

REPORT TO THE SENATE ON RYERSON'S SCHOLARLY, RESEARCH AND CREATIVE ACTIVITIES APRIL 2007 – MARCH 2008

1. Introduction

This is the second report on Scholarly, Research and Creative activities (SRC) to the Senate from Dr. Anastasios (Tas) Venetsanopoulos, Vice President, Research and Innovation (VPRI). This was the year that the entire VPRI operation has moved to a new location (11th floor, 1 Dundas Street West). During this year, four major initiatives were undertaken by the VPRI and his Office:

1. The VPRI SRC Enhancement Measures
2. The Initiation of the SRC Strategic Planning Process
3. The Development of the first budget for VPRI Operations
4. A Comprehensive Review of the VPRI Office

This report will outline the essentials of these initiatives along with the brief operational reports from the four units presently reporting to the VPRI.

2. Scholarly, Research and Creative (SRC) Enhancement Measures

In December 2006, I outlined my vision for SRC at Ryerson with a focus that has direct relevance to the needs of society, industry, business and the artistic community (<http://www.ryerson.ca/research/forefront.html>).

This announcement outlined some programs which were designed to contribute to our SRC enhancement. Our primary goals were as follows:

1. To expand Ryerson's SRC and advance Ryerson's reputation as a university that is actively promoting and involved with SRC.
2. To allow scholars to pursue their SRC activities and make applications for external funding.
3. To enrich scholarship, research, and creative activity in newly developed fields of knowledge, as well as traditional disciplines.

4. To enhance interdisciplinary SRC and benefit from the great diversity of this university.
5. To strengthen local initiatives and support SRC for new members of the academic staff.
6. To facilitate greater SRC involvement in disciplines having less access to funding from external sources of funding.
7. To develop more partnerships that share our wealth of knowledge with business, industry and the community.
8. To promote international research, and support international education opportunities for Ryerson students.
9. To create an administrative structure that supports SRC activities.

3. SRC Enhancement Measures Announcement

In April 2007, the following SRC Enhancement Programs were announced in order to implement the priorities listed above:

1. *Ryerson University SRC Enhancement Program (\$3 million over three years)*

The goals for this program are to enrich scholarship and SRC throughout Ryerson, to strengthen local initiatives and enhance our abilities to receive external support. This is a multi-year program whereby Faculties will be able to determine their priorities for enhanced support for SRC activities.

2. *Ryerson University Post-Doctoral Fellow (RPDF) and SRC Associate (SRCA) Program (\$3 million over four years)*

The aim of this program is to attract outstanding post-doctoral fellows and distinguished practitioners who will enhance Ryerson's SRC productivity. The cost of the program will be shared 50/50 between the VPRI and the respective Faculty/Department/School. The Ontario Post-Doctoral Fellowships will be incorporated into this program.

3. *Funding of Interdisciplinary SRC (\$0.3 million over two years)*

The Ryerson Fund for Interdisciplinary Research (RFIS) created by the Office of the Vice President for Research and Innovation (VPRI) will financially support Ryerson academic departments in the development of interdisciplinary research project proposals for submission to external funding agencies.

4. *Ryerson International Initiatives Fund (RIIF) (\$ 0.3 million over two years)*

The Ryerson International Initiatives Fund (RIIF) administered by the Office of the Vice President, Research and Innovation (VPRI), will provide financial support to Ryerson

academic units that wish to undertake strategic academic initiatives in India, China, and other key economies around the world. This internal fund is the University's response to requests from the Ryerson community for support to undertake a broad range of international activities.

5. *Current Central Support Mechanisms for SRC (\$1.6 million over four years)*

Existing support programs will receive additional funding at a level which will be 17% greater than last year. These programs are:

- a. Ryerson SSHRC-SIG Research Fund **(Deadline: November 15 annually)**
- b. Ryerson Creative Fund **(Deadline: December 1 annually)**
- c. Ryerson New Faculty SRC Development Fund **(Deadline: January 22 annually)**
- d. Ryerson NSERC Equipment Fund **(Deadline: October 25 annually)**

The Ryerson International Research Fund has been revamped into the new Ryerson International Initiatives Fund (RIIF) listed under item 4 above.

These SRC Enhancement Programs serve to support the development of SRC excellence at Ryerson, to increase the capacity of Ryerson faculty to engage in high impact, peer reviewed knowledge dissemination activities and artistic endeavours, and to promote involvement in externally funded interdisciplinary SRC initiatives. Together with an increased budget to maintain current central support mechanisms and SRC commitments, it is estimated that these programs will contribute over \$ 5 million in support over the period 2006 – 2008, while additional commitments will be sought in later years.

