

Thompson Rivers University
ENVIRONMENTAL SCIENCES SEMINAR SERIES
Fall 2025

Guest speaker information

Name of guest speaker:	John Church
Current affiliation:	Professor, Natural Resource Science & BC Regional Innovation Chair, Cattle Industry Sustainability
Seminar date:	November 6, 2025
Title of seminar:	New Technological Developments for Use in “Smart Biomes”

Abstract: 5-8 lines in length, non-technical, written to be accessible and "catchy" to a general audience

Today we are all familiar with artificial intelligence, along with “Smart” phones and appliances; but imagine being able to manage grazing animals through the touch of a button by constructing “digital fences” as you move your animals from one field to the next using wireless virtual fencing collars. Imagine using a drone to autonomously track your study animals, flying directly to the GPS coordinates being supplied in real time from satellite enabled “smart” ear tags. Imagine being able to weigh your animals, or monitor their health, remotely using smart sensors deployed in the field. And imagine generating information-rich drone imagery, using LiDAR, thermal and multispectral photos and video, to construct spectral maps to extract incredible details to dramatically improve your land management. This is not fantasy but is in fact quickly becoming the new reality for 21st century land managers. Numerous examples from Dr Church’s research program at TRU will highlight how this concept of a “Smart-Biome” is rapidly emerging as a new reality for all those involved in the science of natural resource management.