

RURAL AND COASTAL: LOCAL TO GLOBAL

Acadia University Strategic Research Plan Summary

Objectives

The objectives of this Strategic Research Plan are:

- a. To deepen and increase research activity within the four theme areas, especially but not exclusively, as it strengthens the rural and coastal focus:
 - **Community Life, Organizations, and Cultural Diversity**
 - **Natural Resources and Environmental Resilience**
 - **Human Health and Wellness**
 - **Innovative and Enabling Technologies.**
- b. To strengthen Acadia's research culture in its breadth, foci, interdisciplinary potential, and opportunities for student engagement at undergraduate and graduate levels;
- c. To foster and expand research connections within the University and between Acadia and its numerous and expanding regional, national, and international partners and collaborators;
- d. To expand Acadia's contributions to the economic and cultural development of rural and coastal regions locally, nationally, and globally.
- e. To encourage innovation at Acadia and the potential for such innovation to have a positive impact locally, nationally, and globally;

To accomplish these objectives, Acadia will continue to develop and maintain major research facilities and initiatives that support multiple disciplines, which will build institutional research capacity and bolster our strategic focus. We will further build research capacity and impact by fostering collaborations and partnerships with other academic institutions. We will be selective in undertaking such initiatives and will ensure that best use is made of available resources, and opportunities for enhancing these, by considering the following:

- the fit with this Strategic Research Plan;
- the potential for broad, interdisciplinary participation;
- the strength and leadership of key researchers;
- the potential to strengthen undergraduate and graduate student research;
- the potential to make powerful regional, national, and international contributions; and
- the potential to contribute to economic and cultural development in rural and coastal regions.

Themes

Across these themes, we aim to stimulate and contribute to discussions about what it means to be rural and coastal in the 21st century. While the world has seen a shift of population to urban spaces, technological change and globalization have altered our understanding of the rural-urban dynamic. This has sparked interesting multidisciplinary debates about topics such as the urban-rural interface, the death of distance from advances in technology, and relationships between centre and periphery. The complex and varying natures of these shifts are of such magnitude that no aspect of life remains untouched.

Community Life, Organizations, and Cultural Diversity

Understanding community and organizational life, historically and currently, homogenous and culturally diverse, is the work of a number of researchers and research programs at Acadia. Some within the social sciences and humanities conduct research that connects to community life in a plethora of ways, including aboriginal ecotourism and wine tourism, organizational and community narratives, music therapy and technology, the history of land use and settlement, community theatre, the development of sustainable food systems, cultural rituals, media studies, entrepreneurship, religious life, and the sociological, economic, and political trends affecting labour, health, and indigenous peoples.

Connected to community life is a critical mass of faculty and student researchers engaged in scholarship on cultural diversity and social justice. Several scholars across disciplines are exploring the circumstances of girls in rural communities. Researchers working through the Acadia Centre for the Study of Ethnocultural Diversity, as well as many working independently, are establishing a rich scholarship on equity and diversity within schools and other organizations, and within and between communities and community groups. A particular imperative is building links with three local populations that have been historically marginalized but remain vibrant and resilient: the Mi'kmaq, the African Nova Scotian, and the Acadian communities. In addition, the work of a Tier II Canada Research Chair in Education, Culture, and Community brings a multidisciplinary focus (history, anthropology, museum studies) to the educational mandate of public institutions.

Natural Resources and Environmental Resilience

Research programs span the evolution of the earth over geological time to the recent and often short-term dynamics of local populations, both essential to the understanding of environmental change. They are augmented by the presence of three Tier II Canada Research Chairs whose work focuses on the environment: one in Environmental Biogeochemistry, another in Coastal Wetland Ecosystems, and a third in the Ecology of Coastal Environments. In addition, this theme is supported by a Chair in Ornithology whose research is housed within an ecological resilience framework. Acadia also has many formal research centres and institutes that work within this theme area and across disciplines, including the Acadia Centre for Estuarine Research, the Acadia Tidal Energy Institute, the Acadia Institute for Data Analytics, and the Centre for Analytical Research on the Environment. Off-site research facilities include field stations at

Beaubassin in New Brunswick, Bon Portage Island in southwestern Nova Scotia, and the Morton Centre on the South Shore of Nova Scotia.

