



THE UNIVERSITY OF BRITISH COLUMBIA  
Okanagan Campus



# City of Kelowna and UBCO Research Partnership Annual Update

April 20, 2026

# Background

- Strategic partnership between the City and UBC Okanagan
- 2021: Formal framework established
  - Framework for Enhanced Collaboration launched
  - \$200,000 annual joint investment in applied research
  - Five projects funded
- 2025: City of Kelowna UBCO Research Alliance launched
  - Four newly funded collaborative research projects
  - Dedicated staff and formal governance

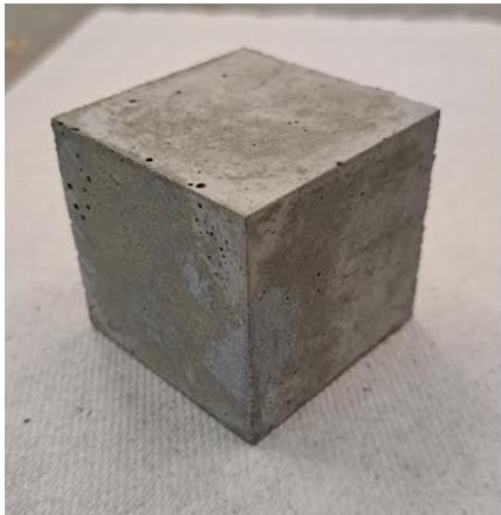
# City of Kelowna UBCO Research Alliance

- Formal partnership to advance applied research aligned with community impact
- Jointly funded through the Collaborative Research Fund
  - \$100,000 annual contribution from the City
  - \$100,000 annual contribution from UBCO (*extended through 2029*)
- Supports research aligned with Council priorities and City operational needs
- Joint Adjudication Group
  - Established in 2025 as the formal review and decision-making body



# Legacy Research Projects

# Biochar Blended Clay Bricks: an Innovative Solution for Landfill Waste



- Evaluated conversion of wood waste into biochar-blended bricks
- Explored applications for landfill waste reduction and carbon sequestration
- Supported development of sustainable, low-carbon building materials
- \$90,000 total project value, City leverage ratio: 3:1
- Supported Council's Climate & Environment priority

# Assessing the Potential Demand for Alternative Transit along the Rail-Trail Corridor connecting Major Urban Destinations.

- Examines alternative transit options linking UBCO, YLW and Downtown along the Okanagan Rail Trail
- Cost and transportation network impact assessments to be completed, along with final policy recommendations
- \$306,500 total project value, City leverage ratio: 3:1
- Supports Council's Transportation and Climate & Environment priorities



# Developing Rapid Battery Charging in Kelowna for Transit and Fleet: A Techno-Economic and Environmental Assessment.



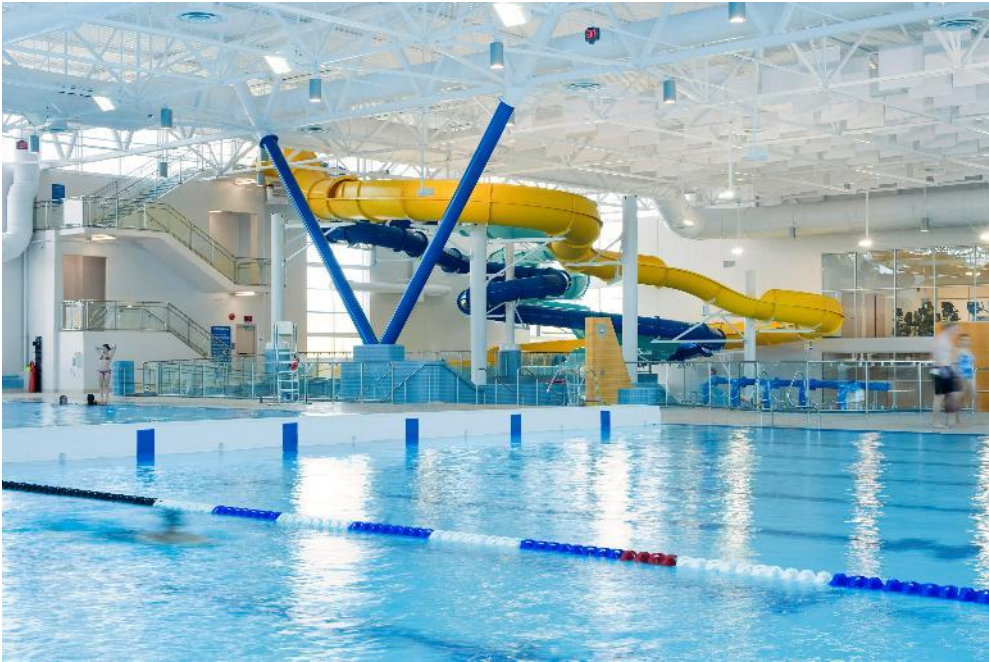
- Assesses feasibility of rapid charging infrastructure for electric buses
- Findings to inform fleet electrification and charging best practices
- \$198,000 total project value, City leverage ratio: 4:1
- Supports Council's Transportation and Climate & Environment priorities

