

## Capability/Need

- Atomic-scale imaging of mineral surfaces and local measurement of physical properties
- Advanced characterization of the electrical, magnetic, and surface potential properties of mineral surfaces
- Well suited for integration with EMSL's geochemical computation capabilities



## Science/Users

- Provides direct atomic-level observation of mineral surface structure and real-time measurements of mineral reactivity in geochemical environments
- Experimental data provide information important for modeling of mineral reactivity and sequestration of contaminants
- Provides fundamental information about dissolution and growth processes important to environmental remediation

## EMSL Strategy Alignment; Specifics

- Science themes: Geochemistry/Biogeochemistry and Subsurface Science
- Cross-cutting challenges: Static-Dynamics; Unprecedented Resolution; Design/Syn Complex Materials; Predict Biological Function; Bridging Scales
- EMSL capability area: Microscopy
- Anticipated availability: February 2010
- Technical POC: Kevin Rosso