

# SEMINAR NOTICE

*Department of Physics and Engineering Physics  
University of Saskatchewan*

---

---

**SPEAKER:** Dr. Eric W. Price  
Dept of Chemistry

**TOPIC:** *Modular Chemical Tools for the Construction of Next-Generation Molecular Imaging and Radionuclide Therapy Agents.*

**DATE:** Tuesday March 24, 2026

**TIME:** 3:30-4:30 p.m.

## **Abstract:**

The Price Research Group at the University of Saskatchewan is working to create a small library of versatile chemical tools that can be incorporated into many different types of imaging and targeted radiotherapy agents to improve their properties and efficacy. Many new radiopharmaceuticals are based on radioactive metals (radiometals) attached to targeting vectors such as proteins (e.g. protein domains, antibodies), peptides, or nanoparticles. To create radiopharmaceutical agents, one must assemble several key chemical components with each serving specific functions, and each presenting an opportunity to make chemical changes and tune their properties. The goal for most radiopharmaceuticals is to achieve selective uptake and accumulation of radioactive elements in certain tissues (e.g. tumours) with minimal uptake in healthy tissues and excretory organs, which then enables nuclear imaging and/or radionuclide therapy. This talk will explore the synthesis and evaluation of new chelators and unnatural amino acids as chemical tools for radiopharmaceutical development. Small changes to the chemical structure of a radiopharmaceutical can have a big impact on its biological behavior. This will be highlighted with preclinical positron emission tomography (PET/CT) data from a comparison of different zirconium-89 chelators, and from a series of DOTA-TATE chelator-peptide analogues bearing unique zwitterionic amino acids that modify the pharmacokinetic properties of peptides.