Peer Review Publications Solely Supported by the EFRC: 45 Total as of 29 September 2014

2014

1. **Chen**, C-L., J. Qi, J. Tao, R.N. Zuckermann, and J.J. De Yoreo, 2014. Tuning calcite morphology and growth acceleration by a rational design of highly stable protein-mimetics. *Nature Scientific Reports*, **4**, DOI: 10.1038/srep06266
2. **Molins**, S., D. Trebotich, L. Yang, J.B. Ajo-Franklin, T.J. Ligocki, C. Shen, C.I. Steefel, 2014. Pore-scale controls on calcite dissolution rates from flow-through laboratory and numerical experiments. Environmental Science and Technology, DOI: 10.1021/es5013438.
3. **Radha**, A.V. and A. Navrotsky, 2014. Manganese carbonate formation from amorphous and nanocrystalline precursors: Thermodynamics and geochemical relevance, American Mineralogist, 99, 5-6. doi: 10.2138/am.2014.4734.
4. **Rother**, G., L.Vlcek, M.S. Gruszkiewicz, A.A. Chialvo, L.M. Anovitz, J.L. Banuelos, D. Wallacher, N. Grimm, and D.R. Cole, 2014. Sorption Phase of Supercritical CO_2 in Silica Aerogel: Experiments and Mesoscale Computer Simulations. J. Phys. Chem. C, 118 (28), 15525–15533 DOI: 10.1021/jp503739x
5. **Stack**, A.G., 2014, Next generation models of carbonate mineral growth and dissolution. Greenhouse Gas Sci Technol. doi: 10.1002/ghg.140
6. **Stack**. A.G., A. Fernandez-Martinez, LF. Allard, J.L. Bañuelos, G. Rother, L.M. Anovitz, D.R. Cole, and G.A. Waychunas, 2014. Pore-Size-Dependent Calcium Carbonate Precipitation Controlled by Surface Chemistry. Environ. Sci. Technol., 48 (11), pp 6177–6183 DOI: 10.1021/es405574a
7. **Trebotich**, D.P., M.F. Adams, S. Molins, C.I. Steefel, and C. Shen, 2014. High resolution simulation of pore scale reactive transport processes associated with carbon sequestration. Computing in Science and Engineering, DOI:10.1109/MCSE.2014.77

2013

1. **Chialvo**, A.A., L. Vlcek, and D.R. Cole, 2013. Acid Gases in CO_2-rich Subsurface Geologic Environments. Reviews in Mineralogy and Geochemistry 77, 361-398, DOI:10.2138/rmg.2013.77.10 (view publication) or (view highlight)
2. **DePaolo** D.J. and D.R. Cole, 2013. Geochemistry of Geologic Carbon Sequestration: An Overview, Reviews in Mineralogy and Geochemistry 77, p. 1-14, DOI:10.2138/rmg.2013.77.1
3. **De Yoreo**, J., G.A. Waychunas, Y-S. Jun, and A. Fernandez-Martinez, 2013. In situ Investigations of Carbonate Nucleation on Mineral and Organic Surfaces. Reviews in Mineralogy & Geochemistry, 77, 229-257, DOI: 10.2138/rmg.2013.77.7.
4. **Fernandez-Martinez**, A., Y Hu, B. Lee, Y.S. Jun, and G.A. Waychunas, 2013. In Situ Determination of Interfacial Energies between Heterogeneously Nucleated $CaCO_3$ and Quartz Substrates: Thermodynamics of CO_2 Mineral Trapping, Environmental Science & Technology., 47(1), 102-109. DOI: 10.1021/es3014826
5. **Hedges**, L.O. and S. Whitelam, 2013. Selective Nucleation in Porous Media. Soft Matter. DOI: 10.1039/C3SM51946E.
6. **Kim**, T.W., T.K. Tokunaga, J.R. Bargar, M.J. Latimer, and S.M. Webb, 2013. Brine film thickness on mica surfaces under geologic CO_2 sequestration conditions and controlled capillary pressures. Water Resources Res., 49, 1-6. DOI: 10.1002/wrcr.20404. (view publication) or (view highlight)
7. **Nielsen**, L.C. and D.J. DePaolo, 2013. Ca isotope fractionation in a high-alkalinity lake system: Mono Lake, California. Geochimica et Cosmochimica Acta, 118(2013), 276-294. DOI: 10.1016/j.gca.2013.05.007. (view publication) or (view highlight)
8. **Nielsen**, L.C., J.J. De Yoreo, D.J. DePaolo, 2013. General model for calcite growth kinetics in the presence of impurity ions. Geochimica et Cosmochimica Acta, 115, 100–114 (view publication) or (view highlight)
9. **Radha,** A.V. and A. Navrotsky, 2013, Thermodynamics of Carbonates. Reviews in Mineralogy and Geochemistry, 77, 73-121, DOI:10.2138/rmg.2013.77.3 (view publication) or (view highlight)
10. **Reeves**, D. and D.H. Rothman, 2013. Age Dependence of Mineral Dissolution and 1 Precipitation Rates. Earth and Planetary Science Letters, Global Biogeochemical Cycles. DOI:10.1002/gbc.20082. (view publication) or (view highlight)
11. **Reeves**, D. and D.H. Rothman, 2013. Diffusion and kinetic control of weathering rind development. Earth and Planetary Science Letters, Geofluids. DOI:10.1111/gfl.12056. (view publication) or (view highlight)
12. **Steefel**, C.I., S. Molins, and D. Trebotich, 2013. Pore Scale Processes Associated with Subsurface CO2 Injection and Sequestration. Reviews in Mineralogy and Geochemistry,77, 259-303, DOI:10.2138/rmg.2013.77.8