4. Detailed Goals

The detailed goals announced to the Board of Governors on February 26, 2007 were:

- Articulation and active advancement of SRC vision
- Continued building of Ryerson strength and uniqueness as a developing SRC centre renowned for scholarship, innovation, entrepreneurship, and transformative creativity
- Emphasis on Knowledge Transfer, Commercialization, and Careers
- Active development of strategic international relationships
- Focus on research that has direct relevance to the needs of society, industry, business, and culture
- Continuing support for the arts, culture and the life sciences
- Funds to Stimulate Faculty Initiatives with Deliverables
- Interdisciplinary Funds
- Postdoctoral and Research Associate Funds

- Fulfill our commitments to CRC, CFI and other grants
- Aim for a few large Collaborative Grants
- Mentoring of New Researchers
- Decentralization of Research Services
- Strengthening our research profile in Physical/Life Sciences
- Collaborating with the Provost to enhance the teaching/research environment
- Pursuing additional linkages with granting agencies, hospitals, foundations, industry and community
- Strengthening graduate education and Highly Qualified Personnel (HQP) production
- Establish strategic centres and institutes in key areas such as energy, environment, life sciences, culture, biomedical, psychology, media, gaming, business, etc.
- Improving our national and international exposure
- Increasing national and international awards and recognition
- Strengthening research-industry exchanges
- Enhancing entrepreneurship, technology transfer and commercialization
- Establishing angel investor events
- Enhancing co-op and international exchanges
- Reorganizing to better meet our goals

5. The Scholarly, Research and Creative (SRC) Strategic Planning Process

On January 24, 2008, the VPRI announced the creation of a Scholarly, Research and Creative (SRC) Strategic Plan for the University. The SRC Strategic Plan is being developed in consultation with the Ryerson community in conjunction with the Provost's new Academic Plan entitled *Shaping the Future: An Academic Plan for 2008-2013*. A summary of this strategic plan is being embedded into the Academic Plan.

Based on Ryerson's mandate, the University must encourage and support innovation in SRC, particularly in areas that have direct applications in industry, the community, infrastructure and systems, and that contribute to the prosperity, culture and health of society. To achieve these objectives we should increase Ryerson's profile as a research comprehensive university, which will enhance its reputation nationally and internationally as a centre of SRC activity. The Plan will promote a culture of innovation and research integrity, while encouraging SRC collaboration and interdisciplinary activities and will allow the University to respond to changes in the academic, government, commercial and funding environments. The ability to refocus this plan annually based on existing prospects and opportunities will allow the University to achieve its goals.

In order for the VPRI Office to achieve this objective it is necessary that its goals, objectives and operations are aligned with those of the University. To assist in our

readiness, we have planned a review of operations of the VPRI Office that will allow us to catalogue the current services available, and to provide direction for future capacity building. Undertaking this review will: 1) help us understand those things we do well that we want to maintain; 2) use the catalogue to assist the strategic planning exercise; and 3) position us to provide responsive, agile and supportive services to the Ryerson SRC community. The goal of the review is to create an organization that promotes a culture of excellent service and prompt and proactive response to the University community, while promoting a culture of research integrity and accountability.

To contribute to the increase of Ryerson's reputation, the Office of the VPRI will initiate nominations for awards and distinctions by the national and international research community. We will examine collaborations with University Advancement and the Faculties to forward the SRC goals and celebrate their success. Public advocacy and a communications strategy to build relations with government, the community at large and industrial stakeholders will enhance Ryerson's profile and reputation and increase our ability to attract research funds from the Tri-council funding agencies as well as other sources of support.

Based on the discussions of the Senate SRC Advisory Committee in the formulation of our SRC Strategic Plan, the following were some areas deemed to have strategic importance for Ryerson:

1. Digital Media, Communication and Information Technology – This area of strategic importance can be defined as "the creative convergence of digital arts, science, technology and business for human expression, communication, social interaction and education".
2. Sustainability and the Environment - This area focuses on the complex interactions between development and environment, and the means for achieving sustainability in all human activities aimed at such development.
3. Health and Well Being – As defined in the World Health Organization (WHO) constitution, "health is a state of complete physical, mental and social well-being".
4. Management, Competitiveness & Entrepreneurship – The study of planning, organizing, resourcing, leading or controlling an organization, starting new organizations or revitalizing mature organizations while best managing performance.
5. Cultural Prosperity – The contribution of the social sciences, humanities, media, and fine arts to society and the economy.
6. Learning and Teaching Effectiveness – Developing a meaningful and practical body of knowledge about teaching effectiveness in higher education.

6. Development of the First Budget for VPRI Operations

In the fall of 2007, the management team of the Office of the VPRI worked on the development of the first budget for the Office of the VPRI aligned to the goals of our Strategic Plan. The work on the budget involved the creation of budget items for the various units and functions reporting to the VPRI. These included:

- Office of Research Services
- Office of International Affairs
- Research Integrity
- Commercialization
- Communications, Public Advocacy and Research Promotion

7. Overall Progress

Ryerson includes among its performance indicators the total external research funding, the value of peer-adjudicated research grants per eligible faculty member and the number of peer-adjudicated research grants per eligible faculty member. Additional performance indicators will be included in the future.

