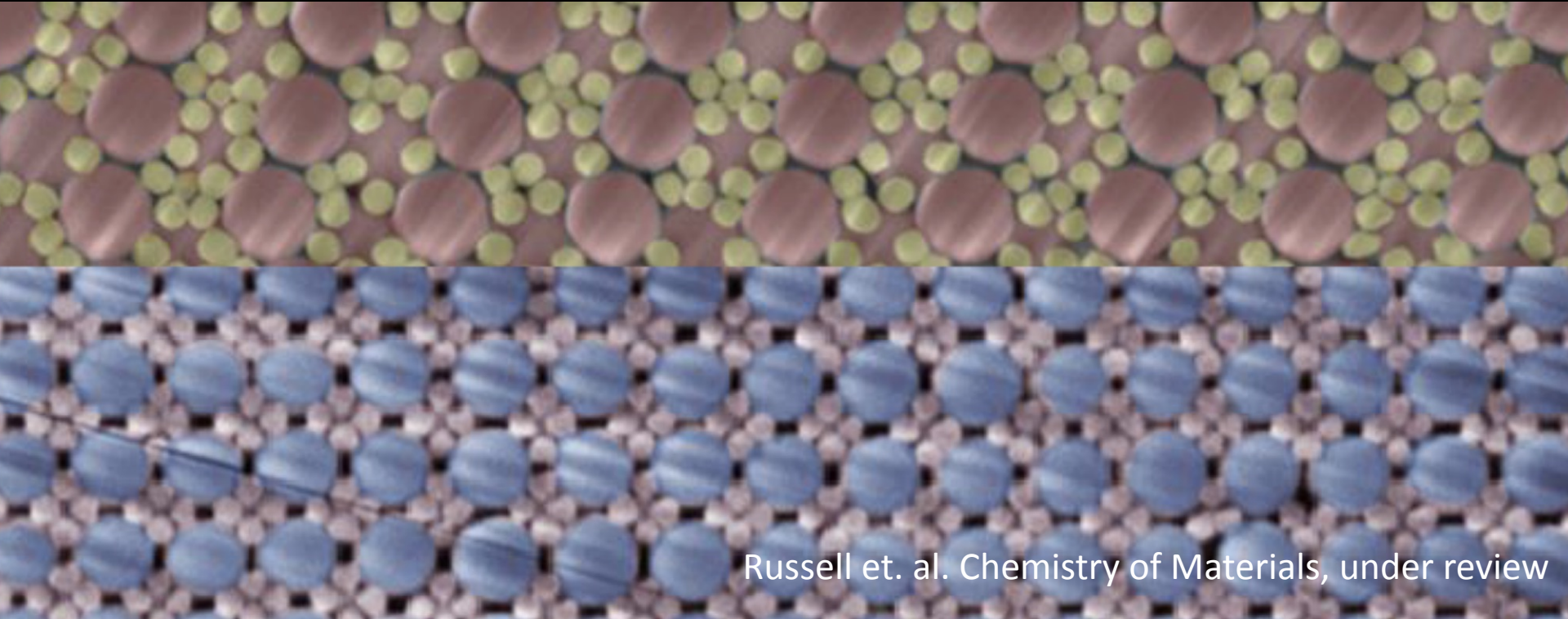
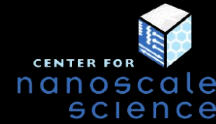


Well-ordered Colloid “Compounds”

Jennifer L. Russell, Grace H. Noel, Joseph M. Warren, Ngoc-Lan L. Tran, Thomas E. Mallouk



Russell et. al. Chemistry of Materials, under review

We have synthesized large area, well ordered binary crystals composed of two different sizes of silica colloid spheres as small as 20 nm in diameter. These binary colloid crystal films serve as templates for new types of “metalattices” formed by void-free infiltration of materials into them. Now we can study the interactions between the periodicities and symmetries of the new metalattices and the intrinsic electronic, vibrational, optical, and magnetic processes in semiconductors, insulators, metals.

Penn State MRSEC DMR-1420620