13. **Tokunaga**, T.K. and J. Wan, 2013. Capillary Pressure and Mineral Wettability Influences on Reservoir CO2 Capacity. Reviews in Mineralogy and Geochemistry, 77, 481-503, DOI:10.2138/rmg.2013.77.14
14. **Watkins,** J., L.C. Nielsen, F.J. Ryerson, and D.J. DePaolo, 2013. The influence of kinetics on the oxygen isotope composition of calcium carbonate, Earth and Planetary Science Letters. DOI: 10.1016/j.epsl.2013.05.054. (view publication) or (view highlight)
15. **Wu**, D., and A. Navrotsky, 2013. Small Molecule - Silica Interactions in Porous Silica Structures. Geochimica et Cosmochimica Acta, 109, 38-50. DOI: 10.1016/j.gca.2013.01.038. (view publication) or (view highlight)
16. **Zhang**, S.; D.J. DePaolo, T. Xu, and L. Zheng, 2013. Mineralization of carbon dioxide sequestered in volcanogenic reservoir rocks. International Journal of Greenhouse Gas Control, 18, 315–328. DOI:10.1016/j.ijggc.2013.08.001. (view publication) or (view highlight)
17. **Zhang**, Y., A.V. Radha, and A. Navrotsky, 2013. Thermochemistry of two calcium silicate carbonate minerals: scawtite, $Ca_7(Si_6O_{18})(CO_3)\cdot 2H_2O$, and spurrite, $CA_5(SiO_4)_2(CO_3)$. Geochimica et Cosmochimica Acta, 2013, 115, 92-99. DOI: 10.1016/j.gca.2013.03.031. (view publication) or (view highlight)

