wilson
Evolution and systematics:	N. Ashton, W. Chapco
Genetics, cellular and molecular biology:	N. Ashton, W. Chapco, S. Lund, R. Manzon, C. Yost
Microbiology:	C. Yost
Physiology, development and behavior:	N. Ashton, M. Brigham, R. Manzon, H. Weger

New members of the department include Britt Hall, a biogeochemist, Susan Lund, a physiologist, and. Pedro Peres-Neto, a quantitative ecologist.

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 expertise of the Department is broadly grouped as follows:

Analytical chemistry:	R. Bailey
Biochemistry:	A. Ansari, T. Dahms, A. Freywald, R. Kelln, D.-Y. Suh
Inorganic chemistry/Organometallic:	L. Mihichuk, B. Sterenberg
Physical (includes Physical Organic) and Theoretical/Computational chemistry:	A. East, S. Murphy
Organic synthesis and methodology:	A. Wee, A. Bari (NSERC PDF), P. Shahi (NSERC PDF)

DEPARTMENT OF COMPUTER SCIENCE

Research in the Department of Computer Science is both discipline and applications based. The fields of research activity include: 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 expertise of the current faculty is broadly described as follows:

Artificial intelligence:	C. Butz, D. Gerhard, H. Hamilton, M. Mouhoub, S. Sadaoui, D. Slezak, J.T. Yao, Y. Yao, W. Ziarko
Parallel processing and VLSI architecture:	C.N. Zhang
Computers in education:	D. Hepting, R.B. Maguire
Computational acoustics:	D. Gerhard
Computing theory, computational geometry, geometry and algorithmic graph theory:	L. Saxton, B. Yang
Computer security:	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
Software technology/engineering:	L. Fan, P. Fong, D. Hepting, S. Sadaoui, W. Ziarko

DEPARTMENT OF GEOLOGY

The research expertise of the Department of Geology includes 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 research expertise of the department is broadly grouped as follows:

Organic petrology/geochemistry:	S. Bend
Clastic sedimentology and stratigraphy:	K. Bergman
Structural geology and metamorphic petrology:	K. Bethune
Economic geology and geofluids:	G. Chi
Volcanology, igneous petrology and mineralogy:	I. Coulson
Geomorphology and quaternary environments:	J. Dale
Carbonate petrology and geochemistry:	H. Qing
Sedimentary basin analysis:	O. Salad Hersi (term)

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 assistant and associate professors at Luther College respectively. Dr. Fei Zhou is an NSERC postdoctoral fellow.

The expertise of the department is broadly grouped as follows:

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

Dr. Zhao joined the department on July 1, 2005.

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 Physics Department organizes most of its research infrastructure under three groups: SPARRO (Subatomic Physics at Regina with Research Offshore), REGIE (Regina Experimental Group in Intermediate Energy Physics), and STAR (Subatomic Theory at Regina).

The expertise of the department is broadly grouped as follows:

Experimental subatomic physics:	M. Barbi, G. Huber, G. Lolos, E. Mathie, Z. Papandreou, R. Tacik (TRIUMF Research Scientist), R. Hakobyan (NSERC Research Scientist)
Observational astronomy:	P. Bergbusch
Planetary astronomy:	M. Beech (Campion)
Theoretical physics:	R. Lewis, N. Mobed

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), and the Canadian Institute for Health Research (CIHR) are the two federal granting bodies that provide 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 fiscal year 2004-2005. 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 2004-2005.

	NSERC	CIHR	CRC	FEDERAL GOV'T	PROV GOV'T	INDUSTRY	ASSOC./ FOUND./ TRUSTS	INTER-FUND TRANSFERS	MISC.	TOTALS
Dean's Office				120,211				431,393		551,604
Biology	295,931	18,900	200,000	292,865	130,744	44,638	6,293	38,000	1,250	1,028,621
Chemistry and Biochemistry	286,031			95,013	604,093		5,000	65,950		1,056,087
Computer Science	420,630			250,762	59,655	75,240		122,780		929,067
Geology	159,900			45,253	30,000	167,754		34,522	40,000	477,429
Mathematics and Statistics	168,500				2,500	136,150	5,000	61,667		373,817
Physics	385,000		200,000	180,870	180,870	497,435		59,000		1,503,175
Totals	1,715,992	18,900	400,000	984,974	1,007,862	921,217	16,293	813,312	41,250	5,919,800

- 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 the following committees devoted to the adjudication and allocation of NSERC research funding:

- Howard Hamilton (Computer Science): Grant Selection Committee, Computing and Information Science-B.