Of particular significance is the recognition that a growing body of research conducted at Acadia extends beyond descriptive accounts of natural resources and environmental circumstances to a focus on sustainability and development. Much work within this theme area reveals a concern for the natural environment and its resources, and the importance of applied research into environmental processes. It recognizes the deleterious impacts of climate change and the significance of understanding its origins and constructing acceptable paths forward. It pedestals the imperative of creating sustainable environments for all organisms on earth. It speaks to the complex relationship among human cultures, natural resources, and environments, including connections to human and community well-being, aesthetics, textual expression, ethical behaviour, and our historical and spiritual approaches to the environment. It also seeks means to utilize the natural environment and its resources for human benefit in ways that minimize harmful impacts and supplant non-sustainable techniques.

Human Health and Wellness

Research into human health and well-being at Acadia is greatly enhanced by the presence of a Tier I Canada Research Chair in Occupational Health and Well-Being, as well as three formal research centres: the Centre for Organizational Research and Development, the Centre of Life-Style Studies, and the Centre for the Sensory Research of Food. Within the Centre of Lifestyle Studies, substantial research is being done on physical activity as a prevention and rehabilitation tool. Broadly speaking, the multiple prongs of health-related research cluster around foods, as well as physical, social, and psychological/emotional health and wellness. Food and agri-food activity includes established areas of research such as water quality analysis and product testing, but also incorporates newer programs focusing on food security, probiotics, food citizenship, and feeding in hospitals.

Health and wellness includes excellence in research on the connection between physical activity and diabetes management, the role of relaxins in treating conditions associated with aging, physiological responses to stress, athletic therapy, applied biomechanics, cancer and infectious diseases, alcohol harms, ligament injuries, and drug abuse. Social health and wellness includes research on parent-child relationships, workplace civility, in-home care of seniors, circumstances of rural youth, infant food insecurity, and a host of disciplinary and cross-disciplinary investigations concerning equity and social justice. Research of a psychological and emotional thrust includes extensive work in attachment theory, personality, counselling, and sexual health.

Innovative and Enabling Technologies

Foundational research in ICT occurs within selected units on campus, while applications, often occur across all faculties and with external partners. Researchers are studying the interactions of hardware and software and the world-wide web, the interfaces of peoples and communities with ICT technologies and how they impact broad social issues, and the role of technologies in engaging diverse cultural groups. ICT extends to research on issues of technology and public policy, political debates, production and reproduction of creative practices within the arts and

sciences, and the preservation of artistic and scientific works in digital form as part of cultural heritage and workplace literacy, health, and productivity. Library and archives initiatives, including the digitization of unique local archival material and the E. C. Smith Digital Herbarium, have facilitated research across the disciplines and beyond Acadia.

The materials science, modelling, and analytics capacity areas are undergirded by two research centres and one institute: the Acadia Centre for Microstructural Analysis, the Acadia Centre for Mathematical Modelling and Computation, and the Acadia Institute for Data Analytics. Work associated within the Centre for Mathematical Modelling and Computation, and the Data Analytics Institute has application across the natural, biological, and social sciences, and in some instances within the humanities. Quantitative modelling enables researchers to describe, assess, and predict a wide range of phenomena, from subatomic behaviour to climate change. The Analytics Institute is especially focused on local agricultural, environmental, health care, and green energy issues. The library is taking the lead in developing digital research data management services and resources to support data organization, and exploring channels through which data preservation, discovery, and sharing can be facilitated.