2012

1. **Carmichael**, J.R.; G. Rother, J.F. Browning, J.F. Anker, L.M. Anovitz, J.R. Wesoloski, and D.R. Cole, 2012. High-pressure cell for neutron reflectometry of supercritical and subcritical fluids at solid interfaces. Rev. Sci. Instrum, 83, 045108, DOI: 10.1063/1.3697999. (view publication) or (view highlight)
2. **Chialvo**, A. A., L. Vlcek, and D.R. Cole, 2012. Aqueous CO_2 Solutions at Silica Surfaces and within Nanopore Environments: Insights from isobaric-isothermal molecular dynamics. Journal of Physical Chemistry C., 116 (26), 13904-13916. DOI: 10.1021/jp3001948. (view publication) or (view highlight)
3. **Gruszkiewicz**, M.S.; G. Rother, D.J. Wesolowski, D.R. Cole, and D. Wallacher, 2012. Direct Measurements of Pore Fluid Density by Vibrating Tube Densimetry. Langmuir, 28, 5070−5078. DOI: 10.1021/la204517v. (view publication) or(view highlight)
4. **Hedges**, L.O. and S. Whitelam, 2012. Patterning a surface so as to speed nucleation from solution. Soft Matter, 8, 8624-8635. DOI: 10.1039/C2SM26038G. (view publication) or (view highlight)
5. **Jung**, J.W.; J. Wan, 2012. Supercritical CO_2 and Ionic Strength Effects on Wettability of Silica Surfaces: Equilibrium Contact Angle Measurements. Energy Fuels, 26(9), 6053–6059. DOI: 10.1021/ef300913t. (view publication) or (view highlight)
6. **Kim**, Y., J. Wan, T.J. Kneafsey, and T.K. Tokunga, 2012. Dewetting of Silica Surfaces upon Reactions with Supercritical CO_2 and Brine: Pore-Scale Studies in Micromodels. Environ. Sci. Technol., 46 (7), 4228–4235. (view publication) or (view highlight)
7. **Landrot**, G., J.B. Ajo-Franklin, S. Cabrini, L. Yang, and C.I. Steefel, 2012. Measurement of accessible reactive surface area in a sandstone, with application to CO2 mineralization. Chemical Geology 318-319, 113-125. DOI:10.1016/j.chemgeo.2012.05.010. (view publication) or (view highlight)
8. **Molins**, S., D. Trebotich, C. I. Steefel, and C. Shen, 2012. An investigation of the effect of pore scale flow on average geochemical reaction rates using direct numerical simulation. Water Resour Res., 48, W03527, DOI:10.1029/2011WR011404. (view publication) or (view highlight)
9. **Nielsen**, L. C., I. C. Bourg, and G. Sposito. 2012. Predicting CO_2-water interfacial tension under pressure and temperature conditions of geologic CO_2 storage. Geochim. Cosmochim. Acta 81:28-38. (view publication) or (view highlight)
10. **Noiriel**, C.; C.I. Steefel, L. Yang, and J.B. Ajo-Franklin, 2012. Upscaling calcite precipitation rates from pore to continuum scale. Chemical Geology 318-319, 60-74. (view publication) or (view highlight)
11. **Radha**, A.V., A. Fernandez-Martinez, Y. Hu, Y-S. Jun, G.A. Waychunas, and A. Navrotsky, 2012. Energetic and structural studies of amorphous Ca_1-xMgx$CO_3\cdot nH_2O$ ($0 < x < 1$). Geochimica et Cosmochimica Acta, 90 83-95. (view publication) or (view highlight)
12. **Reeves**, D. and D.H. Rothman, 2012. Impact of structured heterogeneities on reactive two-phase porous flow. Physical Review E, 86, 031120 DOI:10.1103/PhysRevE.86.031120 (view publication) or (view highlight)
13. **Sel**, Ozlem; A.V. Radha, K. Dideriksenand A. Navrotsky, 2012. Amorphous Iron (II) Carbonate: Crystallization Energetics and Comparison to Other Carbonate Minerals related to CO_2 Sequestration. Geochim et Cosmochim Acta, 87, 61–68. (view publication) or (view highlight)
14. **Tokunaga**, T., 2012. DLVO-Based Estimates of Adsorbed Water Film Thicknesses in Geologic CO_2 Reservoirs. Langmuir, 28, 8001−8009. dx.doi.org/10.1021/la2044587 (view publication) or(view highlight)

