

Strategic Research Plan

(Revised, February 12, 2008)

Importance of Research at Trent

Research in universities drives innovation, stimulates the creation of new knowledge, and is the foundation for a vibrant, growing, civil society and an economically strong country. In recent years, Trent University faculty engaged in valuable research that garners national and international recognition, awards, grants and fellowships. Within the University, research is concentrated in over 30 diverse academic departments and programs, undergraduate and graduate, covering the full range of scholarship, as well as in an array of research centres and institutes.

Scholarly investigations are supported at Trent through many activities, including internal University funding programs adjudicated by peer-review and annual Research Days showcasing ongoing research by faculty and students affiliated with various disciplines, departments and research Centres. The University also sponsors competitions for internal Research Fellowships, International Travel Grants, and a Distinguished Research Award. Through its support of faculty, research centres, and graduate programs, the University attracts visiting scholars and postdoctoral fellows to campus each year, enhancing opportunities for collaboration and inter-institutional partnerships.

Principles for Research at Trent

Research is central to Trent's mission. In pursuing this mandate, the University values and strives for the following:

- excellence in research; peer-reviewed, with national/international recognition;
- a diversity of research; across scholarly disciplines, basic or applied;
- an emphasis on interdisciplinary research;
- broad and responsible provision of resources for the conduct of research;
- the involvement of students in research and the training of highly qualified personnel;
- ethical and accountable research;
- to promote and expand the mobilization of research knowledge for societal benefit.

Strategic Research Priorities

All faculty research is valued and important to the University's overall mission. The institution recognizes that advanced, high-calibre research occurs in many different fields, reflecting much of the array of human knowledge and scholarship that exists today. It also acknowledges that it is incumbent on the University to differentiate itself from similar institutions, to identify specific areas in which it intends to conduct distinctive, internationally-acclaimed research. The initial Strategic Research Plan, approved by Senate in 2000, was developed to facilitate this process. The following general objectives were used to identify strategic research priorities for the University:

- to strengthen interdisciplinary research activities;
- build on areas of recognized institutional research strength that are prominent at, or unique to, Trent among Canadian universities;

- identify, support and resource emerging areas of research concentration, with the long-range objective of creating new centres of research excellence;
- improve research training opportunities for students;
- maintain and enhance the research reputation of the University.

The same set of general institutional objectives was used to create this revised Strategic Research Plan. Since the original plan was developed, the University has grown substantially, acquiring many new students and faculty members. New graduate programs have been added or are in development. Thus, the revised Plan identifies a set of strategic research Clusters to guide current and future institutional development. Each Cluster is described below, highlighting selected examples of specific research foci, activities, and training strengths. Although this section emphasizes the distinctiveness of the various Clusters it is important to remember that one of the hallmarks of Trent University is its interdisciplinary nature. While space constraints limit the number of details that can be presented, many faculty members at the University belong to more than one Cluster. Many of the academic programs, centres, and other institutional resources described in this document also support scholarship connected to multiple Clusters.

CLUSTER 1: Biological and Forensic Sciences

The University will continue to develop its research strengths in the areas of biological and forensic sciences.

- *Biological Sciences:* Trent has an extremely active research program in this broad area, with an excellent and well established record of research funding, and a history of working with the private sector and government agencies. Trent offers both a M.Sc. and Ph.D. in Watershed Ecosystems. Its ongoing partnership with the Ontario Ministry of Natural Resources (OMNR) recently prompted the physical move of several dozen OMNR senior science staff to the Trent campus, significantly expanding collaboration in resource studies between provincial government specialists and Trent faculty. This research area was further supported by the appointments of Professor Bradley White as the Canada Research Chair in Conservation Genetics and Biodiversity (Tier I) in 2001 and Professor Dennis Murray as the Canada Research Chair in Terrestrial Ecology (Tier II) in 2002.
- *Forensics:* A relatively new but very active area of research at Trent involves the applications of DNA-based forensics to non-humans and humans. The University offers an undergraduate degree program in Forensic Science (in collaboration with Sir Sandford Fleming College). This research area is supported by state of the art facilities with robotic automation infrastructure, as well as a new Centre currently in development (to be named the Natural Resource DNA Profiling and Forensic Center). The area was further supported by the appointment of Professor Paul Wilson as the Canada Research Chair in DNA Profiling, Forensics, and Functional Genomics (Tier II) in 2007.

CLUSTER 2: Canadian and Indigenous Studies

The University was a pioneer in Canadian and Indigenous Studies. It will continue to develop its research strengths in these areas.

- *Canadian Studies:* This is a well established area of research strength at the

University. Trent offers an undergraduate degree in Canadian Studies (one of the first in Canada). At the graduate level, a M.A. in Canadian Studies and Indigenous Studies has been offered since 1986. Since 2000, Trent has also had a joint Ph.D. in Canadian Studies (with Carleton University). In addition to offering advanced degree programs, the University maintains the long-established Frost Centre for Canadian Studies and Indigenous Studies. This area is further supported by the appointment of Professor Bryan Palmer as the Canada Research Chair in Canadian Studies (Tier I) in 2001.

