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RESEARCH PROFILE AND PROJECTIONS

PRESENTATION TO THE STRATEGIC RESEARCH PLAN TASK FORCE FROM THE FACULTY OF SCIENCE
RESEARCH COMMITTEE

07 APRIL 2021



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FACULTY OF SCIENCE RESEARCH COMMITTEE 2021

Animal Health Technology

Allied Health Programs: Respiratory Therapy

Architectural and Engineering Technology

Biological Sciences

Chemistry

Computing Science

Software Engineering

Geology

Math & Stats

NRS

Physics

Alison Turcotte

Karl Fernandez

James Gu

Rob Higgins (current chair)

Kingsley Donkor

Yan Yan

Omer Waqar

Nancy Van Wagoner

Sean McGuinness

Wendy Gardner

Mark Paetkau



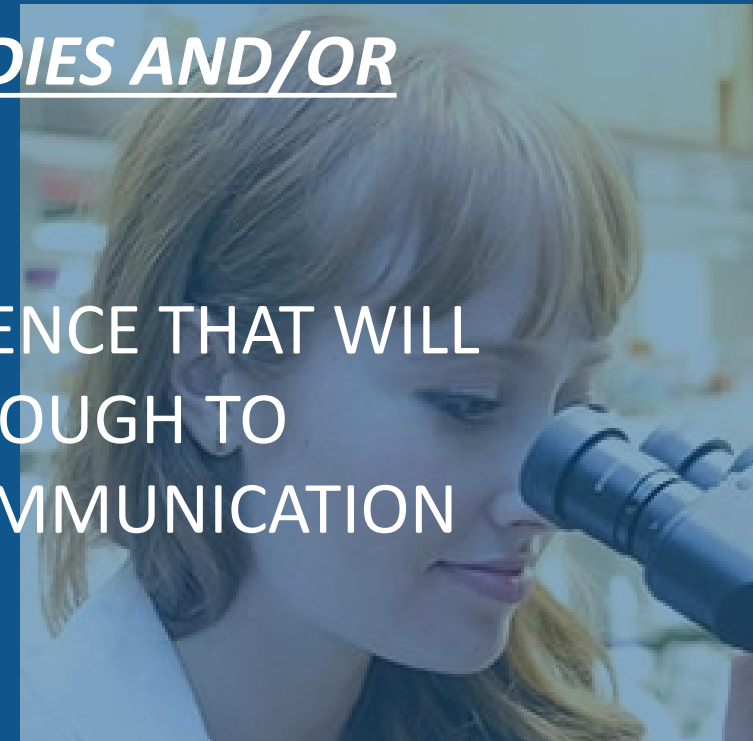
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DEPARTMENTS WITHIN THE FACULTY OF SCIENCE HAVE EXTENSIVE PROGRAMMING TO INTRODUCE UNDERGRADUATE STUDENTS TO RESEARCH

MOST DEPARTMENTS HAVE A DIRECTED STUDIES AND/OR HONOURS PROGRAM

THESE PROVIDE STUDENTS WITH DIRECT EXPERIENCE THAT WILL RUN FROM LAB AND/OR FIELD WORK THROUGH TO PROFESSIONAL EXPECTATIONS IN RESEARCH COMMUNICATION





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**THE FACULTY OF SCIENCE HAS TWO MASTERS DEGREE PROGRAMS
both are interdisciplinary involving faculty from across campus**

1. MSc. in ENVIRONMENTAL SCIENCES

Currently have 55 students enrolled

2. MSc. in DATA SCIENCE

Currently have 19 students enrolled





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There are 9 Faculties and Schools at TRU. The Faculty of Science receives 68% of all research grant funding.

This will likely increase with the addition of two new fire ecology research chairs



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CANADA RESEARCH CHAIR



Dr. Yana Nec

Inter-disciplinary applications in natural sciences, mostly problems deemed unclassifiable through conventional mathematical and engineering tools.



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CANADA RESEARCH CHAIR



Dr. Courtney Mason
-cross appointment with Tourism

Collaborations with Indigenous community members and band councils in rural Canada on health initiatives, tourism development and food security, and research policy decisions concerning the development of Indigenous lands and resources



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CANADA RESEARCH CHAIR: FIRE ECOLOGY



Coming soon

With funding, infrastructure and sponsorships (e.g., IBM) this is likely a \$5 million investment in TRU



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NSERC INDUSTRIAL RESEARCH CHAIR



Dr. Lauchlan Fraser

Recovery of disturbed ecosystems. Fraser has led teams of national and international researchers on reclamation research relating to soil amendments, biodiversity and climate change, with a particular focus on the Southern Interior of BC.



