

Athabasca University

Research Profile - Summary

Athabasca University is developing faculty expertise and enhancing its external partnerships by working to establish more Research Chairs, generate more research funding, and achieve more peer-reviewed publications. The University remains committed to the research priorities identified in the *University Research Plan*: Space Science and Astronomy; Environment and Sustainability; Globalization and Cultural Studies; Indigenous Education; Workplace and Community Education; Nursing and Health Management Research; Labour /Canadian Studies; and Open, Distance and eLearning. AU continues to have a major interest in expanding e-learning research to include underlying knowledge systems and digital technologies. AU researchers have links provincially (Alberta, Calgary, Lethbridge), nationally (Saskatchewan, Simon Fraser, Laval, Dalhousie) and internationally (Singapore, Greece, Finland, India, China, UK).

Research Foci and Currently Funded Project Highlights (2011)

Within the context of the University Research Plan, current activity focuses on four primary areas: ICT and Distance Education; Health Education and Promotion; the Athabasca River Basin; and Business. These foci are augmented by various funded research activities such as:

- Martin Connors (Canada Research Chair), Space Science; (NSERC) Electric Current Systems; (CFI/ASRIP) Geophysical Observatory Upgrades of Research Infrastructure; (Canarie) Infrastructure Extension
- Donica Belisle (SSHRC), Buying Citizenship: Women, Gender, and Consumer Activism in Canada
- Joshua Evans (SSHRC), Mapping the Rise of 'Housing First' Policies and Programs in Canada
- Burt Voorhees (NSERC), Theory and Application of Cellular Automata and Iterated Systems
- Karen Wall (SSHRC), Cross Disciplinary Perspectives on presenting women's history

ICT and Online Education

The Technology Enhanced Knowledge Research Institute (TEKRI) is the centre of ICT and Online Education research at AU. One research cluster is dedicated to 'knowledge architecture,' i.e., taxonomies, open architecture/ cloud computing, and the use of data analytics and visualization to provide the real-time data, data schema and visualization essential to the improvement of soft digital technology decision- making cycles. Another cluster is focused on digital technology innovation and includes work on mobile computing, localization and geomatics, personalization and adaptivity, adaptive/responsive designs, and soft techniques such as interactive collaborative tools for knowledge building and team work. The current spectrum of funded research includes:

- Terry Anderson (Canada Research Chair), Distance Education; (SSHRC), Social Software and Web Conferencing to Support Social Learning; Scholarly Journals
- Dragan Gasevic (Canada Research Chair, Alberta Ingenuity, NSERC), Semantic Technologies
- Kinshuk (NSERC iCORE/Xerox/Markin Industrial Research Chair), Adaptivity and Personalization
- Rory McGreal (UNESCO/COL, Access to the Future), Chair, Open Educational Resources; (SSHRC), Digital Resource Acceptance
- Sabine Graf (CFI, AET), Multimedia Object Research Platform Host for Adaptive and Mobile Learning
- Fuhua Lin (NSERC), Developing Reasoning Capabilities for Intelligent Agents; (CFI), 3D Classrooms
- Mohamed Ally (SSHRC), Mobile Communication to Support Online Learning Communities

- Jon Dron (CFI/AET), Open Social Mobile Systems for eLearning Research
- Ebrahim Bagheri (NSERC), Quality Engineering for Software Products
- Marti Cleveland-Innes (SSHRC), Faculty perspectives on teaching with new technology
- Dianne Conrad (SSHRC), Prior Learning Assessment within Undergraduate Degree Programs
- Pat Fahy, Dianne Conrad (Alberta North), Attracting and Retaining Learners
- Lisa Carter (ARDN, Private Funder, Access to the Future), Learning Communities
- Evelyn Ellerman (Canadian Heritage, Access to the Future), Virtual Media Labs; (Shastri Institute), Indo-Canadian film
- AU, Fast Track Technologies (Alberta R&D funding), Online Examination Systems
- AU (Hewlett Foundation), Open Educational Resources

Health Education and Promotion

The Faculty of Health Disciplines has three research clusters; the Clinical Interest Group, the Health Behavior Research Group (with an emphasis on physical activity and active living), and inter-disciplinary Technology-Enhanced Health Practice Education Research, which assesses the impact of technology on clinical education in the health professions. Topics include potential mobile applications in health care, such as bedside patient data gathering and smoking cessation programs.

- Jeff Vallance (AHRMR, CIHR), Breast Cancer Recovery
- Beth Perry, Margaret Edwards (SSHRC, WRCASN), Artistic Pedagogical Technologies
- Sandra Collins (SSHRC), Counsellor Practices for Multicultural Counselling and Social Justice
- Pam Hawranik (CIHR), An International Collaborative Approach to Vision and Falls
- Sherri Melrose (SSHRC), LPN to RN-Easing the Transition

Athabasca River Basin

The Athabasca River Basin Research Institute (ARBRI) has adopted an interdisciplinary, holistic systems approach to the river basin. Working with local communities, stakeholder institutions and regional organizations, ARBRI is creating a repository of information from the natural sciences, social sciences, and humanities to provide a richer understanding of life in the basin. The range of funded research currently being studied by the Institute and the AU faculty focusing on related fields is readily apparent:

- Tracey Lindberg (Canada Research Chair), Indigenous Traditional Knowledge, Legal Orders, Laws
- Ken Munyikwa (NSERC), Patterns of Environmental Changes in Central and Northern Alberta
- Aris Solomon (ARDN), Achievable Sustainability Options for Resource-Based Communities
- Lorelei Hansen (SSHRC-CURA), Deliberative Democracy and Climate Change: Alberta and Beyond
- Robert Holmberg (SUNCOR), River Basin Study
- AU (Imperial Oil), River Basin Bibliography
- AU (Royal Bank of Canada Blue Water Project), Water Engagement in the Athabasca Basin

Business

Research depth in the Faculty of Business ranges from community sustainability to energy management and change management; future prospects include ICT management, and further work with the Project Management Research Institute (PMRI), which brings together organizations, practitioners and researchers interested in project management research. Other current funded work includes:

- Kam Jugdev (SSHRC), Building Knowledge Networks: Factors Impacting Project Assessments
- Janice Thomas (PMRI), Implementing Project Management as Strategic Organizational Innovation