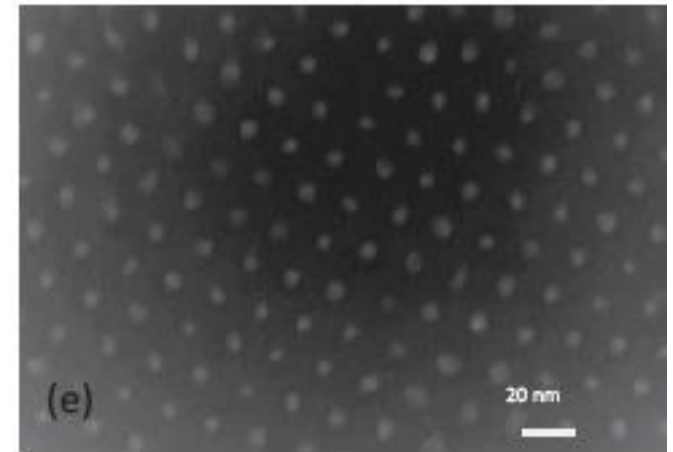
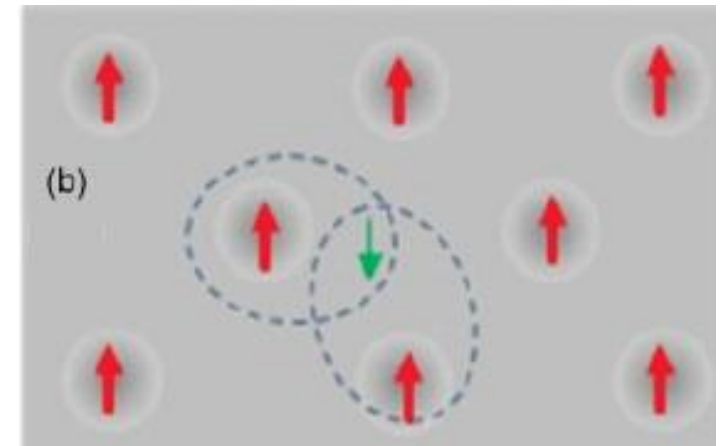


Nano-Engineered Magneto-Electronic Materials Made by Self-Assembly (CMMI-053117)

CHM researchers and NIST collaborators used self-assembly to create a new type of metamaterial in which the electronic properties are tuned by the periodic spacing and magnetic moment of an array of ferromagnetic nanoparticles atop a metal film. The significance of this "artificial Kondo lattice" is the engineering of electronic functionality through nanoscale structure--an important new step towards materials by design. *Physical Review B* **83**, 014408 (2011)



Array of magnetic dots on metallic thin film



Tuned interaction of electrons