

The Jun Group Meeting

Fall 2013, Brauer 3015

August 26th, 4:15-6:00 PM (Brauer 3014), Mr. Doyoon Kim, TBA

September 2nd, 4:15-6 PM (Brauer 3014), Ms. Lijie Zhang, TBA

September 9th, 4:15-6 PM, Mr. Haesung, TBA

September 16th, 4:15-6 PM, Ms. Jessica Ray and Research rotation student, TBA

September 23rd, 4:15-6 PM, Ms. Chelsea Neil, TBA

September 30th, 4:15-6 PM, Clay mineral conference mock presentation

October 7th, no group meeting to attend clay mineral conference

October 14th, 4:15-6 PM, Ms. Qingyun Li, TBA

October 21st, 4:15-6 PM, Mr. Yujia Min, TBA

October 28th, 4:15-6 PM, Dr. Xuyang Liu, TBA

November 4th, 4:15-6 PM, Mr. Doyoon Kim, TBA

November 11th, 4:15-6 PM, Ms. Lijie Zhang, TBA

November 18th, 4:15-6 PM, Mr. Haesung Jung and research rotation student, TBA

November 25th, 4:15-6 PM, Ms. Jessica Ray, TBA

December 2nd, 4:15-6 PM, Ms. Chelsea Neil, TBA

December 9th, 4:15-6PM, Ms. Qingyun Li and Yujia Min, TBA

Spring 2013, Brauer 3015

January 16th, 4:30-6:00 PM, Ms. Jessica Ray, Effects of Thin Film Composite Membrane Surface Modification and Salinity on Calcium Carbonate Fouling and Membrane Performance

January 23rd, 4:30-6:00 PM (Brauer 3014), Mr. Haesung Jung, Assessment of CO₂ reduction experimental system and analysis of S-shape PbS characteristic

February 6th, 4:30-6:00 PM, Ms. Chelsea Neil, Arsenic Mobilization and Secondary Mineral Precipitation during Managed Aquifer Recharge with Reclaimed Water

February 13th, 4:30-6:00 PM, Ms. Yandi Hu, Homogeneous and Heterogeneous Fe(III) (hydr)oxide Precipitation (Nucleation, Growth, Ostwald Ripening, and Aggregation)

February 27th, 4:30-6:00 PM, Mr. Yujia Min, Effects of Sulfate on Feldspar Dissolution under Geologic Carbon Sequestration Conditions

March 13th, 4:30-6:00 PM, Ms. Qingyun Li, CaCO₃ Nucleation on Mica: Comparison with Quartz

March 20th, 4:30-6:00 PM, Ms. Jessica Ray, Hydrophilic Membrane Surface Modification Improves Membrane Efficacy in Reverse Osmosis Applications

March 27th, 4:30-6:00 PM, Mr. Haesung Jung, Atmospheric CO₂ photo-reduction using S-shaped PbS nanocrystal **and**

Ms. Yandi Hu, Roles of Nano- and Micro-scale Subsurface Geochemical Reactions on Safe and Efficient Geologic CO₂ Sequestration (GCS) Operations

April 3rd, 4:15-9:00 PM, Mock presentations for ACS meeting. Yi Yang, Yandi Hu, Chelsea Neil, and Jessica Ray

April 24th, 4:30-6:00 PM, Mr. Yi Yang, Are Dissolution Artifacts Really Artifacts?

April 29th, 2:00-4:30 PM, Ms. Chelsea Neil, Iron (hydr)oxide nucleation and growth in the presence of aqueous As(V),

Yandi Hu, Mock dissertation defense presentation, and

John Beach, Temperature and pH Dependence of Magnesium Carbonates

May 1st, 10:00-11:30 PM, Dr. Carl Steefel, Distinguished lecture, What are the Time Scales for Carbonate Mineral Sequestration of CO₂ in the Subsurface?

May 1st, 12:00-2:30 PM (Brauer Hall 12), Ms. Yandi Hu, thesis defense, Roles of Nano- and Micro-Scale Subsurface Geochemical Reactions on Environmentally Sustainable Geologic CO₂ Sequestration

May 8th, 4:30-6:00 PM, Ms. Qingyun Li, CaCO₃ Nucleation on Mica: Effective Interfacial Energy, with a Comparison with Quartz

May 15th, 4:30-6:00 PM, Mr. Yujia Min, Effects of Sulfate on Feldspar Dissolution under Geologic Carbon Sequestration Conditions

May 22nd, 4:30-6:00 PM, Dr. Xuyang Liu, Interaction of CeO₂ Nanoparticles with Environments: Research Targets & Approaches

June 13, 11:00AM-1:00 PM, Mr. Yi Yang (Brauer Hall 12), thesis defense mock presentation.