Currently the following three core performance indicators are being measured by the University Planning Office:

- Number of Peer-Adjudicated Research Grants per Eligible Faculty Member
- Value of Peer-Adjudicated Research Grants per Eligible Faculty Member
- Total External Research Funding

2007-08 Core Performance Measures for Scholarly, Research and Creative Activity

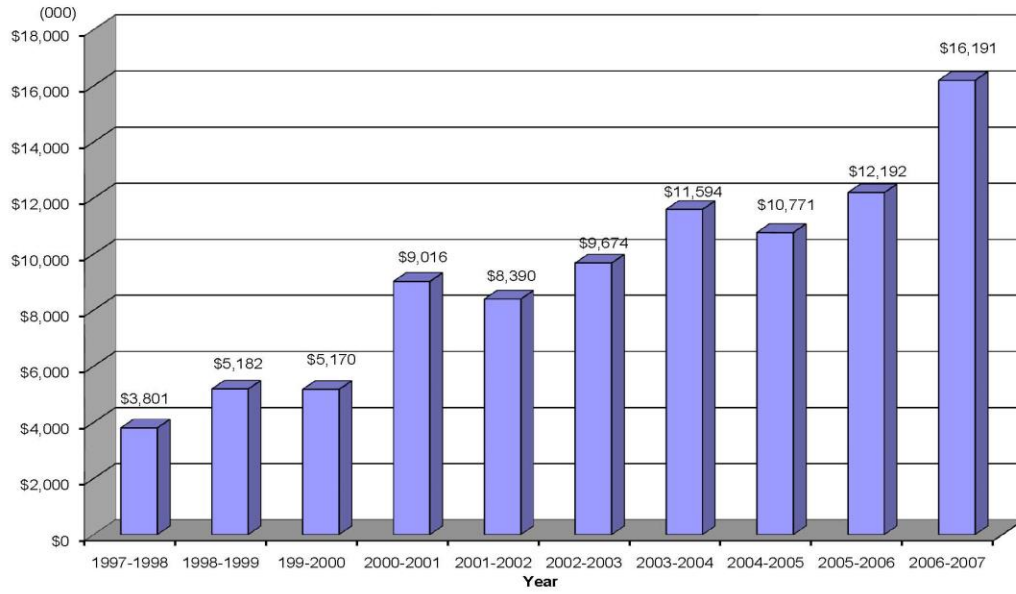
Indicator	2007-08 Budget level	Current level	Target level	Timeframe
Value of peer-adjudicated research grants per eligible faculty member	\$ 6,248 (2005)	\$ 7,943 (2006)	\$ 7,800	2010-11
Number of peer-adjudicated research grants per eligible faculty member	0.278 (2005)	0.313 (2006)	0.35	2010-11
Total external research funding	\$ 12.2M (2005)	\$ 16.2M (2006)	\$ 24.4M	2010-11

Additional SRC indicators will be proposed by the Office of the VPRI to be included in subsequent years (see Appendix 1).

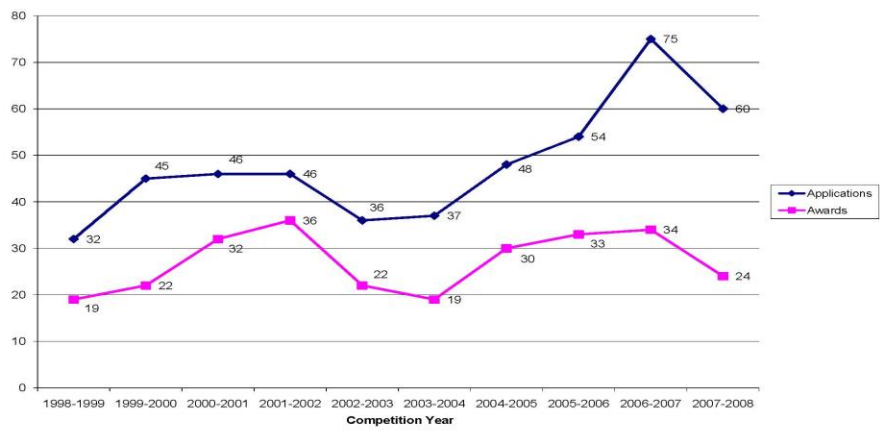
Total External Research Funding

Total external research revenue received by the University reached an all time high of \$16.2 million in 06-07 an overall increase of 32.8% over the previous year.

