CURRICULUM VITAE – 8/11

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Degrees

1980	B.A.	Chemistry, Princeton University, *magna cum laude*
1983	M.A.	Geological and Geophysical Sciences, Princeton University
1987	Ph.D.	Geological and Geophysical Sciences, Princeton University

Professional Experience

8/80-8/81	Fulbright Scholar in Peru
9/81-9/86	Teaching and Research Assistant in Dept. of Geological and Geophysical Sciences, Princeton University
9/86-6/91	Assistant Professor of Geosciences, Penn State
6/91-7/97	Associate Professor of Geosciences, Penn State
1/95-7/95	Visiting Scientist, U.S. Geological Survey Menlo Center
1/95-7/95	Visiting Scientist, Stanford University
7/97-present	Full Professor of Geosciences, Penn State
7/98-04/03	Director, Center for Environmental Chemistry and Geochemistry, Penn State
8/99-1/03	Director, Biogeochemical Research Initiative for Education, Penn State
1/03-7/03	Visiting Scientist, U.S. Geological Survey Menlo Center
4/03-present	Director of Earth & Environmental Systems Institute, College of Earth and Mineral Sciences, Penn State
1/04-1/06	Vice-President, Geochemical Society
9/04-present	Director, Center for Environmental Kinetics Analysis, Penn State
1/06-01/08	President, Geochemical Society
11/07	Member, Task Force on Interdisciplinary Strategies in Graduate Education, Penn State
1/08-present	Distinguished Professor
1/08-1/10	Past-president, Geochemical Society

Honors and Awards

1982-1985	NSF Graduate Student Fellowship
1981-1982	IBM Fellowship, Princeton University
1987-1992	NSF Presidential Young Investigator Award
1988-1993	David and Lucile Packard Fellowship
1996	Wilson Research Award, College of Earth and Mineral Sciences, Penn State
2001	Pardee Lecturer, Geological Society of America National Meeting
2002	Ingerson Lecturer of the Geochemical Society, Geol. Society of America National Meeting
2003	Wilson Faculty Mentoring Award, College of Earth and Mineral Sciences, Penn State
2006	Pardee Lecturer, Geological Society of America National Meeting
2007	Elected AGU Fellow

Honors and Awards (continued)

2007	Wilson Award for Outstanding Service, College of Earth and Mineral Sciences, Penn State
2008	Pardee Lecturer, Geological Society of America National Meeting
2011	Docteur Honoris Causa de l'Universite Toulouse III – Paul Sabatier', French Ministry of Education Award from the University Paul-Sabatier' of Toulouse
2011	Arthur L. Day Medal, The Geological Society of America
2011	Elected Fellow, Geological Society of America

Publications

1984 Maest, A., S.L. Brantley, P. Bauman, M. Borcsik, D. Crerar. Geochemistry of metal transport in the Raritan River and estuary. New Jersey Bulletin, New Jersey Academy Science 29, 69-78.

1984 Wood, S., D.A. Crerar, S.L. Brantley, M. Borcsik. Mean molal stoichiometric activity coefficients of alkali halides and related electrolytes in hydrothermal solutions. American Journal of Science 284, 668-705.

1984 Brantley, S.L., D.A. Crerar, N. Moller, J. Weare. Geochemistry of a modern marine evaporite: Bocana de Virrila, Peru. Journal of Sedimentary Petrology 54, 447-462.

1984 Giddings, J.C., S.L. Brantley. Shear field-flow fractionation: Theoretical basis of a new, highly selective technique. Separ. Science and Technology 19(10), 631-651.

1985 Crerar, D.A., S. Wood, S.L. Brantley, A. Bocarsly. Chemical controls on solubility of ore-forming minerals in hydrothermal solutions. Canadian Mineral 23, 333-352.

1986 Brantley, S.L., S.R. Crane, D.A. Crerar, R. Hellmann, R. Stallard. Dissolution at dislocation etch pits in quartz. Geochimica et Cosmochimica Acta 50, 2349-2361.

1987 Brantley, S.L., A. Borgia, G. Rowe, J.F. Fernandez, J.R. Reynolds. Poas volcano crater lake acts as a condenser for acid metal-rich brine. Nature 330, 470-472.

