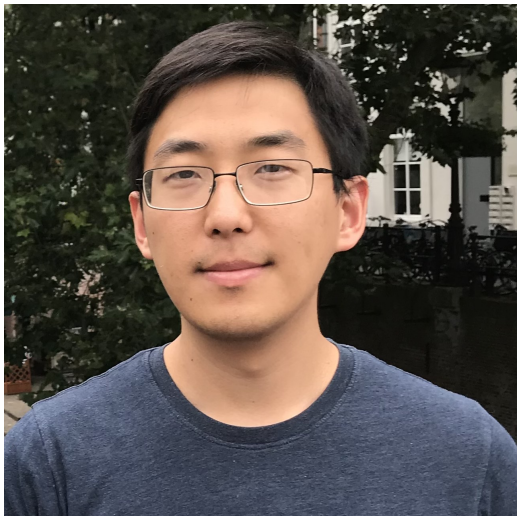
Department of Mathematics and Statistics

Colloquium Series



The Mathematics of Quantum Spin Systems

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Abstract: Quantum spin systems are mathematical models which are used in condensed matter theory to explain properties of certain large quantum systems. They are becoming increasingly relevant today because they are the theoretical setting for quantum computation. In this talk, I will highlight a couple of applications of quantum technologies to real-world problems in chemistry and number theory. Then I will discuss the interesting mathematical questions which arise in the analysis of the dynamics of quantum spin systems, focusing on "valence bond solid" ground states as our motivating objects of interest.

Keywords: Mathematical physics, C^*-dynamical systems, quantum computation.

Wed. Oct. 27, 1:05 – 1:50 pm on Zoom

For more info visit the department website for the colloquium