

10th International Conference on **Mental Health and Psychiatry**
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KEYNOTE PRESENTATION



Annie Desmarais

Department of Psychology, University of Montreal, Canada

Beyond human insight: AI's transformative impact on mental health assessment

The integration of artificial intelligence (AI) in mental health assessment is reshaping the way clinicians evaluate, diagnose, and support patients. This presentation will explore the latest advancements, opportunities, and challenges in leveraging AI to enhance diagnostic accuracy, accessibility, and efficiency in mental healthcare. The first part of this presentation will highlight my current research which focuses on developing a supervisory AI model for clinicians. Designed as an intelligent assistant, this model analyzes large-scale multimodal patient data—including cognitive assessments, physiological signals, and patient-reported outcomes—to refine diagnostic reasoning and support evidence-based decision-making. By leveraging machine learning, predictive analytics, and natural language processing (NLP), this intelligent assistant aims to detect subtle cognitive patterns, anticipate patient trajectories, and provide tailored recommendations informed by the latest scientific literature. The second part of this presentation will illustrate the practical applications of AI in mental healthcare. Concrete AI-driven tools currently in use and ethical challenges will be presented. Finally, the presentation will conclude with

a forward-looking perspective on the future of AI in mental health and neuropsychology, addressing on-going research directions, interdisciplinary collaborations between AI developers and healthcare professionals, and the necessary steps to ensure the responsible and beneficial integration of AI into clinical practice.

Biography

Annie Desmarais is a licensed neuropsychologist and postdoctoral researcher specializing in the integration of AI in mental health and neuropsychological assessment. She holds a Ph.D. in clinical neuropsychology from University Laval in Canada, conducted in collaboration with the University de Liège in Belgium, and completed postdoctoral fellowships at the University de Montréal under the supervision of leading experts in neuropsychology. She is a postdoctoral researcher at the University de Montréal in collaboration with the IVADO Center of Excellence in AI in Canada, where she develops AI-based solutions for precision and personalized psychiatry. Through her on-going research initiatives and collaborative endeavors with both academic institutions and industry partners, Desmarais continues to advance the understanding of how artificial intelligence can be harnessed to improve diagnostic accuracy, treatment outcomes, and overall patient care in neuropsychological practice.

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