1989 Schott, J., S.L. Brantley, D. Crerar, C. Guy, M. Borcsik, C. Willaime. Dissolution kinetics of strained calcite. Geochimica et Cosmochimica Acta 53, 373-382.

1989 Rowe, G., S.L. Brantley, A. Borgia, J. Fernandez, J. Barquero. La sistema hidrotermal del Volcan Poas. Boletin de Volcanologia 20, 23-31.

1990 Brantley, S.L., B. Evans, S.H. Hickman, D.A. Crerar. Healing of microcracks in quartz: Implications for fluid flow. Geology 18, 136-139.

1990 Brantley, S.L. J. Donovan. Marine evaporites, bittern seepage, and the genesis of subsurface brines. Chemical Geology 84, 187-189.

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1991 Lee, V.W., S.J. Mackwell, S.L. Brantley. The effect of fluid chemistry on wetting textures in novaculite. Journal of Geophysical Research 96, 10,023-10,037.

1991 Voigt, D.E., S.L. Brantley. Inclusions in synthetic quartz. Journal of Crystal Growth 113, 527-539.

1992 Rowe, G.L., S.L. Brantley, M. Fernandez, J.F. Fernandez, J.A. Barquero, A. Borgia. Fluid-volcano interactions at an active stratovolcano: The crater lake system of Poas Volcano, Costa Rica. Journal Volcanology and Geothermal Research 49, 23-51.

1992 MacInnis, I., S.L. Brantley. The role of dislocations and surface morphology in calcite dissolution. Geochimica et Cosmochimica Acta 56, 1113-1126.

1992 Weedman, S., S.L. Brantley, W. Albrecht. Secondary compaction after secondary porosity: Can it form a pressure seal? Geology 20, 303-306.

1992 Rowe, G., S. Ohsawa, B. Takano, S.L. Brantley, J.F. Fernandez, J. Barquero. Using crater lake chemistry to predict volcanic activity at Poas Volcano, Costa Rica. Bulletin of Volcanology 54, 494-503.

1992 Brantley, S.L., G.L. Rowe, L. Konikow, W. Sanford. Toxic waters of Poas Volcano. Research and Exploration 8, 328-337.

1992 Brantley, S.L. The effect of fluid chemistry on quartz microcrack lifetimes. Earth and Planetary Science Letters 113, 145-156.

1992 Fisher, D., S.L. Brantley. Models of quartz overgrowth and vein formation: Deformation and episodic fluid flow in an ancient subduction zone. Journal of Geophysical Research 97, 20,043-20,061.

1993 MacInnis, I., S.L. Brantley. Development of etch pit size distributions (PSD) on dissolving minerals. Chemical Geology 105, 31-50.

1993 Rowe, G.L., S.L. Brantley. Estimation of the dissolution rates of andesitic glass, plagioclase, and pyroxene in a flank aquifer of Poas Volcano, Costa Rica. Chemical Geology 105, 71-88.

1993 Brantley, S.L., A. Blai, I. MacInnis, D. Cremeens, D. Darmody. Natural etching rates of hornblende and feldspar. Aquatic Science 55, 262-272.

1993 Brantley, S.L., A. Agustsdottir, G.L. Rowe. Crater lakes reveal heat and volatile fluxes of volcanoes. GSA Today 3, 175-178.

1994 Agustsdottir, A.M., S.L. Brantley. Volatile fluxes integrated over four decades at Grimsvotn volcano, Iceland. Journal of Geophysical Research 99, 9505-9522.

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1995 Stillings, L.L., S.L. Brantley. Feldspar dissolution at 25^{o}C and pH 3: Reaction stoichiometry and the effect of cations. Geochimica et Cosmochimica Acta 59, 1483-1496.

1995 Stillings, L.L., S.L. Brantley, M. Machesky. Proton adsorption at an adularia feldspar surface. Geochimica et Cosmochimica Acta 59, 1473-1482.

1995 Shiraki, R., S.L. Brantley. Kinetics of near-equilibrium calcite precipitation at 100^{o}C: An evaluation of elementary reaction-based and affinity-based rate laws. Geochimica et Cosmochimica Acta 59, 1457-1471.

1995 Rowe, G.L., S.L. Brantley, J.F. Fernandez, A. Borgia. The chemical and hydrologic structure of Poas Volcano, Costa Rica. Journal of Volcanology Geothermal Research 64, 233-267.