2011

1. **Bourg** I.C., and G. Sposito, 2011. Molecular dynamics simulations of the electrical double layer on smectite surfaces contacting concentrated mixed electrolyte ($NaCl$-$CaCl_2$) solutions. Journal of Colloid and Interface Science, DOI: 10.1016/j.jcis.2011.04.063. (view publication) or (view highlight)
2. **Chen**, C.-L., J. Qi, R.N. Zuckermann, and J.J. DeYoreo, 2011. Engineered Biomimetic Polymers as Tunable Agents for Controlling $CaCO_3$ Mineralization. J. Am. Chem. Soc., 133, 5214- 5217. (view publication) or (view highlight)
3. **Forbes**, T.Z., A.V. Radha, and A. Navrotsky, 2011. The energetics of nanophase calcite. Geochimica et Cosmochimica Acta 75, 7893–7905. (view publication) or (view highlight)
4. **Hedges**, L.O. and S. Whitelam, 2011. Limit of validity of Ostwald's rule of stages in a statistical mechanical model of crystallization. J. Chem. Phys. 135, 164902, doi:10.1063/1.3655358. (view publication) or (view highlight)
5. **Ruminski**, A.M., K-J. Jeon, and J.J. Urban, 2011. Size-dependent CO_2 capture in chemically synthesized magnesium oxide nanocrystals. invited article in J. Mater. Chem., special themed issue on "Chemical transformations of nanoparticles," 21,11486-11491. (view publication) or (view highlight)
6. **Vlcek**, L., A.A. Chialvo, and D.R. Cole, 2011. Optimized Unlike-Pair Interactions for Water-Carbon Dioxide Mixtures Described by the SPC/E and EPM2 models. J. Phys. Chem. B, 115(27), 8775-8784. (view publication) or (view highlight)

2010

1. **Whitelam**, S., 2010. Non-classical assembly pathways of anisotropic particles. J. Chem. Phys. 132, 194901.(view publication) or (view highlight)

Peer Review Collaborative Publications: 45 Total as of 29 September 2014

2014

1. **Bazilevskaya**, E., G. Rother, D.F.R. Mildner, M. Pavich, D. Cole, M.P. Bhatt, L. Jin, C.I. Steefel and S.L. Brantley, 2014. How oxidation and dissolution in diabase and granite control porosity during weathering. *Soil Science Society America Journal*, doi:10.2136/sssaj2014.04.0135
2. **Capobianco**, R.M., M.S. Gruskiewicz, R.J. Bodnar, and J.D. Rimstidt, 2014. Ionization in H_2O – bearing CO_2 fluid determined by conductivity measurements. Journal of Solution Chemistry (Robert H. Wood Special Issue), DOI: 10.1007/s10953-014-0219-7.
3. **Gazzè**, S. A.; A.G. Stack, K.V. Ragnarsdottir, and T.J. McMaster, 2014. Chlorite topography and dissolution of the interlayer studied with Atomic Force Microscopy. Am. Mineral. DOI: http://dx.doi.org/10.2138/am.2014.4478.
4. **Hamm**, L. M., A. J. Giuffre, N. Han, J. J. De Yoreo, and P. M. Dove 2014. Reconciling disparate views of template-directed nucleation through measurement of calcite nucleation kinetics and binding energies. PNAS 111(4) 1304-1309, DOI: 10.1073/pnas.1312369111
5. **Li**, Q., A. Fernandez-Martinez, B. Lee, G.A. Waychunas, and Y-S. Jun, 2014. Calcium Carbonate Polymorphs on Mica and Quartz Substrates and Their Interfacial Energies. Environmental Science & Technology doi: 10.1021/es405141j
6. **Masson**, Y. and S.R. Pride, 2014. A Fast Algorithm for Invasion Percolation. Transp Porous Med 102:301–312. DOI 10.1007/s11242-014-0277-8
7. **Nielsen**, M.H., S. Aloni, and J.J. De Yoreo, 2014. In situ TEM imaging of $CaCO_3$ nucleation reveals coexistence of direct and indirect pathways. Science, 345, DOI: 10.1126/science.1254051 .
8. **Steefel**, C.I., J.L. Druhan, and K. Maher, 2014. Modeling coupled chemical and isotopic equilibration rates. Procedia Earth and Planetary Science, 208–217, DOI: 10.1016/j.proeps.2014.08.022.
9. **Swift**, A, J.M. Sheets, D.R. Cole, L.M. Anovitz, S. Welch, G. Rother, and H-W. Wang, 2014. Relationship between mineralogy and porosity in caprocks relevant to geologic CO2 sequestration. Environmental Geosciences, **21**, 39-57. DOI: 10.1306/eg.03031413012.
10. **Whitelam**, S., L.O. Hedges and J.D. Schmit, 2014. Self-assembly at a nonequilibrium critical point. Physical Review Letters, 112, 155504.