- Garth Huber (Physics): Subatomic Physics Long Range Planning Committee.

- Scott Wilson (Biology): Major Facilities Subcommittee of the Ecology and Evolution Grant Selection Committee.

- 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 provincial level by Dr. Katherine Bergman who serves on the HSURC Grant Selection Review Team.

6.3 CANADA RESEARCH CHAIRS

The Faculty hosts a Tier I Chair in the area of Energy and Environment (P. Leavitt), and a Tier II Chair in Computational Physics (R. Lewis). The Faculty is searching for a second Tier II Chair.

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 49 professors to make presentations at international conferences in 2004, 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

Dozens of undergraduate students were hired by Faculty of Science researchers to assist in laboratories, fieldwork and other research-related activities over the summer months. Partial funding for these students comes from the Centennial Student Employment Program (refer to Table 5.5). This is a provincial initiative to create jobs for students. This is the fourth year of a five-year program.

6.6 ARCHER LIBRARY - REVIEW OF ACTIVITIES AND ACQUISITIONS, 2005

ACQUISITIONS – JOURNALS

The Library approved the addition of two new journal subscriptions. ***ESAIM Probability and Statistics*** is particularly concerned with methodological developments of probability and statistics as applied to other scientific areas, for example biology and genetics, information theory, bioinformatics, random structures and random graphs, and physics.

The second title, ***Innovations in Incidence Geometry***, publishes original research in such areas as finite geometry, projective and affine planes, Galois geometry, and finite algebraic geometry, etc. Both titles are slated to be received in 2006.

JOURNAL BACKFILES

The library has acquired ***RSC (Royal Society of Chemistry) Journals Archive***. This online archive contains all articles published by the RSC (and its forerunner societies) from 1841 (the first issue of Memoirs and Proceedings of the Chemical Society) to 1996.

Additionally, the Library has extended our online holdings of ***Canadian Journal of Chemistry*** back to its first volume (1929).

DATABASES

The Library has made a change from the IEEE All Society Periodicals Package (ASPP) to the ***IEEE/IEE Electronic Library (IEL)***, providing a substantial increase in content. IEL covers every aspect of computing. It includes access to full text from 1988 and select content published since 1950 from a variety of journals, magazines and proceedings.

In late January, the Library began to provide access to ***BIOSIS Previews***; as a result, faculty and students will have ongoing access not only to Biological Abstracts, but also to Biological Abstracts/RRM (Reports, Reviews, Meetings). The latter complements Biological Abstracts by supplying unique coverage of proceedings of meetings, conferences and symposia, monographs, reports, short communications, software reviews, notes and reviews.

Also new to the Library is ***Applied Science & Technology Full Text***. This database indexes and abstracts articles from almost 600 journals covering all types of applied science and technology subjects. Full text coverage for selected periodicals is also included. Periodical coverage includes trade and industrial publications, journals issued by professional and technical societies, and specialized subject periodicals, as well as special issues such as buyers' guides, directories, and conference proceedings. Indexing begins in 1983, abstracting begins in March, 1993, and full text begins in 1997.

GENERAL

The Library welcomed Charles Phelps as its new term Science Librarian. Charles comes from St. Gabriel's College in Bangkok, Thailand, where he taught science and English. Previously, Charles was the Science and Engineering Librarian, California State University at Long Beach. He was also Technical Librarian at the Jet Propulsion Laboratory in Pasadena, California. Charles is developing the Library's instruction program in the science subject areas, and provides general information services and subject-specific reference in the sciences. He is also available for consultations with students and faculty on research projects and library resources.

