

Title: Roger Melko: Perimeter Institute and University of Waterloo

Speakers: Roger Melko

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Abstract: Can computers think? They can certainly calculate - with staggering speed and ever-increasing power - and they have driven scientific and technological advances that would have been impossible without them. Even so, we would like to believe that, for some puzzles, there's no substitute for old-fashioned human intuition. But this view may be changing.

A new breed of machine learning algorithms have begun knocking down cognitive milestones that, until recently, scientists believed were still decades away. Major advances are being made in computer vision, language translation, autonomous robotic action, and other complex applications. At the same time, these new algorithms are helping scientists accelerate discovery in physics.

This stunning progress poses as many questions as answers: What are the fundamental possibilities and limits of machine learning? Can we create true human-level artificial intelligence, and how might its thoughts differ from our own? What new breeds of computer will fuel artificial intelligence and, conversely, how will artificial intelligence enable new forms of computing?

In his public lecture at Perimeter Institute, Roger Melko will explore how computers have helped humanity solve increasingly complex puzzles, and ask which challenges, if any, only human intuition is equipped to tackle.

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