2013

1. **Anovitz**, L. M., D.R. Cole, G. Rother, L.F. Allard, A. Jackson, and K.C. Littrell, 2013. Diagenetic changes in macro- to nano-scale porosity in the St. Peter Sandstone: An (ultra) small angle neutron scattering and backscattered electron imaging analysis. Geochim. Cosmochim. Acta 102, 280-305. DOI:10.1016/j.gca.2012.07.035. (view publication) or (view highlight)
2. **Bardhan**, R., L.O. Hedges, C.L. Pint, A. Javey, S. Whitelam, and J.J. Urban, 2013. Uncovering the intrinsic size dependence of hydriding phase transformations in nanocrystals, Nature Materials, DOI:10.1038/nmat3716. (view publication) or (view highlight)
3. **Bazilevskaya**, E., M. Lebedeva, M. Pavich, G. Rother, D.Y. Parkinson, D.R. Cole, and S.L. Brantley, 2013. Where fast weathering creates thin regolith and slow weathering creates thick regolith. Earth Surf. Process. Landforms 38, 847–858. DOI: 10.1002/esp.3369. (view publication) or (view highlight)
4. **Bracco**, J.N., A.G. Stack, and C.I. Steefel, 2013. Upscaling Calcite Growth Rates From the Mesoscale to the Macroscale. Environ. Sci. Technol., 47, 7555-7562. DOI: 10.1021/es400687r. (view publication) or (view highlight)
5. **Buss**, H. L., S.L. Brantley, F.N. Scarena, E.A. Bazilievskaya, A. Blum, M. Schulz, R. Jimenez, A.F. White, G. Rother, and D.R. Cole, 2013. Probing the deep critical zone beneath the Luquillo Experimental Forest, Puerto Rico. Earth Surf. Process. Landforms 38, 1170-1186. DOI:10.1002/esp.3409 (view publication) or (view highlight)
6. **Fernandez-Martinez** A., Kalkan B., Clark S. M. and Waychunas G.A., 2013. Pressure-induced polyamorphism and formation of 'aragonitic' amorphous calcium carbonate, Angewandte Chemie Int. Ed, 2013, 52(32), 8354-8357. DOI: 10.1002/anie.201302974. (view publication) or (view highlight)
7. **Freeman**, C.L., Q. Hu, M.H. Nielsen, J. Tao, J.J. De Yoreo and J.H. Harding, 2013. Surface Selectivity of Calcite on Self-Assembled Monolayers. *J Phys Chem C* **117**, 5154-5153.
8. **Hamm,** L.M., I.C. Bourg, A.F. Wallace, and B. Rotenberg, 2013. Molecular Simulation of CO_2- and CO_3-Brine-Mineral Systems. Reviews in Mineralogy and Geochemistry, 77, 189-228, DOI: 10.2138/rmg.2013.77.6
9. **Hu**, Y., J.R. Ray, and Y-S. Jun, 2013. Na+, Ca_2+, and Mg_2+ in Brines Affect Supercritical CO_2–Brine–Biotite Interactions: Ion Exchange, Biotite Dissolution, and Illite Precipitation. Environmental Science & Technology, 47(1), 191-197. DOI:10.1021/es301273g. (view publication) or (view highlight)
10. **Jin**, L., R. Mathur, G. Rother, D.R. Cole, K. Bazilevskaya, J. Williams, A. Carone, and S. Brantley, 2013. Evolution of porosity and geochemistry in Marcellus Formation black shale during weathering. Chem. Geol. 356, 50-63. DOI:10.1016/j.chemgeo.2013.07.012. (view publication) or (view highlight)
11. **Jun, Y.-S.,** D.E. Giammar, C.J. Werth, and D.A. and Dzombak, 2013. Environmental and Geochemical Aspects of Geologic Carbon Sequestration: A Special Issue. *Environmental Science & Technology***,** 47 (1), 1-2.
12. **Jun, Y.-S.,** D.E. Giammar, and C.J. Werth, 2013. Impacts of Geochemical Reactions on Geologic Carbon Sequestration, *Environmental Science & Technology***,** 47(1), 3-8.
13. **Kharaka**, Y., D.R. Cole, J.J. Thordsen, K.D. Gans, and R.B. Thomas, 2013. Geochemical Monitoring for Potential Environmental Impacts of Geologic Sequestration of CO_2. Reviews in Mineralogy and Geochemistry, 77, 399-430, DOI:10.2138/rmg.2013.77.11
14. **Kneafsey**, T., D. Silin, and J.B. Ajo-Franklin, 2013. Supercritical CO_2 flow through a layered silica sand/calcite sand system: Experiment and modified maximal inscribed spheres analysis. International Journal of Greenhouse Gas Control, 14,141-150. (view publication) or (view highlight)
15. **Navarre-Sitchler**, A., D.R. Cole, G. Rother, L. Jin, H.L. Buss, and S. Brantley, 2013. Porosity and surface area evolution during weathering. Geochim. Cosmochim. Acta 109, 400-413. DOI:10.1016/j.gca.2013.02.012. (view publication) or (view highlight)
16. **Tokunaga**, T.K., J. Wan, J-W. Jung, T.W. Kim, Y. Kim, and W. Dong, 2013. Capillary pressure and saturation relations for supercritical CO_2 and brine in sand: High-pressure *Pc(Sw)* controller/meter measurements and capillary scaling predictions. Water Resources Res., 49, 1-14. DOI:10.1002/wrcr.20316. (view publication) or (view highlight)
17. **Wallace**, A.F.; L.O. Hedges, A.F. Fernandez-Martinez, P. Raiteri, S. Whitelam, G.A. Waychunas, J.D. Gale, J.F. Banfield, and J.J. De Yoreo, 2013. Microscopic Evidence for Liquid-Liquid Separation in Supersaturated CaCO3 Solutions. Science, 341(6148) 885-889 DOI: 10.1126/science.1230915 (view publication) or (view highlight)
18. **Wu**, D., J. Gassesmith, D. Gouvea, S. Ushakov, J. Stoddart, and A. Navrotsky, 2013. Direct Calorimetric Measurement of Enthalpy of Adsorption of Carbon Dioxide on CD-MOF-2, a Green Metal-Organic Framework. Journal of the American Chemical Society, 135(8), 6790-6793, DOI: 10.1021/ja402315d.

