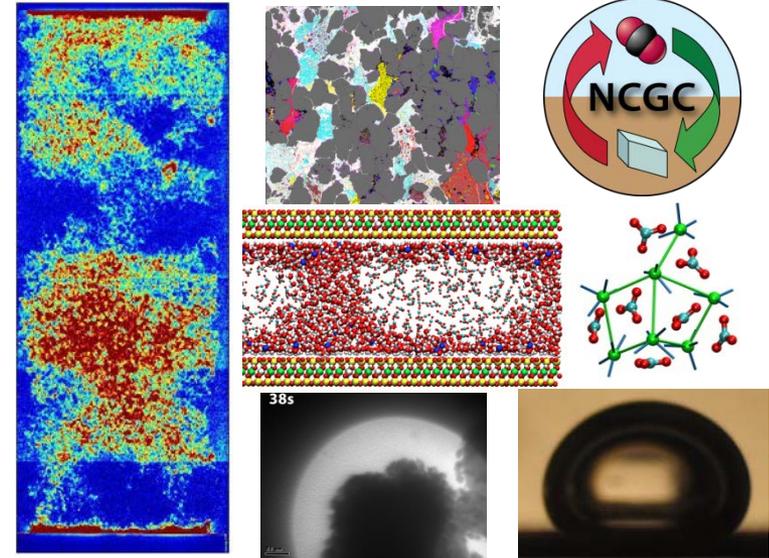


VISION: The NCGC objectives are to understand molecular, nano-scale, and pore network scale processes that affect flow, dissolution, and precipitation in subsurface rock formations during emplacement of supercritical CO₂; and ultimately to manipulate and control those processes to enhance storage security and efficiency



RESEARCH DIRECTION: Properties and interactions of minerals with CO₂-brine mixed fluids are measured at elevated temperature and pressure, and effects at interfaces and in confined nanoscale pore spaces determined. Novel experimental and computational approaches, and unique DOE experimental facilities (ALS, SNS, NERSC, Molecular Foundry) are used to image and simulate pore structure, mineral surfaces, molecular - to - pore scale processes, carbonate mineral growth, and wetting properties.