1995 Sanford, W., L. Konikow, G.L. Rowe, S.L. Brantley. Groundwater transport of crater-lake brine at Poas Volcano, Costa Rica. Journal of Volcanology Geothermal Research 64, 269-293.

1995 Fisher, D.M., S.L. Brantley, M. Everett, J. Dzvonik. Cyclic fluid flow through a regionally extensive fracture network within the Kodiak accretionary prism. Journal of Geophysical Research 100, 12881-12894.

1995 Brantley, S.L., K. Koepenick. Measured carbon dioxide emissions from Oldoinyo Lengai and the skewed distribution of passive volcanic fluxes. Geology 23, 933-936.

1995 Clark, M.B., S.L. Brantley, D.M. Fisher. Power-law vein thickness distributions and positive feedback in vein growth. Geology 23, 975-978.

1995 Fein, J.B., N. Gore, D. Marshall, L. Yassa, A. Loch, S.L. Brantley. The effect of aqueous complexation and gibbsite surface sites on the decarboxylation rate of malonate. Geochimica et Cosmochimica Acta 59, 5071-5081.

1996 Voigt, D.E., S.L. Brantley, R. Hennet. Chemical fixation of arsenic in contaminated soils. Applied Geochemistry 11, 633-643.

1996 Stillings, L.L., J.I. Drever, S.L. Brantley, Y. Sun, R. Oxburgh. Rates of feldspar dissolution at pH 3-7 with 0-8 mM oxalic acid. Chemical Geology 132, 79-90.

1996 Weedman, S.D., S.L. Brantley, R. Shiraki, S.R. Poulson. Diagenesis, compaction, and fluid chemistry modeling of a sandstone near a pressure seal: Lower Tuscaloosa formation, Gulf Coast. AAPG Bulletin 80, 1045-1064.

1996 Koepenick, K.W., S.L. Brantley, J.M. Thompson, G.L. Rowe, A.A. Nyblade, C. Moshy. Volatile emissions from the crater and flank of Oldoinyo Lengai volcano, Tanzania. Journal Geophysical Research 101, 13819-13830.

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1996 Wilkin, R.T., H.L. Barnes, S.L. Brantley. The size distribution of framboidal pyrite in modern sediments: An indicator of redox conditions. Geochimica et Cosmochimica Acta 60, 3897-3912.

1996 Brantley, S.L., L.L. Stillings. Feldspar dissolution at 25°C and low pH. American Journal of Science 296, 101-127.

1997 Brantley, S.L., L.L. Stillings. Reply to comment: Feldspar dissolution at 25°C and low pH. American Journal of Science 297, 1021-1032.

1997 Deleuze, M., S.L. Brantley. Inhibition of calcite crystal growth by Mg^{2+} at 100°C and100 bars: Influence of growth regime. Geochimica et Cosmochimica Acta 61, 1475-1487.

1997 Chen, Y., S.L. Brantley. Temperature- and pH-dependence of albite dissolution rate at acid pH. Chemical Geology 135, 275-292.

1997 Foster, A.L., G.E. Brown, Jr., G.A., Parks, T.N. Tingle, D.E. Voigt, S.L. Brantley. XAFS determination of As(V) associated with Fe(III) oxyhydroxides in weathered mine tailings and contaminated soil from California, U.S.A. Journal of Physics of France 7, Colloque C2, Supplément au Journal de Physique III d'avril, C2-815-816.

1998 Murphy, S.F., S.L. Brantley, A.E. Blum, A.F. White, H. Dong. Chemical weathering in a tropical watershed, Luquillo Mountains, Puerto Rico: II. Rate and mechanism of biotite weathering. Geochimica et Cosmochimica Acta 62, 227-244.

1998 Erratum to S.F. Murphy, S.L. Brantley, A.E. Blum, A.F. White, H. Dong "Chemical weathering in a tropical watershed, Luquillo Mountains, Puerto Rico: II Rate and mechanism of biotite weatering. Geochimica et Cosmochimica Acta 62(13), 2404.

1998 Chen, Y., S.L. Brantley. Diopside and anthophyllite dissolution at 25°C and 90°C and acid pH. Chemical Geology 147, 233-248.