2012

1. **Hofmann**, A.E., I.C. Bourg, and D.J. DePaolo, 2012. Ion desolvation as a mechanism for kinetic isotope fractionation in aqueous systems. Proceedings of the National Academy of Sciences of the U.S.A. 109, 18689-18694.(view publication) or (view highlight)
2. **Hu**, Q., M.H. Nielsen, C.L. Freeman, L.M. Hamm, J. Tao, J.R.I. Lee, T.Y.J. Han, U. Becker, J.H. Harding, P.M. Dove, and J.J. De Yoreo, 2012. The thermodynamics of calcite nucleation at organic interfaces: Classical vs. Non-classical pathways. Faraday Disc., 159, 509-523. DOI: 10.1039/c2fd20124k. (view publication) or (view highlight)
3. **Kim**, T.W.; T.K. Tokunaga, D.B. Shuman, S.R. Sutton, M. Newville, A. Lanzirotti, 2012. Thickness measurements of nanoscale brine films on silica surfaces under geologic CO_2 sequestration conditions using synchrotron X-ray fluorescence. Water Resources Research, doi: 10.1029/2012WR012200. (view publication) or (view highlight)
4. **Miller**, G. H. and D. Trebotich, 2012. An embedded boundary method for the Navier-Stokes equations on a time-dependent domain," Communications in Applied Math and Computational Science, 7(1):1-31 . DOI: 10.2140/camcos.2012.7.1. (view chapter) or (view highlight)
5. **Nielsen,** L.C., D.J. DePaolo, and J.J. De Yoreo, 2012. Self-consistent ion-by-ion growth model for kinetic isotopic fractionation during calcite precipitation. *Geochim. Et Cosmochim. Acta* **86**, 166-181 DOI: 10.1016/j.gca.2012.02.009.
6. **Nielsen,** M. H., J.R.I. Lee, Q. Hu, T.Y-J. Han and J.J. De Yoreo, 2012. Structural evolution, formation pathways and energetic controls during template-directed nucleation of $CaCO_3$, *Faraday Disc.*, **159**, 105-121, DOI: 10.1039/C2FD20050C.
7. **Rother**, G., E.G. Krukowski, D. Wallacher, N. Grimm, R.J. Bodnar, and D.R. Cole, 2012. Pore size effects on the sorption of supercritical carbon dioxide in mesoporous CPG-10 silica. J. Phys. Chem. C, 116, 917.(view publication) or (view highlight)