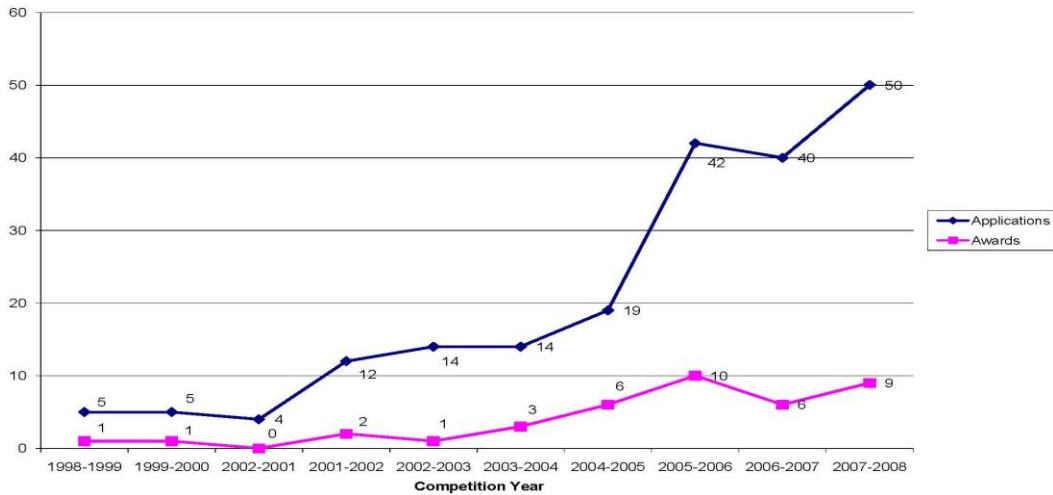
Total Research Revenue Received



Ryerson NSERC Discovery Applications/Awards

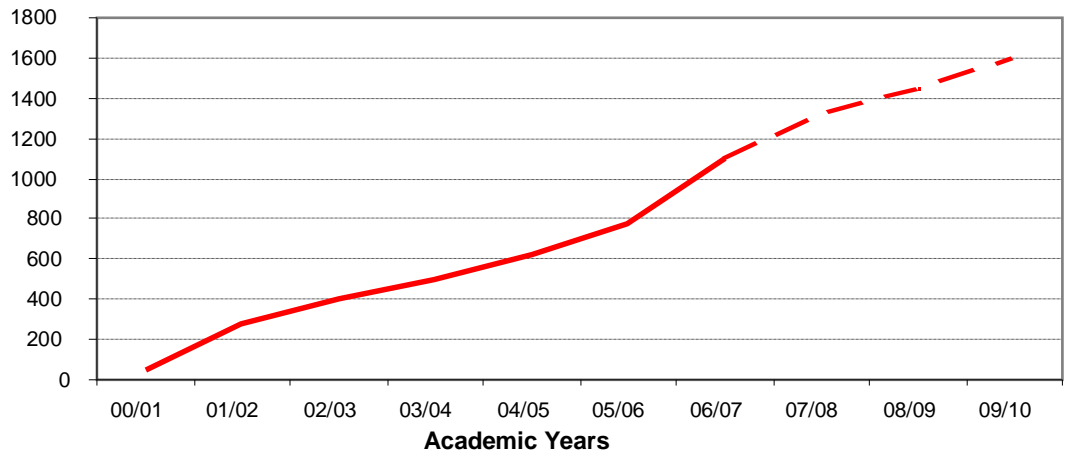


Ryerson SSHRC Standard Grant Applications and Awards
(Includes special call in Management 07-08)



Graduate Enrolment 2000/01 to 2006/07, and Planned Growth to 2009/10

Nov 1 Graduate Student Headcount



SRC Enhancement Measures

- **Ryerson Post Doctoral Fellow program** - In this first round of applications, Ryerson attracted a total of 118 applicants as follows:
 - 14 - Arts
 - 18 - Communications & Design
 - 5 - Community Services

- 13 - Business
- 68 - Engineering, Architecture & Science

The applications came from Ontario, across Canada and Internationally – U of T, McGill, Alberta, UBC, Penn State, USC, Oxford UK, Tampere University Finland, Switzerland, Macao, China, Singapore, India, France, Turkey – and include Canadians applying from foreign institutions and foreign citizens applying from Canadian institutions. Fifty-eight applicants have either completed or are completing degrees at foreign institutions. A total of 24 offers were made and 19 individuals were funded under this program. An additional 5 postdoctoral fellows were subsequently funded by the Faculty of Engineering, Architecture and Science. In total, this almost doubles the existing 28 PDFs at Ryerson. A second round of the program is in progress with a target of 12 additional PDFs to be funded.

- **Ryerson Interdisciplinary Research Fund** – Proposals must involve the development and undertaking of an interdisciplinary research project involving at least two Ryerson faculty members, from different departments and from different disciplines. The proposal must be in keeping with research plans for the participating academic units. Eleven applications were received in the first round, and 6 interdisciplinary proposals were funded. A second round of the program has been announced and 25 applications were received and are currently being reviewed.
- **The Ryerson International Initiatives Fund RIIF** - In 2003, the OIA established the Ryerson International Initiatives Fund RIIF, to provide seed funding to support the development of international projects. Positive evaluation of the program led to it being revived in 2007-08, with the VPRI making \$300,000 available to be split equally between initiatives focussing on China, India and elsewhere. The first call for proposals garnered thirty one applications, of which seven were approved. The second call for proposals has garnered 30 applications.
 - One recipient has already used the funds to leverage a SSHRC international opportunities grant of \$64K, and research funding from UNICEF of €200,000.

Overall progress in SRC has also been experienced in the following domains:

- CFI programs
- CRC programs
- Total funds received from the Social Sciences and Humanities Research Council (SSHRC) grew by 62% from the previous year, from \$0.8 million in 05-06 to \$1.3 million in 06-07.
- Total funds received from the Natural Sciences and Engineering Research Council (NSERC) grew by 41% from the previous year, from \$3.2 million in 05-06 to \$4.5 million in 06-07.
- Canadian Institutes of Health Research (CIHR) funding declined slightly in 06-07 falling by 13% from \$325 thousand in 05-06 to \$283 thousand in 06-07. However a number of significant new awards have been received which promise to reverse this decline.