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ENDOWED REGIONAL INNOVATION CHAIR



Dr. John Church

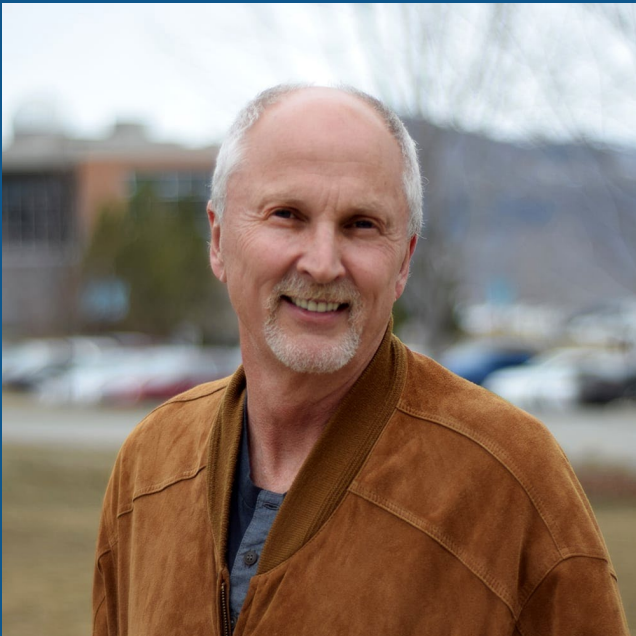
Multidisciplinary research dedicated to the exploration and invention of innovative practices and technologies tied to the sustainability and enhancement of the cattle industry, rangeland and meat production



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NORTHCOTE AND BRINK PROFESSORSHIP



Dr. Karl Larsen

Ecology, conservation and management of wildlife.
Research aimed at finding ways to maintain wildlife
populations in the face of human development.



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BC RESEARCH CHAIR IN PREDICTIVE SERVICES, EMERGENCY MANAGEMENT AND FIRE SCIENCE



Coming soon

With funding, infrastructure and sponsorships (e.g., IBM) this is likely an additional \$5 million investment in TRU



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RESEARCH CENTRES

CENTRE FOR OPTIMIZATION AND DATA SCIENCE



Dr. Roger Yu: Director

Current Projects

- waitlisting in health care
- integrated analysis of land-use in Kamloops



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RESEARCH CENTRES

TRU CENTRE FOR RESPIRATORY HEALTH AND SLEEP SCIENCE

Allison Innes-Wiens: Director

A clinical venue promoting knowledge dissemination, education and research. The centre promotes and facilitates research into best practices for the arena of respiratory health and sleep science.



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INTERDISCIPLINARY RESEARCH JUST ONE EXAMPLE



JOANNA URBAN (BIOLOGY)
KINGSLEY DONKOR (CHEMISTRY)
JOHN CHURCH (NRSC)

\$50,000 NSERC ALLIANCE GRANT
TO STUDY
CANNABIDIOL/TERPENES/NITRIC
OXIDE AND COVID



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News in the past month



\$850,000 federal grant to support the
Applied Genomics Lab (TRUGen)
The lab currently holds over \$2 million in
gene sequencing and related equipment

Jon VanHamme
Eric Bottos



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FOR MORE DETAILED INFORMATION ON RESEARCH PROJECTS IN THE FACULTY OF SCIENCE, PLEASE CONTACT

Animal Health Technology

Allied Health Programs: Respiratory Therapy

Architectural and Engineering Technology

Biological Sciences

Chemistry

Computing Science

Software Engineering

Geology

Math & Stats

NRS

Physics

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Sean McGuinness

Wendy Gardner

Mark Paetkau



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PROJECTIONS

We are working on more:

1. Graduate diploma in Data Science
2. Computing Science
3. Engineering



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PROJECTIONS

We are hoping to work toward:

1. Interdisciplinary PhD. Consider the model at UNBC
2. General MSc in Biology and Chemistry
3. MSc in Computing Science



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COMMENTS FROM THE RESEARCH
COMMITTEE
ON THE OLD AND NEW STRATEGIC
RESEARCH PLAN



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**1a. Support needs to be first in both Objectives and Outcomes.
They need to be clear and as specific as possible.**

**As just one example UNBC includes the Objective;
*“To guarantee our researchers access to superior research
resources and infrastructure, and to manage these to ensure their
effective and efficient use.”***



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1b. Support

There is a serious need for dedicated IT support for research



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1c. Support

Support for Graduate Studies is support for Research



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2. There is also a need to emphasize Students and Community in Objectives and Outcomes

Thus, if there are three areas to emphasize across all categories they are:

**Support
Students
Community**



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3. Open Access

The strategic research plan should not just note the importance of Open Access but provide measurable objectives and consider setting aside funding to support publication in Open Access Journals. Research behind a paywall is not open to the community.



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4. There was concern about the Outcomes in the 2015-2019 plan

The first three Outcomes were directly related to dollars coming into the University. This was perceived as not reflecting the values of research.



5. The new Strategic Research Plan should be written with greater clarity

The 2015-2019 plan includes references to Objectives, Outcomes, Traditions, Themes, Strategic Research Areas, Academic Plan Themes, and Indicators but a clear definition of these is lacking. These terms could be reduced and those remaining defined.