

# PHYSICS DEPARTMENT COLLOQUIUM

## BREAKING THE SPIN WAVES

BY

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The search for exotic magnetic phases with fractionalized spin excitations has become a major theme of the modern quantum magnetism. It is believed that frustration and quantum fluctuations are main pathways to such phases. Strong quantum fluctuations are naturally present in one-dimensional spin models, where spin-1/2 quasi-particles (spinons) replace conventional spin-1 spin waves, or magnons. In my talk I will review attempts to extend this fascinating physics to higher dimensions and identify the most promising directions for future research.

**TUESDAY, MARCH 9, 2004**

**4:00 PM IN 334 JFB**

**REFRESHMENTS AT 3:30 PM IN 219 JFB**

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**Please note that this colloquium takes the time,  
but not the location, of the normal Tuesday**

**\*\*\* Solid State Seminar \*\*\***