June 19, 1:00-3:30 PM, Mr. Yi Yang (Brauer Hall 12), Thesis defense, Chemical weathering of feldspars under ambient to geologic carbon sequestration conditions: effects of crystallographic properties and solution chemistry.

Fall 2012, Brauer 3015

- **August 29th, 4:30-6:00 PM, Mr. Yunke Liu**, Mechanisms of Feldspar Dissolution (Research presentation) and **Ms. Qingyun Li**, Self-Healing Mechanisms of Biotite Under GCS Condition (Research presentation).
- **September 5th, 4:30-6:00 PM, Mr. Yujia Min**, Effects of Organics on CO₂-Brine-Mineral Interactions under Geologic Carbon Sequestration Conditions (Research presentation).
- **September 12th, 4:30-6:00 PM, Mr. Doyoon Kim**, Effects of Crystal Structure and Size of Lead Sulfide Nanoparticles on the Reactivity for CO₂ Photoreduction, (Research presentation).
- **September 19th, 4:30-6:00 PM, Mr. Yi Yang**, Towards a Complete Hierarchy of Reactivity Differentiation, and **Ms. Lijie Zhang**, Quantification of Feldspar Surface Sites of Different Reactivity using Organic Ligands (Research presentation).
- **September 26th, 4:30-6:00 PM, Ms. Yandi Hu**, In Situ Observation of Aluminum Effects on Heterogeneous Nucleation and Growth of Iron Oxides on Quartz, (Research presentation).
- **October 3rd, 4:30-6:00 PM, Ms. Chelsea Neil**, Water Chemistry Impacts on Arsenic Mobilization from Arsenopyrite: Implications for Managed Aquifer Recharge, (Research presentation).
- **October 10th, 4:30-6:00 PM, Ms. Jessica Ray**, Understanding the Fate and Transport of Natural and Engineered Oxide and Carbonate Nanoparticles in Water and Wastewater Treatment Systems, (Research presentation).
- **October 30th, 6:00-8:00 PM, Ms. Chelsea Neil**, Understanding the Nano- and Macro-scale Processes Impacting Arsenic Mobilization during Managed Aquifer Recharge, (Research presentation).
- **November 7th, 4:30-6:00 PM, Mr. Yujia Min**, Effects of Reactive Organic Species on Feldspar Dissolution under Geologic Carbon Sequestration Conditions, (Research presentation).
- **November 14th, 4:30-6:00 PM, Mr. Yi Yang**, The Effects of Anorthite Content on The pH Dependence of Feldspar Dissolution under Acidic Conditions, (Research presentation).
- **November 21st, 4:30-6:00 PM, Ms. Yandi Hu**, Heterogeneous Nucleation and Growth of Hydrated Iron (III) Oxides on Quartz, Mica and Aluminum Oxides: Roles of Surface Charge, Adsorption, and Interfacial Energy, (Research presentation)
- **November 28th, 4:30-6:00 PM, Mr. Doyoon Kim and Ms. Lijie Zhang**, (Research presentation).
- **November 30th, 12:00-2:00 PM (Brauer 3014 and Brauer 12), Ms. Jessica Ray, Ms. Yandi Hu, and Mr. Yi Yang** AGU mock presentations

- **December 3rd, 3:30-6 PM (Brauer 12), Mr. James Cooper, Mr. Yujia Min, and Ms. Qingyun Li (Research presentation).**