External Engagement

In constructing our Strategic Research Plan with a deliberate focus – Rural and Coastal – we are staking claim not only to a particular geography, but also to a commitment to apply our considerable research expertise to bring positive and powerful impacts to these regions by contributing to their cultural, economic, and environmental development. An example of the way this happens is through Acadia’s Rural Innovation Centre. With funding from the Atlantic Canada Opportunities Agency and the Province of Nova Scotia, Acadia established a combined incubation and innovation facility to nurture local start-up businesses and deliberately located them in the same physical space as three research institutes: the Acadia Tidal Energy Institute, the Acadia Institute for Data Analytics, and the Atlantic Wine Institute. The work of these institutes is predominately focused on issues that impact rural and coastal regions. Co-locating institutes with start-up businesses creates a dynamic and synergistic environment where discussion of research and applications thrives.

Leadership in facilitating external research-related partnerships emanates from the Office of Industry and Community Engagement. Following from a focus group session with local industry, government, and funding agency representatives in 2010, ICE established a multiple component strategy to guide its operation. At its core, this strategy has focused on developing more personal engagement and closer relationships with industry organizations and economic development agencies which themselves work directly with businesses, and seamless lines of communication which expedite problem-solving collaborations between Acadia researchers and external organizations. The Office recurrently hosts information sessions and workshops that bring together external industry, business groups, and provincial and national funding partners, with Acadia researchers to focus on emerging opportunities and problem-solving strategies.

In recent years, research activity has evolved to include hundreds of external partners on projects ranging from large multi-partner collaborations examining the environmental effects of installing tidal turbines in the Bay of Fundy, to the art and narratives of Inuit elders, and to consulting

projects involving laboratory analytical services. These collaborations frequently involve international partners. In some cases, research done by Acadia faculty has led to commercial application resulting in royalty revenues and the creation of spinoff companies. Collaborations like these are examples of applied research contributing to solutions to regional issues and problems.

Canada Research Chairs

A principal imperative of the 2000 Strategic Research Plan was the deployment of Canada Research Chairs. The CRCs have brought extensive scholarly, technical, and intellectual expertise to the campus community and beyond. Each of these CRC positions substantially strengthens and provides scholarly leadership within their primary theme areas. With the conclusion of some Chair positions and the initiation of others, the current CRC distribution at Acadia is:

Tier	Chair	Council	Appointed
Tier I	Occupational Health and Well-being	SSHRC (Special)	2005
Tier II	Environmental Biogeochemistry	NSERC	2007
Tier II	Education, Culture, and Community	SSHRC (Special)	2009
Tier II	Ecology of Coastal Environments	NSERC (Special)	2010
Tier II	Coastal Wetland Ecosystems	NSERC	2011

As new Canada Research Chair opportunities become available, the Vice President Academic and the Dean of Research & Graduate Studies will work with Faculty deans and selection committees to actively recruit candidates whose work strengthens our rural and coastal focus, with a concerted emphasis on attracting individuals from underrepresented populations, with a particular emphasis on gender. Our progress in this regard will be reviewed as each existing Chair position nears the completion of its term and new Chair opportunities arise, with a view to ensuring that every possibly avenue is explored in recruiting individuals from these populations.

Review and Assessment

Assessment of this plan by the University will be accomplished in 5-year cycles, drawing on multiple benchmarks appropriate to various disciplines. Common indicators of success, including publications, awards, and honours, will be complemented by other indicators of accomplishment. This may include creative works and performances, public speaking engagements, hosting and/or chairing conferences, presentations at professional meetings and colloquia, patents, licenses, industry and government engagement, commercial start-ups, as well as other indications of public and professional interest. In addition, the year in which the SRP is being reviewed will include campus consultations.

On the direction of Senate, this process will be led by the Division of Research & Graduate Studies in collaboration with the Senate Research Committee, and will result in a report to Senate. This report will include recommendations, which may lead to modifications to the Plan.

This Plan was approved by the Senate of Acadia University on December 14, 2015.