PART 7: UNIVERSITY SERVICE

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
Executive of Council
Planning and Priorities Committee
Council Admissions and Studies
Council Scholarship Committee
Deans' Council
President's Research Committee
President's Committee on Animal Care
Research Ethics Board
President's Advisory Committee in Information Technology
University Committee for Promotion to Professor
Campus Administrative and Technical Staff
Committee on Administrative Computing Systems

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 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 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 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)

PART 8: PUBLIC SERVICE

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 Faculty of Science and the Prairie Particle Physics Institute (P3I) presented the inaugural Richard Feynman Memorial Lecture on November 15, 2006. Dr. Feynman's many life-time accomplishments include the introduction of graphic analogues (Feynman diagrams) of mathematical expressions used to describe the behaviour of systems of interacting particles. Dr. Feynman was head of the theoretical division of the atomic bomb project at Los Alamos. He was a member of the committee set up to investigate the cause of the explosion on the space shuttle Challenger, and was author and recipient of the jointly held 1965 Nobel Prize with J. Schwinger and S. Tomonoga. This year's lecture celebrated the 100th anniversary of Einstein's "miracle year" and the World Year of Physics. Dr. Clifford Martin Will, the James S. McDonnell Professor of Physics and member of the McDonnell Center for the Space Sciences at Washington University in St. Louis, delivered the lecture "Was Einstein Right?"

- 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/or 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). Although a few responses have been received locally many of the 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.

- On October 27, 2005 the university announced a $150,000 donation from the Imperial Oil Foundation to support Math Central. This contribution to the University of Regina's Building Dreams and Futures campaign is spread over five years and will enable the continuation and expansion of Math Central's services to the K-12 mathematics community under the direction of Harley Weston. An immediate consequence of this support was a redesign of the web site at http://MathCentral.uregina.ca that recognizes the support from the Imperial Oil Foundation. The activity on Math Central continues to grow. One measure of this activity is the number of visitors per day that reached a high of more than 6500 in November.

- A significant event at Math Central during the calendar year 2005 was the completion of the first phase of the Mathematics with a Human Face project, the printing and distribution of the careers poster. Copies were sent to every high school in Canada as well as libraries and science centres. The poster was also a centerpiece at the Canadian Mathematics Education Forum in Toronto in May. The Forum was attended by 200 mathematics teachers, school administrators and university faculty from every province and territory in Canada and each of the participants was given a copy of the poster.

- 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 2005 Charity Gala Event.

APPENDIX 1: PROFESSOR EMERITI FOR 2005

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. Saroop Kaul
Dr. Eusebio Koh
Mrs. Joanne McDonald
Dr. R. Ian McDonald
Dr. Dieter Ruoff
Dr. Daihacharo Sato
Dr. C.L. Wang

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

APPENDIX 2: ADJUNCT AND ASSOCIATE MEMBERS FOR 2005

ADJUNCT MEMBERS

DEPARTMENT OF BIOLOGY
Dr. Harold Bryant
Dr. Rod Kelln
Dr. Gregory Horsman
Dr. Paul Levett
Dr. Glen Sutter
Dr. Rolf Vinebrooke
Dr. Björn Wissel

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY
Dr. Keith Johnson
Dr. Lynn Kirkpatrick
Dr. Ron Treble
Dr. Dunling Wang

DEPARTMENT OF COMPUTER SCIENCE
Dr. David Barnard
Dr. Nick Cercone
Dr. Michael Wong

DEPARTMENT OF GEOLOGY
Dr. Kenneth Ashton
Dr. Pier Binda
Dr. Ralph Cheesman
Dr. Donald Kent
Dr. R. Macdonald
Dr. Pere Pedersen
Dr. Laverne Stasiuk

DEPARTMENT OF MATHEMATICS AND STATISTICS
Dr. Ejaz Ahmed
Dr. Brian Alspach
Dr. Jonathon Funk

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 2005

DEPARTMENT OF BIOLOGY
Laura Ambrose
Sally Cleland
Kristen Kolar
Paul Levett
Greg Litzenberger

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY
David Chandler
Marek Nelke
Joshua Rizak
Robert Smyj
Mark Tymchak

DEPARTMENT OF COMPUTER SCIENCE
Janine Bernat
Kamran Karimi
Erika Martinez-Ramirez
Leon Pan
Terry Peckham
John Quesnel
Hong Yao

DEPARTMENT OF GEOLOGY
Ralph Cheesman
Robert Macdonald
Evan Morris

DEPARTMENT OF MATHEMATICS AND STATISTICS
Peter Banh
Lorraine Dame
Danny Dyer
Sandra Fital
Darren Kalaman
Leigh Anne MacKnight
S. Mahmoud Manjegani
Barb Pidkowich
Alejandra Premat
Dieter Ruoff
Sheena Zhang
Andrei Volodin

DEPARTMENT OF PHYSICS
Gary Diver
Nikolay Kolev
Pierre Ouimet