Spring 2012, Brauer 3015

- **January 25th, 4:30-6:00 PM, Ms. Chelsea Neil**, Secondary Mineral Precipitation on Arsenopyrite during Managed Aquifer Recharge with Reclaimed Water (Research presentation).
- **February 1st, 4:30-6:00 PM, Ms. Yandi Hu**, Effects of Brine Compositions and Crystal Structures on Mica Alteration under Acidic Hydrothermal Conditions (Research presentation).
- **February 8th, 4:30-6:00 PM, Mr. Yujia Min**, Effects of initial acetate and oxalate concentrations on transparent albite dissolution under GCS conditions (Research presentation).
- **February 15th, 4:30-6:00 PM, Mr. Yi Yang**, Organics and feldspar-brine interaction under GCS conditions (Research presentation).
- **February 29th, 4:30-6:00 PM, Ms. Jessica Ray**, In Situ Observations of Substrate Coating Effects on Natural and Engineered Nanoparticle Interactions using GISAXS – Implications for Groundwater and Water Treatment Systems (Research presentation).
- **March 16th (Friday at Brauer 3016), 4:30-6:00 PM, Ms. Chelsea Neil**, Arsenopyrite Mobilization during Managed Aquifer Recharge with Reclaimed Water (Research presentation).
- **March 23rd (Friday at Brauer 3016), 4:30-6:00 PM, Mr. Yunke Liu and Ms. Yandi Hu**, Ion Exchange, Biotite Dissolution, and Illite Precipitation at Ca²⁺, Mg²⁺, Na⁺ Containing Brine–Supercritical CO₂–Biotite Interfaces (Research presentation).
- **April 4th, 4:30-6:00 PM, Mr. Yi Yang**, Feldspar dissolution: are the breakdowns of Al-O-Si linkages and of Si-O-Si linkages independent? (Research presentation).
- **April 11th, 4:30-6:00 PM, Ms. Jessica Ray**, Effects of Polymeric Organic Coating Substrate Properties on Iron(III) Hydroxide Nucleation (Research presentation).
- **April 18th, 4:30-6:00 PM, Ms. Chelsea Neil**, Modeling Arsenopyrite Mobilization during Managed Aquifer Recharge on the Laboratory Scale (Research presentation)
- **April 25th, 4:30-6:00 PM, Mr. Yujia Min**, Effects of organic ligands on alkali feldspar dissolution under geologic CO₂ sequestration conditions (Research presentation).
- **May 2nd, 4:30-6:00 PM, Ms. Yandi Hu**, Roles of Temperature and CO₂ Pressure on Brine–Supercritical CO₂–Biotite Interactions, (Research presentation).
- **May 16th, 4:30-6:00 PM, Mr. Yi Yang**, Morphological evolution of albite during multiphase interactions under GCS conditions, (Research presentation).
- **May 23rd, 4:30-6:00 PM, Ms. Jessica Ray**, Understanding the Fate and Transport of Nanoparticles in Water Treatment Systems: Implications for Desalination (Research presentation).

Fall 2011, Brauer 3015

- **August 22nd, 2:00-4:00 PM, Ms. Dabin Choe**, Arsenopyrite Dissolution in Batch Reactor Systems (High school scholar summer research presentation) and **Ms. Yandi Hu**, Effects of brine compositions and crystal structures on mica alteration under acidic hydrothermal conditions (Research presentation). ***Please note two presentations.***
- **September 16th (Friday), 5:00-6:30 PM, Mr. Yi Yang**, Application of atomic force microscope in measuring mineral dissolution rate (Research presentation).
- **September 22nd, 5:30-7:00 PM, Mr. Christopher Bell**, Effects of anions and mineral pore size on Iron Oxide Precipitation (Research presentation).
- **September 29th, 5:30-7:00 PM, Ms. Qingyun Li**, Nucleation of CaCO₃ in Geologic CO₂ Sequestration (GCS) Using Dynamic Light Scattering (DLS) (Research presentation).
- **October 11th (Tuesday), 5:30-7:00 PM, Ms. Jessica Ray**, Effects of Environmentally Relevant Substrates on In Situ Observations of Iron Oxide Nanoparticle Nucleation (Research presentation).
- **October 18th (Tuesday), 5:30-7:00 PM, Ms. Chelsea Neil**, Nano- and Macroscale Processes Impacting Arsenic Mobilization from Arsenopyrite During Managed Aquifer Recharge (Research presentation).
- **October 20th, 5:30-7:00 PM, Ms. Yandi Hu**, Anion effects on the particle distribution and size evolution at the early stage of ferric iron precipitation (Research presentation) at **Green Hall, Room 0120**.
- **October 27th, 5:30-7:00 PM, Mr. Yi Yang**, A Mechanistic Model for Anorthite Dissolution in Acidic Environments (Research presentation).
- **November 10th, 5:30-7:00 PM, Ms. Jessica Ray**, Effects of Environmentally Relevant Substrates on In Situ Observations of Iron Oxide Nanoparticle Nucleation (Research presentation).
- **November 17th, 5:30-7:00 PM, Ms. Chelsea Neil**, Secondary Mineral Precipitation on Arsenopyrite during Managed Aquifer Recharge with Reclaimed Water (Research presentation) at **Green Hall, Room 0120**.
- **November 22nd (Tuesday), 5:30-7:00 PM, Ms. Qingyun Li**, Kinetics of Homogeneous Nucleation of CaCO₃ in Geological CO₂ Sequestration (Research presentation).
- **December 1st, 5:30-7:00 PM, Ms. Yandi Hu**, Effects of Brine Compositions and Crystal Structures on Mica Alteration under Acidic Hydrothermal Conditions (Research presentation).
- **December 15th, 5:30-7:00 PM, Mr. Yi Yang**, How do feldspars dissolve? (Research presentation).

