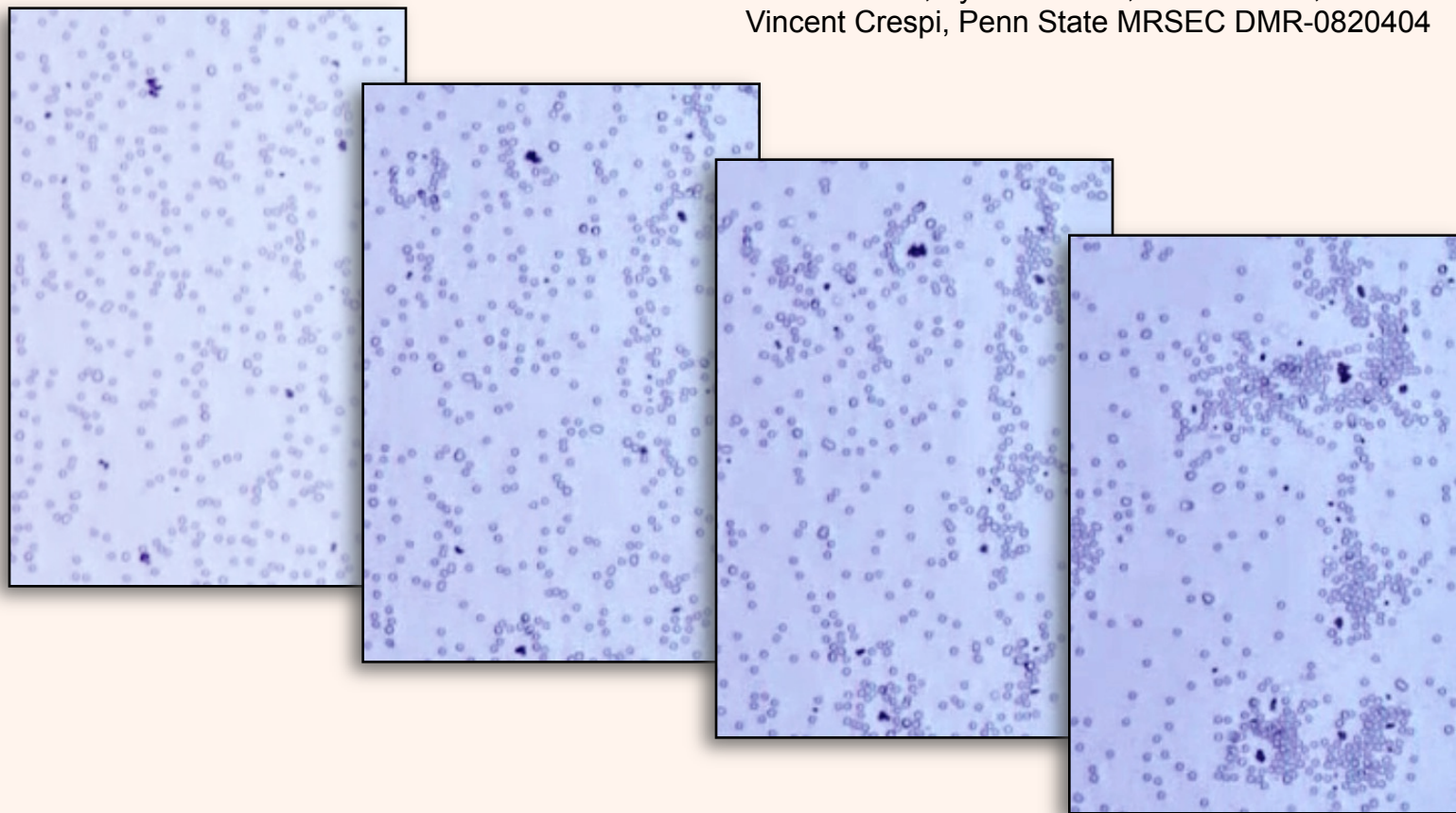


Spontaneous schooling behavior in photochemically excited nanoparticles



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Dark $\sim 1\ \mu\text{m}$ silver chloride (AgCl) nanoparticles spontaneously expel Cl^- ions in response to UV illumination. The differing rates at which positive and negative ions diffuse away from the particles create local electric fields, thereby triggering a collective behavior wherein silica tracer particles seek out and surround the AgCl particles, analogous to how cells in the immune system seek out intruders. This behavior could form the basis for complex, reactive behaviors in collective nanoparticle systems.