# Feasibility Study of Solar Energy in the City of Kelowna

- Evaluates technical, economic and policy feasibility of solar energy in Kelowna
- City-wide rooftop analysis completed for 45,000 buildings
- \$330,000 total project value, City leverage ratio: 11:1
- Supports Council's Climate & Environment priority



# Enhancing Health and Environment Performance in Aquatic Centres: A Life Cycle Approach



- Examines how operations affect air/water quality, health outcomes and energy use
- Early results identify heating, ventilation, and dehumidification as key energy drivers
- Next phase to deliver predictive tools and a real-time “ePool” dashboard
- \$648,000 total project value, City leverage ratio: 11:1
- Supports Council’s Climate & Environment priority

# New Research Projects

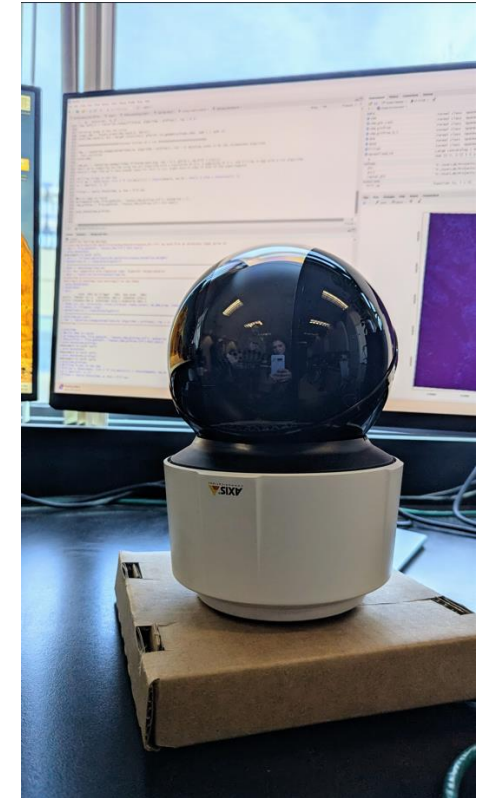


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# WildfireCam – Supporting Community Wildfire Preparedness and Resilience

- Deploys wildfire detection cameras and develops AI analytics to enhance early warning and situational awareness.
- \$1,254,000 total project value, City leverage ratio: 12:1
- Timeline: January 2026 to November 2028
- Supports Council's Crime & Safety, Agriculture & Environment and City of the Future priorities



# Development of a rapid eDNA detection tool to improve invasive mussel biosecurity in BC

- Development of a fast, portable eDNA-based detection tool for invasive mussels
- \$512,500 total project value, City leverage ratio: 9:1
- Timeline: April 2026 to May 2028
- Supports Council's priority of Economic Prosperity and advocacy priority of Okanagan Lake Health



Fig. 1. Axxin T16 Isothermal Diagnostics Instrument

# Forecasting Climate Impacts on Drinking Water Source Quality Using Generative AI



- Use Generative AI to forecast climate impacts on drinking water quality to inform long-term planning
- \$195,000 total project value, City leverage ratio: 5:1
- Timeline: May 2026 to May 2030\*
- Supports the Healthy City Strategy, Climate Resilience Framework and Water Security Plan and Integrated Water Management Strategy

*\*Funding and start date contingent on securing additional external funding*

# A Data-Driven Framework for District Energy System Planning and Implementation in Kelowna

- Develop a data-driven decision-making framework for district energy systems
  - Identifies viable locations, low-carbon energy sources and optimized infrastructure investments
- \$99,750 total project value, City leverage ratio: 3:1
- Timeline: April 2026 to April 2027\*
- Supports Council's Agriculture & Environment priority



*\*Funding and start date contingent on securing additional external funding*

# Looking Ahead

- Growing a strategically aligned portfolio
- Newly funded research projects
  - Led by staff from three different City divisions
  - Reflects cross-organizational engagement and balanced priorities
- Supporting project start-up and ongoing coordination
- Expanding engagement across City divisions and UBCO faculties
- Strengthening communication, storytelling and public awareness
- Identifying new research opportunities for future funding





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*Questions?*

For more information, visit [kelowna.ca](http://kelowna.ca) or [research.ok.ubc.ca](http://research.ok.ubc.ca).