



University  
of Victoria

Alan Astbury Public Lecture Series

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# Quantum Universe



**Dr. Neil Turok**

Director,  
Perimeter Institute

**Monday, 10 September, 6:00 pm**

**Bob Wright Centre, B150**

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Observations reveal the cosmos to be astonishingly simple, and yet deeply puzzling, on the largest accessible scales. Why is it so nearly symmetrical? Why is there a cosmological constant (or dark energy) and what fixes its value? How did everything we see emerge from a singular “point” in the past? Many lines of evidence now point to a quantum beginning, in which spacetime itself was governed by quantum laws. Hitherto, it has been assumed that such a beginning necessarily required cosmic inflation, and ad hoc ingredients including an initially dominant “inflaton” field. Recently, using powerful new mathematical techniques, Turok and colleagues have proven these proposals to be mathematically inconsistent. More excitingly, they now have a glimpse of a far more minimal and predictive “causa sui” cosmology. Exciting consequences include the simplest-yet explanation of the nature of the dark matter - it consists of heavy, nearly right handed partners of the observed light, nearly left handed neutrinos.

This free event has limited seating. To reserve your seats  
<https://uvic-phys-turok.eventbrite.ca>



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