1998 Brantley, S.L., J.T. Chesley, L.L. Stillings. Isotopic ratios and release rates of Sr measured from weathering feldspars. Geochimica et Cosmochimica Acta 62, 1492-1500.

1998 Nugent, M.A., S.L. Brantley, C.G. Pantano, P.A. Maurice. The influence of natural mineral coatings on feldspar weathering. Nature 395, 588-591.

2000 Chen, Y., S.L. Brantley, E. Ilton. X-ray photoelectron spectroscopic measurement of the temperature dependence of leaching of cations from the albite surface. Chemical Geology 163, 115-128.

2000 Liermann, L., B. Kalinowski, S.L. Brantley, J.G. Ferry. Role of bacterial siderophores in dissolution of hornblende. Geochimica et Cosmochimica Acta 64, 587-602.

2000 Lewicki, J., S.L. Brantley. CO_2 degassing along the San Andreas fault, Parkfield, California. Geophysical Research Letters 27, 5-8.

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2000 Chen, Y., S.L. Brantley. Dissolution of forsteritic olivine at 65^{o}C and 2 < pH < 5. Chemical Geology 165, 267-282.

2000 Kalinowski, B., L.J. Liermann, S.L. Brantley, A. Barnes, C.G. Pantano. X-ray photoelectron evidence for bacteria-enhanced dissolution of hornblende. Geochimica et Cosmochimica Acta 64, 1331-1343.

2000 Boomer K., C. Werner, S.L. Brantley. CO_2 emissions related to the Yellowstone volcanic system 1. Developing a stratified adaptive cluster sampling plan. Journal of Geophysical Research 105, 10817-10830.

2000 Werner C., S.L. Brantley, K. Boomer. CO_2 emissions related to the Yellowstone volcanic system 2. Statistical sampling, total degassing, and transport mechanisms. Journal Geophysical Research 105, 10831-10846.

2000 Kump, L., S.L. Brantley, M.A. Arthur. Chemical weathering, atmospheric CO_2 and climate. Earth and Planetary Science Reviews 28, 611-667.

2000 Hamilton, J., C.G. Pantano, S.L. Brantley. Dissolution rates of albite crystal and glass. Geochimica et Cosmochimica Acta 64, 2603-2615.

2000 Liermann, L., A.S. Barnes, B.E. Kalinowski, X. Zhou, S.L. Brantley. Microenvironments of pH in biofilms grown on dissolving silicate surfaces. Chemical Geology 171, 1-16.

2000 Kalinowski, B.E., L.J. Liermann, S.Givens, S.L. Brantley. Rates of bacteria-promoted solubilization of Fe from minerals: A review of problems and approaches. Chemical Geology 169, 357-370.

2000 Werner, C., J. Wyngaard, S.L. Brantley. Eddy-correlation measurement of hydrothermal gases. Geophysical Research Letters 27, 2925-2928.

2000 Brantley, S.L., N. Mellott. Surface area and porosity of primary silicate minerals. American Mineralogist 85, 1767-1783.

2001 Brantley, S.L., L.J. Liermann, S. Wu, M. Bau. Uptake of trace metals and rare earth elements from hornblende by a soil bacterium. Geomicrobiology Journal 18, 37-61.

2001 Mellott, N.P., S.L. Brantley, J.P. Hamilton, C.G. Pantano. Evaluation of surface preparation methods for glass. Surface and Interface Analysis 31, 362-368.

2001 Brantley, S., L.J. Liermann, T. Bullen. Fractionation of Fe isotopes by soil microbes and organic acids. Geology 29, 535-538.

2001 Hamilton, J., S.L. Brantley, C.G. Pantano, L. Criscenti, J. Kubicki. Dissolution of nepheline, jadeite and albite glasses: Toward better models for aluminosilicate dissolution. Geochimica et Cosmochimica Acta 65, 3683-3702.

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2002 Goyne, K.W., A.R. Zimmerman, B.L. Newalkar, S. Komarneni, S.L. Brantley, and J. Chorover. Surface charge of variable porosity $Al_2O_{3(s)}$ and $SiO_{2(s)}$ adsorbents. Journal of Porous Materials 9, 243-256.

2003 Tsomaia, N., S.L. Brantley, J.P. Hamilton, C.G. Pantano, K.T. Mueller. NMR evidence for formation of octahedral and tetrahedral Al and repolymerization of the Si network during dissolution of aluminosilicate glass and crystal. American Mineralogist 88, 54-67.