- **December 22nd, 5:30-7:00 PM, Ms. Jessica Ray, Polymeric Organic Coating Controlled Nucleation and Growth of Iron(III) (Hydr)-oxide Nanoparticles (Research presentation).**

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- **January 20th, 5:30-7:00 PM, Ms. Jessica Ray**, Effects of Hematite Nanoparticle Synthesis Conditions on Their Structural Properties and Arsenate Adsorption (Research presentation).
- **January 27th, 5:30-7:00 PM, Mr. Vrajesh Mehta**, Effect on Muscovite: Conditions relevant to Geological CO₂ Sequestration (Research presentation).
- **February 3rd, 5:30-7:00 PM, Dr. Hongbo Shao**, Effect of Inorganic and Organic Ligands on CO₂-Saline Water-Phlogopite Interactions under Geologic CO₂ Sequestration Conditions (Research presentation).
- **February 10th, 5:30-7:00 PM, Ms. Chelsea Neil**, The Effect of Water Conditions on the Oxidation and Dissolution of Arsenopyrite: Implications for Sustainable Aquifer Recharge using Reclaimed Water (Research presentation).
- **February 17th, 5:30-7:00 PM, Ms. Yandi Hu**, Dissolution and Precipitation at CO₂-Brine (Water)-Mica/Quartz Interfaces: Implications for Geologic CO₂ Sequestration (Research presentation).
- **February 24th, 5:30-7:00 PM, Mr. Yi Yang**, Investigating the Effects of Acetate on scCO₂-Water-Feldspar Interactions: Recent Advances (Research presentation).
- **March 3rd, 5:30-7:00 PM, Mr. Daniel Garcia**, Morphological Changes in Phlogopite under GCS Conditions (Research presentation).
- **March 10th : No group Meeting**
- **March 17th, 5:30-7:00 PM, Ms. Chelsea Neil**, The Effect of Water Conditions on the Oxidation and Dissolution of Arsenopyrite: Implications for Sustainable Aquifer Recharge using Reclaimed Water (Mock presentation for the ACS conference).
- **March 24th, 5:30-7:00 PM, Dr. Hongbo Shao**, Effect of Inorganic and Organic Ligands on CO₂-Saline Water-Phlogopite Interactions under Geologic CO₂ Sequestration Conditions (Research presentation).
- **March 31st: No group meeting**
- **April 7th, 5:30-7:00 PM, Ms. Yandi Hu**, Effect of Al-coprecipitation and different substrate on iron oxides precipitation kinetics (Research presentation).
- **April 14th, 5:30-7:00 PM, Mr. Yi Yang**, scCO₂-Brine-Anorthite Interactions in The Presence of Acetate: Recent Advances (Research presentation).
- **April 21st, 5:30-7:00 PM, Ms. Jessica Ray**, Lead sulfide nanoparticles for CO₂ reduction (Research presentation).
- **April 28th, 5:30-7:00 PM, Mr. Vrajesh Mehta**, The dissolution of Muscovite under geological CO₂ sequestration conditions: In the presence and absence of acetate (Research presentation).

- **May 6th, 2-3:30 PM (Friday), Brauer 3016, Ms. Chelsea Neil**, Potential for in situ Bioremediation of Arsenic Contaminated Groundwater During ASR (Research presentation).

