

Massachusetts Institute of Technology  
Department of Physics

---

**Condensed Matter Theory Seminar**

"Simulation of quantum field theories by quantum computers"

**Zhenghan Wang**, University of California-Santa Barbara

**Abstract:** The circuit model of quantum computing is based on quantum mechanics. It is an open question if quantum computers can simulate quantum field theories EFFICIENTLY. The formulation of this question is already challenging and raises the question what is a quantum field theory rigorously again. I will explain an approach to the simulation of conformal field theories based on anyonic chains. This is a joint work with Shokrian Zini arXiv:1706.08497.

**12:00PM**  
**Wednesday, September 27, 2017**  
**Duboc room (4-331)**

---

Host: Xiao-Gang Wen