



The University of Western Ontario
DEPARTMENT OF PHYSICS AND ASTRONOMY

THEORETICAL PHYSICS DISTINGUISHED SPEAKER SERIES

Date: FRIDAY, 11th March 2011
Time: 3:30 p.m.
Location: UCC 290 (McKellar Room)

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"Does the everyday world really obey quantum mechanics?"

ABSTRACT

Quantum mechanics has been enormously successful in describing nature at the atomic level, and most physicists believe that it is in principle the "whole truth" about the world even at the everyday level. However, such a view *prima facie* leads to a severe problem: in certain circumstances, the most natural interpretation of the theory implies that no definite outcome of an experiment occurs until the act of observation. For many decades this problem was regarded as merely philosophical, in the sense that it was thought that it had no consequences which could be tested in experiment. However, in the last dozen or so years the situation has changed very dramatically in this respect. I will discuss the problem, some popular resolutions of it, the current experimental situation, and prospects for the future.