- Awards of Proof of Principle funding from the Ontario Research Commercialization Fund award to Ryerson
- We continued to actively participation in “CONCERT” a consortium for the Arts
- We continue collaborating with the Toronto Regional Research Alliance
- This year we collaborated with MaRS, University of Toronto, teaching hospitals and OCAD for an NCE on commercialization of research – MaRS Innovation
- We continue our successful networking with the research and artistic communities
- Our Research Integrity Program covering research involving humans and animals has been expanded to include research involving controlled goods
- Seven new exchange agreements were put in place, four with institutions ranked overall (or for research funding secured) in national top ten lists. Eight existing agreements were amended to include a broader range of Ryerson programs.
- International mobility funding programs have made a significant impact with Ryerson students.
- OIA special events have enhanced awareness within the Ryerson community more aware of the international accomplishments of Ryerson students and the internal funding support provided by the VPRI for student mobility programs.
- OIA Bulletin was successful in showcasing international activities at Ryerson. 2007-08 saw three issues released, featuring faculty and students from across the institution.
- Close collaboration with French and British consulates have resulted in new partnerships and international research initiatives, such as the formation of a strategic alliance between Ryerson’s School of Radio and Television Arts and the Institute National de l’Audiovisuel of France

ENHANCING THE GLOBAL PERSPECTIVE



They may be the new Vice-Presidents on the block, but that isn't the only thing Anastasios (Tas) Venetsanopoulos and Alan Shepard have in common: they also want to expand Ryerson's international focus.

Dr. Venetsanopoulos joined Ryerson in late 2006 to fill the newly created position of Vice-President, Research and Innovation. Previously, he was Dean of the Faculty of Applied Science and Engineering at the University of Toronto. Dr. Venetsanopoulos says a strategic blueprint is critical to the future

University of Guelph. In his new role, he will guide Ryerson's academic planning processes over the next five years. And, during that time, he also plans to strengthen international education. "I would like to intensify the international content in existing courses," Dr. Shepard says. "It's also important that students have a variety of exchange opportunities." Those experiences, he explains, can include study terms and internships abroad, as well as joint projects with researchers in other countries.

The results will give students an edge in their careers, Dr. Shepard says. "We live and work in a global village, and students need a sophisticated understanding of the world beyond their local

8. Office of Research Services

8.1 Canada Research Chairs

With the appointment of Dr. Yang, Ryerson has filled all its allotted CRCs. The first successful renewal (Lachemi) was completed in 06-07. The CRC program provides Ryerson with \$1.2 million annually in support of research.

8.2 Canada Foundation for Innovation and Ministry of Research and Innovation

The CFI Leading Edge and New Initiatives Funds award winners announced in last year's report have subsequently been awarded matching Provincial funding from the Ministry of Research and Innovation (MRI). The awards from MRI are:

- Professor Michael Kolios – Physics \$428,843
- Professor Ling Guan – Electrical and Computer \$650,000
- Professor Tony Hernandez – CSCA \$392,225

Dr. Abby Goodrum was awarded a total of \$550,000 from the CFI and MRI for the creation of a digital cinema laboratory.

Three projects were successful in the Ontario Research Excellence Program. These are collaborative applications with other universities

- Professors Kolios and Tavakkoli
- Professor Mustafa Warith
- Professors Guan and Venetsanopoulos

8.3 Social Sciences and Humanities Research Council (SSHRC)

Community University Research Alliance (CURA)

- Dr. Deborah Fels – Information Technology Management was awarded just under \$1 million over 5 years for the project *Accessible Entertainment: Making Television, Film and Theatre More Inclusive*

Dr. Cecilia Rocha's SSHRC-IDRC International Community University Research Alliance (CURA) has passed the Letter of Intent stage and has been invited to submit a full proposal.

8.4 Natural Sciences and Engineering Research Council (NSERC)

Professor Bin Wu has been awarded the NSERC - Rockwell Automation Industrial Research Chair in Power Electronics and Electric Drives. Although the award had been bestowed at the time of last year's report no public announcement of the details had been made at the time.

Professor Xio-Ping Zhang, Department of Electrical and Computer Engineering has received Ryerson's first NSERC Idea 2 Innovation grant for proof of principle work on *An Intelligent Information Retrieval and Processing System for Financial Databases*.

8.5 Research Information System

ORS is in the process of implementing an improved Research Information System. The system will be available to all researchers and academic administrators. This project is being pursued in cooperation with CCS and will roll out over the next two years. At completion it is anticipated that there will be a "one-stop" easy to use web-based shop for

faculty members and administrators for information on their research grants and contracts.

- First phase of new system was rolled out in January 2008, allows for online submission and routing of research proposals
- Future modules
 - Research Account Profile – needed for access to funds
 - Interactive link to the Ethics system
 - Interface with Tri-Council, financial reporting system
 - Links to Risk Management Office (radiation and biohazards)
 - Potential link to Financial System
 - Potential link to Faculty Annual reports to generate dynamic expertise database and to pre-populate some information on research grants and contracts
 - Development of on-demand research application and funding reports for academic administrators.

8.5 Industry Liaison and Technology Transfer

The Industry Liaison group functions within the Office of Research Services to provide services and advice to the Ryerson community to enhance innovation and commercialization at Ryerson. Services are focused on existing opportunities brought forward by members of the Ryerson community and strategic forward looking projects.