Fall 2010, Brauer 3015

- **September 2th, 5:30-7:00 PM, Ms. Anca Timofte**, Interactions of soils and aldicarb-containing simulated reclaimed water: HPLC-monitored adsorption of Aldicarb (Research presentation).
- **September 9th, 5:30-7:00 PM, Ms. Chelsea Neil**, The Dissolution of Arsenopyrite During Managed Aquifer Recharge (Research presentation).
- **September 16th, 5:30-7:00 PM, Mr. Yi Yang**, The Effect of Acetate on Dissolution of Anorthite and Reprecipitation Under Geologic CO₂ Sequestration Conditions (Research presentation).
- **September 23th, 5:30-7:00 PM, Ms. Jessica Ray**, Effects of Hematite Nanoparticle Synthesis Conditions on Arsenate Adsorption (Research presentation).
- **September 30th, 5:30-7:00 PM, Ms. Yandi Hu**, Effects of CO₂ (aq), pH, and Salinity on Biotite Dissolution Kinetics under Hydrothermal Conditions (Research presentation).
- **October 7th, 5:30-7:00 PM, Dr. Hongbo Shao**, Effect of Salinity and Water on Supercritical CO₂-Induced Dissolution and Precipitation of Phlogopite under Geologic CO₂ Sequestration Conditions (Research presentation).
- **October 14th, 5:30-7:00 PM, Mr. Daniel Garcia**, Morphological and Kinetic Effects of Geologic Carbon Sequestration on Phlogopite (Research presentation).
- **October 21st, No group meeting. EFRC-Berkeley All-Hand Meeting.**
- **October 28th, 5:30-7:00 PM, Mr. Yi Yang**, The Effects of Acetate on Dissolution and Precipitation of Anorthite under Geologic CO₂ Sequestration Conditions (Research presentation).
- **November 11th, 5:30-7:00 PM, Ms. Chelsea Neil**, The Effect of Water Conditions on the Dissolution of Arsenopyrite: Implications for Aquifer Recharge using Reclaimed Water (Research presentation).
- **November 18th, 5:30-7:00 PM, Ms. Yandi Hu**, Morphological and phase changes of biotite under hydrothermal conditions (Research presentation).
- **December 9th, 5:30-7:00 PM, Mr. Daniel Garcia**, Sequestration, Dissolution, and Precipitation: The Tale of Phlogopite (Research presentation).

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- **January 24st, 3:00-5:00 PM, Mr. Yi Yang**, The Dissolution of Anorthite in The Presence of Acetate, (Research presentation).
- **January 28th, 5:40-7:00 PM, Mr. Wenlu Li**, Dissolution and Oxidation Process of Arsenopyrite in Wastewater (Research presentation).
- **February 4th, 5:40-7:00 PM, Dr. Hongbo Shao**, Dissolution and precipitation of phlogopite under geological CO₂ sequestration conditions (Research presentation).
- **February 11th, 5:40-7:00 PM, Ms. Jessica Ray**, “Effects of Fe³⁺ injection rate, cooling and drying method on iron oxide mineral phase, morphology and particle size.” (Research presentation).
- **February 18th, no meeting due to the APS beamtime (GISAXS)**
- **February 25th, 5:40-7:00 PM, Ms. Kathleen O’Malley**, “Dissolution and Surface Reactivity of Galena” (Research presentation).
- **March 4th, 5:40-7:00 PM, Ms. Anca Timofte**, “Fate of Aldicarb as an Emerging Contaminant in Reclaimed Water used for Aquifer Recharge.” (Research presentation).
- **March 11th, 4:00-7:00 PM, Dr. Alejandro Fernandez-Martinez**, “Structure and reactivity of natural nanoparticle - water interfaces” (Research presentation).
- **Ms. Yandi Hu**, “Morphology and phase change of biotite by interaction with CO₂ and water under high temperature and pressure condition.” (Research presentation).
- **March 18th, 5:40-10:00 PM, Mock presentations of Hongbo Shao, Jessica Ray, Kathleen O’Malley, Yandi Hu, and Anca Timofte for the ACS meeting.**
- **March 25th, no meeting due to the ACS meeting**
- **April 1st, no meeting due to the APS beamtime (SAXS)**
- **April 9th (Friday), 4:00-5:30 PM, Mr. Wenlu Li**, “Dissolution and Oxidation Process of Arsenopyrite.” (Research presentation).
- **April 15th, 5:40-7:00 PM, Mr. Yi Yang**, “Chemical Oscillations and Instabilities in Deep Saline Aquifer CO₂ Sequestration.” (Research presentation).
- **April 22nd, 5:40-7:00 PM, Dr. Hongbo Shao**, Effect of Salinity and CO₂ Phases on the Interactions of CO₂-Water-Phlogopite (Research presentation).
- **April 29th, 5:40-7:00 PM, Ms. Kathleen O’Malley**, Surface Reactivity and Dissolution Rate of Galena: Potential Impact of CO₂ Leakage from Geological Carbon Sequestration on Groundwater Quality (Research presentation).
- **May 6th, 5:40-7:00 PM, Ms. Jessica Ray**, Effects of Fe³⁺ injection rate, cooling and drying method on iron oxide mineral phase, morphology and particle size (Research presentation).

