

Live Symposia

100 - Artificial Intelligence in Geriatric Mental Health: Recent Advances in Clinical Research

Chair: Ellen Lee

Co-Chair: Helmet Karim

Presenters:

Ipsit Vahia

Andrea Iaboni

Synopsis

With the rise of wearable sensors, advancement in comprehensible artificial intelligence (AI) algorithms, and growing acceptance of AI in medicine, AI has great potential to more reliably diagnose, prognose, and treat mental illnesses. The rapidly rising number of older adults worldwide presents a unique challenge for clinicians due to increased mental health needs in the setting of a dwindling clinical workforce. AI has enabled researchers to better understand mental illnesses by taking advantage of 'big data.'

This symposium will present an overview of novel research leveraging AI (machine learning, natural language processing) to better track, understand, and support mental health and cognitive functioning in older adults.

Helmet Karim, PhD will present on prediction of treatment response in late-life major depressive disorder and the implications of those models.

Ellen Lee, MD will present on using natural language processing to understand psychosocial functioning in older adults.

Ipsit Vahia, MD will present on radio-based sensors to phenotype changes in behavior patterns that may correlate with a range of geropsychiatric symptoms.

Andrea Iaboni, MD DPhil FRCPC will present on multimodal wearable and vision-based sensors for the detection and categorization of behavioural symptoms of dementia.

The symposium includes three physician-scientists (Iaboni, Lee, Vahia), two women (Iaboni, Lee), and two early career faculty (Lee, Karim – co-chairs). The symposium represents four different institutions across the country (McLean/Harvard, Toronto Rehabilitation Institute/University of Toronto, UC San Diego, University of Pittsburgh) and four very different approaches using AI technology to improve understanding and outcomes in the field of geriatric mental health.

The symposium seeks to address the underutilization of AI in psychiatric research, especially in the field of aging research. The increased individual-level heterogeneity associated with aging; complex trajectories of decline in cognitive, mental, and physical health; and lack and slow adoption of older adult-centered technologies present great challenges to advancing the field. However, advances in the field of explainable AI and transdisciplinary development of AI approaches can address the unique challenges of aging research.