DEPARTMENT OF CHEMISTRY & CHEMICAL BIOLOGY

Presented By:

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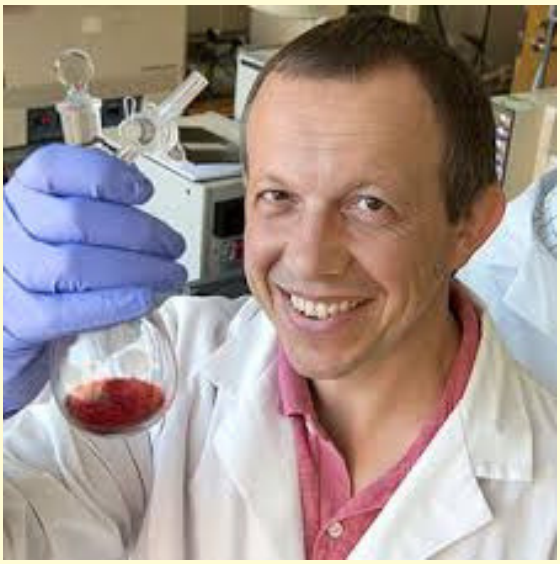
Exploring Magnetic Bistability in Molecular Materials: Spin Crossover, Light-Induced Radical Trapping, and Plastic Phases



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The use of light to control magnetism at the molecular level is appealing for the development of molecule-based sensors and memory devices. After discussing some fundamental structure-property relationships in spin-crossover transition metal complexes,1 I will highlight our work on the design and synthesis of hybrid materials that combine spin-state switching with electrical conductivity.2 In the second part of this lecture, I will discuss light-induced magnetic switching, especially the comparison of photomagnetic effects in transition metal complexes and organic materials.3 Finally, I will present a new mechanism for magnetic bistability in organic systems, which relies on unique behavior of small organic molecules in their crystalline state.