2003 Buss, H. L., S.L. Brantley, L.J. Liermann. Nondestructive methods for removal of bacteria from silicate surfaces. Geomicrobiology Journal 20, 25-42.

2003 Turner, B.F., R.F. Stallard, S.L. Brantley. Investigation of *in situ* weathering of quartz diorite bedrock in the Rio Icascos basin, Luquillo Experimental Forest, Puerto Rico. Chemical Geology 202, 313-341.

2003 Werner, C., G. Chiodini, D. Voigt, S. Caliro, R. Avino, M. Russo, T. Brombach, J. Wyngaard, S.L. Brantley. Monitoring volcanic hazard using eddy covariance at Solfatara Volcano, Naples, Italy. Earth and Planetary Science Letters 210, 561-577.

2003 White, A.F., S.L. Brantley. The effect of time on the weathering of silicate minerals: Why do weathering rates differ in the laboratory and field? Chemical Geology 202, 479-506.

2003 Lewicki, J.L, W.C. Evans, G.E. Hilley, M.L. Sorey, J.D. Rogie, S.L. Brantley. Shallow soil CO_2 flow along the San Andreas and Calaveras faults, California. Journal of Geophysical Research 108 (B4), 2187, doi:10.1029/ 2002JB002141.

2004 Bau, M., B. Alexander, J.T. Chesley, N.P. Mellott, P. Dulski, S.L. Brantley. Mineral dissolution in the Cape Cod aquifer, Massachusetts, USA: I . Reaction stoichiometry and impact of accessory feldspar and glauconite on strontium isotopes, solute concentrations, and REY distribution. Geochimica et Cosmochimica Acta 68, 1199-1216.

2004 Zimmerman, A.R., K.G. Goyne, S. Komarneni, J. Chorover, J. Kubicki, S.L. Brantley. Mineral mesopore effects on nitrogenous organic matter adsorption. Organic Geochemistry 35(3), 355-375.

2004 Icopini, G.A., A.D. Anbar, S.S. Ruebush, M. Tien, S.L. Brantley. Iron isotopic fractionation during microbial reduction of iron: The importance of adsorption. Geology 32, 205-208.

2004 Goyne, K.W., J. Chorover, A.R. Zimmerman, S. Komarneni, S., S.L. Brantley. Influence of mesoporosity on the sorption of 2, 4-dichlorophenoxyacetic acid to alumina and silica. Journal of Colloid and Interface Science 272, 10-20.

2004 Werner, C., S.L. Brantley. CO_2 emissions from the Yellowstone volcanic system. Geochemistry, Geophysics Geosystems 4(7), 1001-1029.

Publications (continued)

2004 Sak, P. B., D. Fisher, T. Gardner, K.M. Murphy, S.L. Brantley. Rates of weathering rind formation on Costa Rican basalt. Geochimica et Cosmochimica Acta 68(7), 1453-1472.

2004 Brantley, S.L., R.L. Guynn, L.J. Liermann, A. Anbar, J. Barling, G. Icopini. Fe isotopic fractionation during mineral dissolution with and without bacteria. Geochimica et Cosmochimica Acta 68(15), 3189-3204.

2004 Zimmerman, A.R., J. Chorover, K.W. Goyne, S.L. Brantley. Protection of mesopore-adsorbed organic matter from enzymatic degradation. Environmental Science and Technology 38(17), 4542-4548.

2004 Anderson, S.P., J. Blum, S.L. Brantley, O. Chadwick, J. Chorover, L.A. Derry, J.I. Drever, J. Hering, J.W. Kirchner, L.R. Kump, D. Richter, A.F. White. Proposed initiative would study earth's weathering engine. EOS, Transactions, American Geophysical Union 85(28), 265-269.

2005 Icopini, G, S.L. Brantley, P.J. Heaney. Kinetics of silica oligomerization and nanocolloid formation from supersaturated solutions at 25^{o}C. Geochimica et Cosmochimica Acta 69(2), 293-303.

2005 Neaman A., J. Chorover, S.L. Brantley. Element mobility patterns record organic ligands in soils on early Earth. Geology 33(2), 117-120.

