**Spins in Molecules at Surfaces: Molecular Interactions, Switching, Current Shot Noise**

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Using low-temperature scanning tunneling microscopy (STM) and synchrotron radiation methods we explore the spin states and the electron transport properties of molecules at single crystal surfaces. The talk will address the selective switching of spin-crossover compounds and the unexpected generation of spin in closed-shell molecules. In addition to conventional tunneling spectroscopies of the Kondo effect, spin excitations, and Shiba state we also use the shot noise of the STM current as a probe of spin effects.