- 11 Proof of Principle projects were funded through the Ontario Research Commercialization Program (ORCP) total \$141,655
- First NSERC Idea to Innovation Award for \$125,000. The Idea to Innovation Program provides funding to university researchers for research and development activities leading to technology transfer to a new or established Canadian company.
- Industry participation and representation in IP Roundtable
 - Through the OPIC group, Ryerson organized and hosted a round table on Intellectual Property issues. Speakers included representatives from industry, large and small, an IP law firm, the Director of the University of British Columbia Technology Transfer Office and the Pro Vice Chancellor Research from Cambridge University. A report on the days discussions is available on the OPIC website which may be reached through the ORS website www.ryerson.ca/ors

Licensing of technologies – A license for *Advanced Sun Sensor Processing Software* is being implemented

9. Office of International Affairs (OIA)

During the 2007-08 academic year, the Office of International Affairs (OIA) supported Ryerson's academic units and service departments to develop international initiatives with Canadian and international partners that provided opportunities for student and faculty involvement in international activities. The Office also supported the university's involvement in national and international events on and off campus, and provided ongoing administrative support and direction for externally funded international development projects.

Highlights of the OIA's activities for this period include the following:

- Seven new exchange agreements were put in place. Four with institutions ranked overall (or for research funding secured) in national top ten lists. These include Delft University of Technology, the Netherlands; the Dublin Institute of Technology, Ireland; the University of Surrey, England; and, the University of Karlsruhe, Germany. Additionally, eight existing agreements were amended to include a broader range of Ryerson programs.
- A joint Faculty-OIA review of international partnership agreements was initiated. This review is intended to determine whether the intended outcomes for Ryerson students and faculty members to enhance learning, teaching and educational development are being met, and to suggest action where they are not. Evaluation procedures for the delivery of OIA programs and services to international students on exchange at Ryerson were reviewed and updated. OIA services were rated as 'excellent' by 13 of 18 respondents on 'Inbound Student Exchange Evaluation Form'.
- Three of five Ryerson submissions to the CIDA-funded, AUCC-administered Students for Development program (138 awards distributed among 92 universities) were funded and one was ranked second on the alternate list.
- The successful delivery of Ryerson International Initiatives Fund (RIIF) program, funded by the VPRI. 31 proposals received for 1st call, 7 approved. The second call (Feb. 2008) garnered 28 proposals
- The provision of ongoing administrative support and management services for four CIDA funded projects with partner institutions in developing countries
- International development projects with annual budgets totalling \$1,020,625.41 were administered by OIA. This funding is reported by ORS as an increase in research funding to the university

10. Research Integrity

10.1 Research Involving Humans - Research Ethics Board

The Research Ethics Board continues to receive a large volume of new protocols mainly due to the large increase in graduate programs where students are undertaking research involving humans in both course work and thesis/major research projects. As a standing committee of the Senate, the Research Ethics Board currently has 20 members and will need to be further enlarged to cope with

the large number of protocols if the target for first response is to be maintained at the current level of 5 to 6 weeks.

10.2 Research Involving Animals - Animal Care Committee

Currently, there are six active protocols in place. At this time, all the research is conducted off campus at other research facilities (housed at other institutions). However, a fish facility has recently been licensed under the provincial *Animals in Research Act* and is being renovated for research in the near future. Discussions with the Provost have begun to negotiate access to animal research facilities at other institutions in the downtown area.

10.3 Research Involving Controlled Goods

The Controlled Goods program at Ryerson University is a joint initiative of the Office of the General Counsel & Secretary of the Board of Governors, the Human Resources Department, the Centre for Environmental Health & Safety Management, and the Office of the Vice President, Research and Innovation. The Office of the Vice President, Research and Innovation will oversee the compliance requirements under the federal Controlled Goods Regulations (CGR) and the federal Defence Production Act (DPA) as enforced by the Controlled Goods Directorate (CGD). Guidelines and procedures have been proposed and accepted by the Controlled Goods Working Group.

10.4 SRC Integrity Advisory Committee

The Scholarly, Research and Creative (SRC) Integrity Advisory Committee has been established to monitor issues relating to research integrity and ethics at the University. The committee has been working on a draft of a new SRC Integrity Policy which was recommended to the Vice President, Research and Innovation in the fall of 2007. The policy is based on a harmonized model which will be implemented at the University of Toronto, Ryerson University and York University.

10.5 Special Projects

Working closely with the Vice President, Research and Innovation to provide advice and support on the development of research policy and promotion initiatives. These include the SRC Enhancement Program, the SRC Strategic Plan, Budget planning and preparation, Annual Reports to the President, Board of Governors and Senate, as well as presentations for the VPRI. Participation on Project Team of The Consortium on New Media, Creative, and Entertainment R&D in the Toronto Region (CONCERT) and involvement in the development of partnerships and collaborations within and beyond Ryerson.