- **May 20th, 3:00-4:30 PM, Ms. Yandi Hu**, Morphology and phase change of biotite by interaction with supercritical CO₂ and water: implications for GCS (Research presentation).

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- **September 3rd, 5:00-6:30 PM, Ms. Jessica Ray**, Effects of Fe³⁺ injection rate, cooling, and drying method on iron oxide mineral phase and particle size. (Research).
- **September 10th, 5:00-6:30 PM, Ms. Kathleen O'Malley**, "CO₂-H₂O-PbS Interactions: Dissolution, Precipitation, and Surface Reactivity of Galena." (Research)
- **September 17th, 5:00-6:30 PM, Ms. Anca Timofte**, "Analysis of aldicarb adsorption onto soil using Fourier transform infrared spectroscopy." (Research).
- **October 1st, 5:00-6:30 PM, Ms. Yandi Hu**, "Dissolution rate, surface morphology, porosity and permeability change of cap-rock at CO₂ sequestration site." (Research presentation).
- **October 8th, no meeting due to EFRC Kick-Off Workshop**
- **October 15th, 5:00-6:30 PM, Mr. Yi Yang**, "The effect of organic compounds on CO₂-water-feldspar interactions." (Research presentation).
- **October 22nd, 5:00-6:30 PM, Ms. Kathleen O'Malley**, "Dissolution Rate and Surface Reactivity of Galena: Effect of CO₂ conditions and cleaved surfaces," **and**
Ms. Anca Timofte, "Aldicarb Adsorption onto Soil during Water Reuse: A Fourier Transform Infrared Spectroscopy Study." (Research presentation).
- **October 29th, 5:00-6:30 PM, Mr. Yiqun (Richie) Zheng**, "Oxidation of arsenic-containing pyrite and the dissolution of its oxidized mineral phases." (Research presentation).
- **November 5th, no meeting due to APS beamtime**
- **November 12th, 5:00-6:30 PM, Dr. Hongbo Shao**, "Morphology changes of phlogopite." (Research presentation).
- **November 14th, 10:00-11:30AM, Mini-workshop for a collaboration project with Dr. Shimada Group at the University of Tokyo**
- **November 19th, 5:00-6:30 PM, Ms. Jessica Ray**, "Stability and Morphology of Iron Oxide Nanoparticles" (Research).
- **November 25th (Wednesday), 5:00-6:30 PM, Ms. Anca Timofte**, "Fate of emerging organic contaminants in reclaimed water during aquifer recharge." (Research presentation).
- **December 3rd, 5:00-6:30 PM, Ms. Yandi Hu**, "Review of Biotite Dissolution" (Literature Review).
- **December 17th, 5:40-7:00 PM, Mr. Yi Yang and Mr. Yiqun (Richie) Zheng**, "Feldspar Dissolution: Observations and Theories" and "Dissolution and Oxidation Process of Arsenopyrite in waste water." (Research presentations).

