



Seminar Series
Department of Chemistry & Biochemistry

**“Innovative technological advancements in laboratory medicine:
Predicting the lab of the future”**

Invited Speaker:

Dr. Khosrow Adeli, Ph.D., FCACB, DABCC, FADLM
Head and Professor, Clinical Biochemistry and Senior Scientist,
Research Institute, The Hospital for Sick Children,
Vice-Chair, Department of Laboratory Medicine and Pathobiology,
University of Toronto.
Past-President, International Federation of Clinical Chemistry and
Laboratory Medicine (IFCC)



Abstract:

Laboratory medicine is integral to public health and healthcare provision, and it relies on numerous analytical techniques to provide timely, objective data to healthcare professionals to guide disease prevention, diagnosis, treatment, and monitoring. Driven and defined by a culture of innovation, recent technological advances have revolutionized modern laboratory medicine and added significant value and visibility to its role in healthcare and clinical decision-making. Noteworthy innovations in laboratory automation, genomics, nuclear magnetic resonance spectroscopy, mass spectrometry, microfluidics, and electronic tools have changed the face of omics research. The growing application of these technologies, as well as their integration with microtechnology and point-of-care testing, has contributed to improved patient outcomes and narrowing of the clinical-laboratory interface to facilitate a patient-centered approach to healthcare. However, to adequately capitalize on these advancements, new tools such as artificial intelligence and data mining are needed to harness the exciting potential of big medical data derived from these novel techniques. In this presentation, I will provide an overview of the recent technological advancements in laboratory medicine, with a critical discussion on their clinical utility and future perspectives. The promise and potential for precision and personalized medicine will also be discussed and appraised, with specific attention paid to the contingency of its success in advanced information technology capabilities.

Date, Time and Place:

March 6, 2026 (Friday), 3:00 pm- 4:00 pm (EST), EH #186

~ Warm Welcome to Everyone ~

The University of Windsor sits on the traditional territory of the Three Fires Confederacy of First Nations, which includes the Ojibwa, the Odawa, and the Potawatomi.