11. Commercialization and Collaborations

11.1 Clean Water

To propel our ideas to industry, Steven Martin has been working on commercialization initiatives (with, for example, Manuel Alvarez Cuenca in Civil Engineering working on exploring commercialization of his water treatment technologies, or more recently with Bin Wu in Electrical Engineering to commercialize his novel power control technology). Moreover, he has identified several possible contract research and development initiatives that may provide additional opportunities for Ryerson researchers to interface with the larger community, enhancing Ryerson's research profile, and providing value to industry through collaboration.

11.2 Digital Media Initiative

Ryerson University, as a recognized leader in Digital Arts, Engineering and Content Production, is actively engaged in a project to develop a comprehensive Digital Media centre of excellence. We are creating the framework for this new Centre, ultimately to encompass a multi-player initiative lead by Ryerson to address issues in the Digital Media space, including pressing demands for access. This centre will build on the strengths of Ryerson University, and work to engage Government, Industry, and other Ontario Universities and Colleges to deliver world-leading research and development projects for the benefit of all Canadians. The goal is to create a centre that moves Ryerson to the forefront of Digital Media and recognizes all of Ryerson's strengths, while simultaneously addressing the needs of industry.

11.3 Aerospace

Ryerson Institute for Aerospace Design and Innovation (RIADI) was launched in 2003 to provide undergraduate Engineering students with a unique training opportunity by involving them in real life aerospace industry projects. The program prepares participating students for future careers and engineering graduate studies. RIADI also acts as a networking centre for students to establish links with the aerospace industry and better position them for future employment.

There is a clear need for a new aerospace R&D facility for conducting leading edge studies on environmentally friendly alternative jet fuels, engine materials, and to examine fuel/material interactions (corrosion for example). Such a facility will provide for enhanced collaboration for Ryerson with the aerospace industry to develop the next generation of biofuel capable jet engines.

We are working with Kamran Behdinan and Zouheir Fawaz (Aerospace Engineering) to explore the possibility of establishing a consortium in aerospace research as a starting point for the aerospace initiative. In keeping with the industry's identified need, the focus is on alternative fuels for use in aerospace, and will include industry, academic, and government as supporting elements in the final proposal. The goal will be to establish a sustainable initiative that will

support Ontario's aerospace industry through both knowledge generation and knowledge transfer activities.

12. **Communications, Public Advocacy and Research Promotion**

Establishing collaborative working groups with St. Michael's Hospital to investigate opportunities for further collaboration.

Exploring potential relationships with the University of Toronto and York University on various areas of interest: digital media, environment and health care.

Development of a Research Magazine to be published in June 2008 in cooperation with University Advancement.

Meetings with OCUR, AUCC, federal government leaders and Tri-council funding agency heads to maintain relationships and evaluate funding opportunities.

Established Awards Committee to coordinate and vet nominations for prestigious awards and fellowships.

Developing a strong working relationship with University Advancement to facilitate SRC related press releases and media alerts

The Research Opportunities Newsletter is published 10 times per year and provides faculty members with details on upcoming research funding opportunities.

We have continued to compile and circulate the SRC accomplishments of our faculty members.

In March 2008, the winner of the **2007 Sarwan Sahota – Ryerson Distinguished Scholar Award**, Dr. Wendy Cukier, made a presentation on *The Global Gun Epidemic: Scholarship, Relevance and Effecting Social Change*.

The VPRI had an opportunity to address various government policies and issues, such as the Strategic Plan of the Ministry of Research and Innovation, the Federal Budget, the Provincial Budget and the Study Evaluating the Federal Research Councils, the Mitchell Committee Report on the review of NSERC and SSHRC, etc.

The Research and Innovation web pages are updated on a regular basis.

In cooperation with the School of Graduate Studies and the Ryerson NSERC Representative, the Office of Research Services has operated the Graduate Student Research Article Competition. The competition encourages graduate student researchers to hone their communications skills so that they may become effective communicators and ambassadors to the general public. Since the founding of the program, ORS has coordinated the review process for 128 articles resulting in 24 prizes to deserving graduate students.

13. Priority Plans for 2008-2013 SRC Strategic Planning Process

13.1 Specific Objectives

Objective 1: Encouraging and Increasing the Quality and Quantity of Scholarly, Research and Creative (SRC) Activity

It is the mandate of the Office of the VPRI to increase SRC activity at the University. The stated goal has been to double externally funded research from \$ 12.2 million in 2006 to \$ 25 million by 2011 and to increase the research intensity of researchers by encouraging more faculty members to engage in SRC activities. We will explore joint initiatives with University Advancement to seek endowments for research chairs in areas of strategic importance. The Office of the VPRI will investigate new research opportunities by working with national granting councils, research foundations, external research institutes, other institutions, as well as business, industry, governments (federal, provincial and municipal) and external communities.

We also aim to create a framework at both the central and the local level that will help Ryerson to fulfill its SRC objectives and foster an environment that ensures Ryerson's Faculties, Schools and the Library collaborate in research and creative scholarly and professional activities among scholars in various fields. The SRC Enhancement Program also includes internal programs to encourage interdisciplinary and international research initiatives with Ryerson.

The Office of the VPRI will work with the Provost and the VP, Administration & Finance and the Deans, Chairs and academic members, to attract resources and provide adequate infrastructure and funding for the Scholarly, Research and Creative activities and explore the establishment of partnerships with other institutions for possible access to specialized facilities in order to grow our SRC funding, output and impact.