- *Indigenous Studies:* Research by and about indigenous peoples has been a focus of Trent faculty virtually since the start of the University. The Indigenous Studies program is the oldest and largest such department in Canada (and first to offer baccalaureate degrees in this area). At the graduate level Trent has offered a M.A. in Canadian Studies and Indigenous Studies since 1986. In 1999, the University initiated Canada's first separate Ph.D. program in Indigenous Studies, based on the integration of Indigenous and Western academic knowledge. This research area was supported by the appointment of Professor Marrie Mumford as the Canada Research Chair in Aboriginal Arts and Literatures (Tier II) in 2004.

CLUSTER 3: Cultural Studies and the Humanities

Along with being a pioneer in the area of Cultural Studies, the University has long maintained research strength in various areas in the humanities.

- *Cultural Studies:* Trent has developed a core group of scholars with an interdisciplinary research focus on modern and contemporary culture. The Cultural Studies Program was the first to offer such an undergraduate degree in North America. At the graduate level, a Cultural Studies Ph.D. program started in September 2007. This area is supported by the appointment of Professor Davide Panagia as the Canada Research Chair in Cultural Studies (Tier II) in 2004.
- *Humanities:* The CRC in Cultural Studies also contributes to the innovative interdisciplinary M.A. in Theory, Culture and Politics that was established in 1989, complemented by the Centre for the Study of Theory, Culture and Politics, which ties a wide network of scholars in various disciplines. This Cluster is also supported by several new institutional developments: the M.A. Program in English Literature (Public Texts) and the M.A. Program in History admitted their first cohorts of graduate students in September of 2007. The former program brings together theoretical and historical research with practical engagement in the production and circulation of the literary text. The latter program provides options and specialization in unique and diverse fields, including Canadian history, Colonialism and Conflict, European history, Iberian-American history, Regional and Trans-national history, and Social and Cultural history. A new research Centre, devoted to work in the Humanities, is currently in development.

CLUSTER 4: Education, Health, and Sustainability

The University will continue to develop research that integrates and develops areas related to education, health, and sustainability. Along with the new and existing groups noted below, this cluster is supported by several new institutional developments. A new School of Education and Professional Learning was established at the University in 2003. Faculty in the School are involved in collaborative research and teaching activities with

other Trent colleagues at undergraduate and graduate levels, as well as with district school boards and teacher organizations.

- *Health Studies:* There is an emerging research emphasis at Trent in the area of Health Studies. The University and the neighbouring Sir Sandford Fleming College collaborate to offer a joint B.Sc. in Nursing (founded in 2001). Although faculty involved in the nursing program cover broad areas of expertise, the program emphasizes aboriginal health issues, women's health, and geriatric nursing. The M.A./M.Sc. in Applications of Modelling in the Natural and Social Sciences includes a number of active researchers with a health focus. The Centre for Health Studies convenes 50 faculty members from fifteen disciplines through conferences, colloquia, workshops and lectures. This research area was further supported by the appointment of Professor James Parker as the Canada Research Chair in Emotion and Health (Tier II), in 2002.
- *Sustainability Studies.* This new research area has emerged from faculty with an interest in environmental sustainability, prosperity, and social responsibility. Faculty from Business Administration, Environmental and Resources Studies, Geography, Indigenous Studies and Canadian Studies are united by a common vision that environmental protection, resource conservation, positive social change, and sustainable economies are complementary rather than antagonistic processes.

CLUSTER 5: Environmental Science, Materials Science and Quantitative Modelling

The University will continue to develop its research strengths in a broad range of topics related to environmental science, as well as materials science and quantitative modelling.

- *Aquatic Sciences and Biogeochemistry:* A sizeable number of Trent faculty members conduct research dedicated to the development and application of innovative new techniques for analysis of organic and inorganic materials at isotopic, elemental and molecular scales. The University offers both a M.Sc. and Ph.D. in Watershed Ecosystems. In addition to degree programs, the University has established several advanced research groups including the Worsfold Water Quality Centre and the Institute for Watershed Science. This research area is further supported by the appointment of Professor Celine Guegen as the Canada Research Chair in Aquatic Sciences and Biogeochemistry (Tier II) in 2007.
- *Environmental and Natural Resource Studies:* The University has an extremely active research program in this broad area, with an excellent record of research funding, and a history of working with the private sector and government agencies. Along with the Watershed Ecosystems graduate program, Trent also offers an undergraduate degree in Environmental and Resource Studies. In addition to degree programs, the University has established several advanced research groups including the Oliver Ecological Centre and the Canadian Environmental Modelling Centre.
- *Materials Science:* This research area involves faculty and students in the departments of Chemistry and Physics and Astronomy, and is supported by the Trent Centre for Materials Research. The Centre fosters research that will improve understanding of the properties of materials of potential benefit to industry, such as high-temperature semiconductors, ultra-thin metal films and oxides, and hybrid

organic-inorganic materials. Activities such as seminar series support the Centre's aims of improving communications and cross-fertilization of research, developing collaborations, and exposing participants to a broad spectrum of experimental and theoretical research into materials. To meet the demand for researchers and scientists in this area, Trent and the University of Ontario Institute of Technology, jointly offer a new M.Sc. program, which welcomed its first cohort of students in September of 2007.