2011

1. **Armstrong**, R., and J.B. Ajo-Franklin, 2011. Investigating biomineralization using synchrotron based X-ray computedmicrotomography, Geophys. Res. Lett., 38, L08406,doi:10.1029/2011GL046916. (view publication) or (view highlight)
2. **Bardhan**, R. A.M. Ruminski, A. Brand, and J.J. Urban, 2011. Magnesium Nanocrystal-Polymer Composites: A New Platform for Designer Hydrogen Storage Materials. Energy & Environmental Science 48 , 4882-4895. (view publication) or (view highlight)
3. **DePaolo**, D.J, 2011. Surface kinetic model for isotopic and trace element fractionation during precipitation of calcite from aqueous solution. Geochimica et Cosmochimica Acta 75,1039–1056. (view publication) or (view highlight)
4. **Hu**, Y., J.R. Ray, and Y-S. Jun, 2011. Biotite–Brine Interactions under Acidic Hydrothermal Conditions: Fibrous Illite, Goethite, and Kaolinite Formation and Biotite Surface Cracking. Environmental Science & Technology, 45 (14), 6175–6180. DOI: 10.1039/C2FD20050C. (view publication) or (view highlight)
5. **Jeon**, K.J., H.R. Moon, A.M. Ruminski, B. Jiang, C. Kisielowski, and J.J. Urban, 2011. Air-stable magnesium nanocomposites provide rapid and high-capacity hydrogen storage without using heavy-metal catalysts. Nature Materials, 10(4), 286-290. (view publication) or (view highlight)
6. **Shao**, H. J.R. Ray, and Y-S. Jun, 2011. Effects of Salinity and Water on Supercritical CO_2-Induced Phlogopite Dissolution and Secondary Mineral Formation. Environmental Science & Technology, 45 (4), 1737–1743. (view publication) or (view highlight)

2010

1. **Cole**, D. R., A.A. Chialvo, G. Rother, L. Vlcek, and P.T. Cummings, 2010. Supercritical fluid behavior at nanoscale interfaces: Implications for CO_2 sequestration in geologic formations. Phil. Mag. Special Issue on Layer Silicate Materials and Clays, v. 90, no 17-18, 2339-2363. (view publication) or (view highlight)
2. **Radha**, A.V., T.Z. Forbes, C.E. Killian, P. Gilbert, and A. Navrotsky, 2010. Transformation and Crystallization Energetics of Synthetic and Biogenic Amorphous Calcium Carbonate," PNAS: 1009959107v1-6. (view publication) or (view highlight)
3. **Shao**, H., J. Ray, and Y-S. Jun, 2010. Dissolution and Precipitation of Clay Minerals under Geologic CO_2 Sequestration Conditions: CO_2-Brine-Phlogopite Interactions. Environmental Science & Technology, v. 44 no 15, 5999-6005. (view publication) or (view highlight)
4. **Wu**, B., H. Shao, Z. Wang, Y. Hu, Y. Tang, and Y-S. Jun, 2010. Viability and Metal reduction of Shewanella Oneidensis MR-1 under CO_2 stress: Implications for Ecological Effects of CO_2 Leakage from Geologic CO_2 Sequestration. ES&T, 44 (23), 9213-9218. (view publication) or (view highlight)

