MEDICAL PHYSICS SEMINAR
Friday, December 1, 2023
12:00 - 1:00 pm, MJH Room 2279, CCI

AI and Precision Health

Presented by   **J. Ross Mitchell, PhD**
Professor, Dept. of Medicine, UofA
Canada CIFAR AI Chair

Dr. Mitchell is a Canada CIFAR AI Chair and the inaugural Alberta Health Services (AHS) Chair in AI in Health. He is a Professor in the Department of Medicine, and an Adjunct Professor in the Department of Computer Science at the University of Alberta. He is also a Fellow with the Alberta Machine Intelligence Institute and the Senior Program Director of AI Adoption with AHS. Dr. Mitchell was the inaugural AI Officer at the Moffitt Cancer Center in Tampa, Florida from 2019 to 2021. He was also a Professor of Radiology at Mayo Clinic in Arizona from 2011 to 2019 and Professor of Biomedical Engineering, Radiology, and Clinical Neurosciences at the University of Calgary from 2000 to 2011. He received his PhD at the University of Western Ontario and has been working in the fields of biomedical imaging, artificial intelligence, and machine learning in healthcare for 30 years.

Abstract:
This presentation highlights the collaboration between Alberta Health Services (AHS), the University of Alberta's College of Health Sciences, and the Alberta Machine Intelligence Institute (Amii) utilizing artificial intelligence (AI) technologies for precision health. AHS is the largest integrated health system in Canada, and has developed a comprehensive data warehouse to collect and protect health data, enabling the construction of large population-level datasets. However, a significant portion of digital health data is stored in unstructured medical text and images, requiring extraction for research and improvement purposes. Traditionally, this process has been manual and time-consuming. However, recent advancements in natural language processing have led to the development of large language models (LLMs) like ChatGPT, which can unlock valuable information from unstructured data, providing access to actionable health data. The integration of AI technologies, particularly LLMs, shows great potential for enhancing healthcare outcomes and efficiency. The collaboration between AHS, the University of Alberta, and Amii aims to leverage these advancements to improve precision health and expand access to valuable health data.