- *Quantitative Modelling*: This research focus cuts across a range of academic disciplines in both the natural and social sciences, bolstered by a unique graduate program called Applications of Modelling in the Natural and Social Sciences. The program has more than two dozen core-faculty from a variety of disciplines. Faculty utilize modelling and simulation to facilitate research as diverse as high performance computing, data mining, galaxy evolution, transport of geological particles and chemical contaminants, labour economics, mathematical finance, human sexuality, aging, and parent-child relationships. This interdisciplinary research area is supported by the appointment of Professor Julian Aherne as the Canada Research Chair in Environmental Modelling (Tier II) in 2005.

CLUSTER 6: Understanding People, Communities and Institutions

The University continues to develop research strengths in a number of areas related to the study of people, communities and institutions.

- *Archaeological Studies*: Archaeology has been a prominent research area at Trent virtually since the start of the University with the establishment of the Department of Anthropology in 1965. In 1975, the University initiated a unique M.A. program in Anthropology. This research area is complemented by the Trent Archaeological Research Centre (founded in 2001) and was further supported by the appointment of Professor James Conolly as the Canada Research Chair in Archaeological Studies (Tier II) in 2004.
- *Feminist and Gender Studies*: A core group of Trent scholars, from a variety of disciplines, are active in exploring gender relations and women's experiences across cultures and nations, throughout history, and in contemporary societies. A number of graduate programs (e.g., M.A. in Canadian Studies and Indigenous Studies; M.A. in Theory, Culture and Politics; Ph.D. in Canadian Studies) and research Centres described earlier (e.g., Centre for the Study of Theory, Culture and Politics; Frost Centre) support work in this area. The Cluster has recently been stimulated by the allocation of a new Canada Research Chair (Tier II) in feminist and gender studies (with approval of a candidate expected in 2008).
- *International Studies*: Trent has a well-established research focus in international studies. Scholars from the humanities, sciences and especially the social sciences actively conduct research throughout the world on a wide range of topics that include the environment, tourism, migration, HIV AIDS and social and economic development. Trent researchers are involved in both conventional academic research and collaborative applied studies carried out with institutions such as the Canadian International Development Agency and the International Development Research Centre. Faculty research is complemented by The Trent International Program's recruitment of international students, multiple opportunities for students to study

abroad, and a growing number of institutional partnership agreements. There are extensive international curricular offerings at the undergraduate level and increasing opportunities at the graduate level.

Assessment of the Strategic Research Plan

It is the intention of the University to strengthen the research clusters identified in the Plan through various approaches to resources and support, including fundraising, innovative partnerships, leadership development, and renewal of the Canada Research Chairs (CRCs). Faculty members, especially CRC appointments, assume key leadership roles in development and enhancement of the graduate programs and/or research centres associated with these priority areas. The University encourages faculty to include students in their research projects, thus improving funded research training opportunities. Trent will continue to foster inter-institutional connections, to enhance partnerships and networking capacity with the public and private sectors, across Canada and abroad. All faculty will also be encouraged to stimulate interdisciplinary research, organize workshops, symposia, and international conferences.

Other ways in which the University will meet its major objectives in the Strategic Research Plan are to enhance resources for Trent's collective research community and related institutional services. Reasonable proportions of external research funds that come to the institution will be utilized for institutional activities that indirectly support research, such as assisting new faculty in establishing their research programs, attracting the best graduate students possible, and drawing visiting scholars and postdoctoral fellows to collaborate with Trent faculty. These steps, and others, should result in increased levels of research funding from major external sources, increase the number of inter-institutional and inter-sectoral collaborations, and the overall output of faculty (and faculty-student) research publications in these areas.

Assessment of the Plan by the University will be achieved by the measurement of multiple benchmarks appropriate to each discipline. The usual indicators of research success, including the number and prominence of scholarly publications, honours, awards and institutional rankings will be enhanced by other measures of knowledge transfer and impact, such as performances, technical reports, media interest and societal or commercial uptake. The University will monitor changes in its research capacity by tracking: the acquisition and retention of high calibre and diverse faculty, graduate students and post-doctoral fellows; the nature and value of increased research infrastructure; expansion of graduate programs; and changes in funding that directly or indirectly supports research. The diversity and fertility of Trent's broad research environment will be assessed through the number and nature of inter-institutional and inter-sectoral collaborations, and the activity of new and existing research centres or groups. These multiple benchmarks will form the basis of annual reports on research to Senate and the Board of Governors.