Publications In Press/Submitted:

1. **Aursjo**, O. and Pride, S.R., A Lattice Boltzmann method for diffusion-limited dissolution of fluids, Submitted to Physical Review E. (2014?)
2. **Cappuccio**, J.A.; Lui, G.V.; Pillar,V.D.; Ajo-Franklin, C.M. - "Diverse microbes accelerate the formation of carbonates by enhancing nucleation: Implications for CO_2 sequestration" Environmental Science & Technology, submitted (2014?)
3. **Cappuccio**, J.A.; Lui, G.V.; Ajo-Franklin, C.M. - "Engineered bacterial surfaces determine the kinetics of carbonate mineralization" PNAS, submitted 26 February 2014.
4. **Cole,** Anovitz, Rother, Clayshale porosity and mineralogy, Environmental Geosciences (in review as of Sep 2013, 2013?)
5. **Emerson**, J.B., B.C. Thomas, W. Alvarez and J.F. Banfield, Metagenomic reconstruction of a CO_2-driven geyser microbial community dominated by iron- and sulfur-oxidizing bacteria and novel microorganisms, Environmental Microbiology, submitted 2014.
6. **Fernandez-Martinez,** A., and A.G. Stack - Pore precipitation paper submitted to ES&T, March 2014)
7. **Miller**, G.H. and D. Trebotich, "A front tracking embedded boundary method for two-fluid incompressible Navier-Stokes problems with surface tension", will submit to Communications in Applied Mathematics and Computational Science by end of April 2014
8. **Shen**, C.; Adams, M.F.; and Trebotich, D., "An algebraic multigrid, structured grid approach to H1-elliptic problems in complex geometries," submitted SIAM Journal on Scientific Computing (SISC). (pub 2014?)
9. **Trebotich**, D. and Graves, D. T., "An Adaptive Finite Volume Method for Incompressible Flow and Transport in Complex Geometries," submitted Feb 28 2014 to Communications in Applied Mathematics and Computational Science

Book Chapters & Other NCGC Relevant Publications

2014

1. **Smit, B.**, J.A. Reimer, C.M. Oldenburg, and I.C. Bourg (2014), Introduction to Carbon Capture and Sequestration, The Berkeley Lectures on Energy, Volume 1., Imperial College Press, 580 p. (2014).

2013

1. **De Yoreo, J.J.** (2013), "Nucleation: More than one pathway", *Nature Materials* **12**, 284 (2013).
2. **De Yoreo**, **J.J.** (2013),"Mimicking Biomineral Systems: What have we achieved and where do we go from here?" In Marc Knecht and Tiffany Walsh, Eds. Bio-inspired Nanotechnology - From Surface Analysis to Applications (Springer, New York) (In press).
3. **De Yoreo**, **J.J.** (2013), Research methods in Biomineralization Science *Methods in Enzymology* (Elsevier, Waltham, MA) (In press, expected release 18 Nov 2013).
4. **Wallace**, A. (2013). Replica Exchange Methods in Biomineral Simulations.. Methods in Enzymology 532, 71-93 DOI: 10.1016/B978-0-12-416617-2.00004-7

2012

1. **Miller**, G. H. and Trebotich, D. (2012), "An embedded boundary method for the Navier-Stokes equations on a time-dependent domain," Communications in Applied Math and Computational Science, 7(1):1-31. (view chapter) or (view highlight)

2011

1. **Ruminski**, Anne M.; Bardhan, Rizia; Brand, Alyssa; and Urban, Jeffrey J. (2011), "Future prospects for hydrogen storage in designer nanocomposites," Anne M. Ruminski, Rizia Bardhan, Alyssa Brand, and *Jeffrey J. Urban, invited editorial, Biofuels. (view chapter) or (view highlight)

2010

5. **De Yoreo**, J.J. (2010), "Physical mechanisms of crystal growth modification by biomolecules" In: Wang, M., Nu, D. and Tsukamoto, K., eds., 14th International Summer School on Crystal Growth (American Institute of Physics, New York).