

Physics Colloquium

Computational-aided Investigation and Design of Magnetic Materials

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4:00 p.m.

114 Begeman Hall

Since ancient times, there has been a quest for high performance cost-effective magnetic materials. Traditional trial-and-error is often slow, labor intensive, and expensive; but new investigations that involve feedback between theory and experiment promise to accelerate discovery. I will discuss various numerical and analytical methods to investigate electronic structure and the intrinsic and extrinsic properties of candidate magnetic materials including low dimensional systems and nanostructures. I will also discuss recent software developments and applications to unravel the underlying magnetic mechanisms in a given system and to potentially use such understanding to guide and control the optimization of magnetic properties.

Everyone Welcome! Refreshments Provided.