Spring 2009, Cupples II 212

- **January 15th, 5:00-6:30 PM, Dr. Hongbo Shao**, Interactions of Supercritical CO₂/Water/Rock under CO₂ Geologic Sequestration Conditions (Research presentation).
- **January 22nd, 5:00-6:30 PM, Ms. Kathleen O'Malley**, Potential Effects of Leaking CO₂ on Groundwater Quality (Thesis Research).
- **February 6th, 5:30-6:30 PM, Ms. Anca Timofte**, Aldicarb/Phenanthrene (Research presentation).
- **February 19th, 5:00-6:30 PM, Mr. Wei Wan**, Characterization of Hematite Nanoparticles by Transmission Electron Microscopy (Research presentation).
- **February 26th, 5:00-6:30 PM, Ms. Jessica Ray**, Hematite and Anatase Nanoparticle Synthesis: DLS Measurements, Upcoming Experimentation, and Future Goals (Research).
- **March 5th, 5:00-6:30 PM, Mr. Peter Colletti**, Mechanism and Applications of AFM Force Mode (Research presentation).
- **March 19th, 5:00-6:30 PM, Mr. Ryan Matos**, Geological Carbon Sequestration: Mass Spectrometry Results and Upcoming Research Plans (Research presentation).
- **April 2nd, 5:00-6:30 PM, Dr. Hongbo Shao**, Interactions of Supercritical CO₂/Water/Rock: Reactor modification and SAXS experiment (Research presentation).
- **April 9th, 5:00-6:30 PM, Ms. Kathleen O'Malley**, Potential Effects of CO₂ on Groundwater Quality: Investigation of surface reactions, dissolution, and precipitation at CO₂-water-PbS interfaces (Research presentation).
- **April 16th, 5:00-6:30 PM, Ms. Anca Timofte**, Analysis of Fate of Organic Compounds Using Fourier Transform Infrared Spectroscopy (Research presentation).
- **April 30th, 5:00-6:30 PM, Mr. Wei Wan**, Transmission Electron Microscopy Observations of Iron Oxide Nanoparticles (Research presentation).

Fall 2008, Cupples II 212

- **August 29th, 4:30-6 PM, Mr. Wei Wan**, "Exposure of Engineered Nanoparticles to Human Lung Epithelial Cells: Influence of Chemical Composition and Catalytic Activity on Oxidative Stress," (Literature Reviews and Research Plans).
- **September 5th, 2:30-4 PM, Ms. Jessica Ray**, "Stabilization of aqueous nanoscale zerovalent iron dispersions by anionic polyelectrolytes: adsorbed anionic polyelectrolyte layer properties and their effect on aggregation and sedimentation," (Literature Reviews and Research Plans).
- **September 11th (Thursday), 5:05-6:20 PM, Mr. Peter Colletti**, "The Mechanics and Operation of the Atomic Force Microscope," (Research Presentation).
- **September 19th, 2:30-4 PM, Mr. Ryan Matos**, "Further Research in the World of Geological CO₂ Sequestration," (Literature Reviews and Research Plans).
- **October 1st, 1:00-2:00 PM, Dr. Mark A. Poggi**, Quantifying Changes at Material Interfaces Using Dissipative Quartz Crystal Microbalance (QCM-D) (Guest Speaker).
- **October 3rd, 2:30-4 PM, Dr. Hongbo Shao**, Reductive Transformation of Carbon Tetrachloride in Iron- and Sulfate-Reducing Environments, (Ph.D. work).
- **October 10th, 2:30-4:00 PM, Ms. Kathleen O'Malley**, Understanding and Mitigating Potential CO₂ Sequestration Leakage, (Literature Reviews and Research Plans).
- **October 17th**, No group meeting (Synchrotron beamtime trip to APS)
- **October 23th (Thursday), 5:05-6:30 PM, Ms. Anca Timofte**, Attenuated Total Reflection Fourier Transform Infrared (ATR-FTIR) Spectroscopy (Literature review and training summary). With a short course for how to use the Endnote by Prof. Jun.
- **October 31th, 2:30-4 PM, Mr. Wei Wan**, Synthesis of hematite nanoparticles (Research presentation).
- **November 6th (Thursday), 5:05-6:20 PM, Dr. Hongbo Shao**, Aqueous Species and Mineral Dissolution/Precipitation: How to Use MINEQL (Short course).
- **November 13th (Thursday), 5:05-6:30 PM, Ms. Jessica Ray**, Characterization of Nanoscale Zerovalent Iron Nanoparticles and Titanium Dioxide Nanoparticles using ATR-FTIR (Research presentation).

- **November 20th (Thursday), 5:05-6:30 PM, Mr. Peter Colletti**, The Kinetics and Mechanism of Fe(III) Nanoparticle Formation on an Alginate-Coated Substrate (Research presentation).
- November 28th, No group meeting (Thanksgiving)
- **December 4th (Thursday) 5:05 PM, Mr. Ryan Matos**, Geological Carbon Sequestration Research: Experimentation, Results, and Future Goals (Research presentation), **and 2008 Holiday Dinner.**