



# Institute Colloquium

**19 January 2017**

**10:00 a.m.**

**Boson**

**Speaker:**

**Prof. John Corbett**

*Macquarie University, Sydney, Australia*

**Title:**

**Is standard quantum mechanics enough?**

**Abstract:**

The theory of quantum mechanics has been a power behind modern technological developments. But as Dirac noted in 1929, "the exact application of these laws leads to equations much too complicated to be soluble." As well, the standard interpretation does not seem to be complete, even in its discussion of elementary applications, for there are gaps which are filled by reference to the "weirdness" or "mystery" of quantum mechanics. I will list some of these problems, like the measurement problem, the problem of non-locality and the mystery of quantum probabilities, and propose some solutions based the view that the quantum world differs from the classical through the type of real numbers that the physical quantities take as values.

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