Objective 2: Facilitating Knowledge Transfer

Ryerson can help enable our ideas and innovations to be propelled into the community, industry and the marketplace by promoting and encouraging the transfer of knowledge, dissemination and commercialization of SRC outputs. The Office of the VPRI will oversee the promotion of knowledge transfer, commercialization of research and the management of intellectual property issues for maximum impact within the receptor community, to advance University, economic, and social goals.

Objective 3: Promoting SRC Strategic Activity through the Establishment of Partnerships and Collaborations

Establishment of partnerships and collaborations to support, encourage and promote the development and strengthening of strategic research clusters will be undertaken by the VPRI in cooperation with the Provost and Deans. These endeavours will allow the University to concentrate on areas of strength and to take advantage of national and international opportunities in strategic research areas. Strategic research clusters will be identified as part of the SRC strategic planning process to optimize Ryerson's relationships with the teaching hospital network and associated health-related institutes.

This will enable individual researcher projects to seek wider collaborations based on the specific strategic research clusters and research priorities of the University.

Objective 4: Fostering Strategic International Partnerships and Supporting Internationalization

The Office of the VPRI will collaborate with Faculties, Departments/Schools and others service departments to establish strategic international partnerships with prominent institutions and identify opportunities to support a range of international initiatives for faculty and students (i.e. mobility programs) aimed at the increased internationalization of the institution, and ensure that the Ryerson name gains an increased international recognition.

Objective 5: Undergraduate as well as Graduate students will be provided with Scholarly, Research and Creative activity opportunities

It is important to recognize that undergraduate education should also include an SRC component tied to the SRC enterprise of the University. Undergraduate students, in all years, but particularly in their upper years, benefit enormously from this connection, which fits with Ryerson's experiential learning mission. And Ryerson's SRC endeavour benefits greatly from their participation.

13.2 Priority Plans

- Rollout of additional modules of the Research Information System available to all researchers
- Substantial completion of our new CFI projects
- Development of an expertise database of faculty
- Continued implementation of the SRC enhancement programs
- In cooperation with HR and Financial Services, creation of new user friendly reports for PIs
- 20% increase in the number of applications submitted to external funders
- 20% increase in funding received
- Development of an SRC mentoring program
- Carefully reconsider and start revision of our IP policy
- Preparation of the Principles under which our International Affairs work
- Beginning of decentralization by placing some business officers in selective Faculties
- Enhancement of the awards nomination program
- Active engagement in issues of public policy affecting SRC
- Active involvement in SRC communications

- Simplify access to SRC accounts
- Establishment of 10 new strategic partnerships per year for the next three years – including the formation of partnerships with institutions rated highly on international ranking systems such as the SJTU and THES lists
- The development of guidelines and revision of policies to support internationalization at Ryerson
- The development of a detailed plan to support the VPRI's 5 year SRC Enhancement Plan.
- Improved information services to faculty on externally-funded opportunities and continued support to faculty in the development of proposals to external funding agencies.
- A 15% increase in funding secured for international initiatives from external funding agencies
- A 25% growth, by the 2009-2010 application round, in number of student and faculty applications to OIA-administered mobility and funding programs ensure a strong Ryerson presence at important international conferences and in Canadian organizations with an international focus

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Appendix

Appendix 1

SRC Metrics and Progress Indicators

Usual SRC metrics are listed below:

- a) Publications, Creative Works
 - Publication of books, monographs, articles in refereed journals, book chapters, conference proceedings, creative works, exhibitions
- b) Knowledge Exchange
 - Contributions to public policy, editorial and refereeing duties, innovative contributions to professional practice, scholarly presentations at conferences, seminars and workshops, technology transfer
- c) Research Grants
 - For the individual: grant awards, follow up grants, dissemination of results
 - For the organization: total dollar value, funding sources, percentage of faculty members receiving SRC support
- d) Awards and Honours
 - Rank of award, type and number of honours
- e) Graduate Students
 - Number and quality of students

Ryerson includes among its performance indicators the total external research funding, the value of peer-adjudicated research grants per eligible faculty member and the number of peer-adjudicated research grants per eligible faculty member. Additional performance indicators will be included in the future.

Currently the following three core performance indicators are being measured by the University Planning Office:

- Number of Peer-Adjudicated Research Grants per Eligible Faculty Member
- Value of Peer-Adjudicated Research Grants per Eligible Faculty Member
- Total External Research Funding

The following SRC indicators are being proposed by the Office of the VPRI:

- # of publications submitted to peer reviewed journals

- # of publications published in peer reviewed journals
- # of papers presented at conferences
- # of papers accepted for presentation at conferences
- # of graduate students supervised
- # of applications submitted to external funders
- # of successful awards from external funders
- Revenue received from external funders
- % of faculty members making external funding submissions
- % of faculty members with external funding
- Research intensity per faculty member (external funding in \$ per faculty member)
- NSERC success rates for Discovery Grants
- SSHRC success rates for Standard Research Grants
- CIHR success rates for Operating Grants
- SRC Distinction