2005 Criscenti, L.J., S.L. Brantley, K.T. Mueller, N. Tsomaia, J.D. Kubicki. Theoretical and ^{27}Al CPMAS NMR investigation of aluminum coordination changes during alumino-silicate dissolution. Geochimica et Cosmochimica Acta 69(9), 2205-2220.

2005 Neaman, A., J. Chorover J., S.L. Brantley. Implications of the evolution of organic acid moieties for basalt weathering over geological time. American Journal of Science 305, 147-185.

2005 Liermann, L.J., R.L. Guynn, A. Anbar, S.L. Brantley. Production of a molybdophore during metal-targeted dissolution of silicates by soil bacteria. Chemical Geology 220, 285-302.

2005 Mathur, R., J. Ruiz, S. Titley, L.J. Liermann, H. Buss, S.L. Brantley. Cu isotopic fractionation in the supergene environment with and without bacteria. Geochimica et Cosmochimica Acta 69(22), 5233-5246.

2005 Zerkle, A.L., C.H. House, S.L. Brantley. Biogeochemical signatures through time as inferred from whole microbial genomes. American Journal of Science 30, 467-502.

2005 Buss, H.L., M.A. Bruns, M.J. Schultz, J. Moore, C.F. Mathur, S.L. Brantley. The coupling of biological iron cycling and mineral weathering during saprolite formation, Luquillo Mountains, Puerto Rico. Geobiology 3, 247-260.

2005 Goyne, K.W., J. Chorover, J.D. Kubicki, A.R. Zimmerman, S.L. Brantley. Sorption of the antibiotic ofloxacin to mesoporous and nonporous alumina and silica. Journal of

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Colloid and Interface Science 283(1), 160-170.

2006 Criscenti, L.J., J.D. Kubicki, S.L. Brantley. Silicate glass and mineral dissolution: Calculated reaction paths and activation energies for hydrolysis of a Q^3Si: by H_30^+ using *ab initio* methods. Journal of Physical Chemistry 110, 198-206.

2006 Ruebush, S.S., G.S. Icopini, S.L. Brantley, M. Tien. *In vitro* enzymatic reduction kinetics of mineral oxides by membrane fractions from *Shewanella oneidensis* MR-1. Geochimica et Cosmochimica Acta 70, 56-70.

2006 Neaman, A., J. Chorover, S.L. Brantley. Effects of organic ligands on granite dissolution in batch experiments at pH 6. American Journal of Science 306, 451-475.

2006 Ruebush, S., S.L. Brantley, M. Tien. Reduction of soluble and insoluble iron forms by membrane fractions of *Shewanella oneidensis* grown under aerobic and anaerobic conditions. Applied Environmental Microbiology 72(4), 2925-2935.

2006 Fletcher, R.C., H.L. Buss, S.L. Brantley. A spheroidal weathering model coupling porewater chemistry to soil thickness during steady-state denudation. Earth and Planetary Science Letters 244(1-2), 444-457.

2006 Goyne, K.W., J. Chorover, S.L. Brantley. Effects of organic acids and dissolved oxygen on apatite and chalcopyrite dissolution: Implications for using elements as organomarkers and oxymarkers. Chemical Geology 234(1-2), 28-45.

2006 Brantley, S.L., B. Ketchum. Center for Environmental Kinetic Analysis: Biogeochemists spanning scales of space and time. The Geochemical News, Newsletter of the Geochemical Society 126, 29-33.

2007 Schaperdoth, I., L.J. Liermann, L.J., S.L. Brantley. The effect of polymeric substances on apatite reactivity in the presence of a freshwater cyanobacterium. Geomicrobiology Journal 24, 79-91.

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2007 Hausrath E. M., L.J. Liermann , C.H. House, J.G. Ferry, S.L. Brantley. The effect of methanogen growth on mineral substrates: Will Ni markers of methanogen-based communities be detectable in the rock record? Geobiology 5(1), 49-61.

2007 Wasylenki, L.E., L.J. Liermann, R. Mathur, G.W. Gordon, S.L. Brantley, A.D. Anbar. Metallomics and MC-ICP-MS: Isotope fractionation during metal uptake. Journal of

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2007 Liermann, L.J., E. Hausrath, S.L. Brantley. Assimilatory and dissimilatory processes of microorganisms affecting metals in the environment. Journal of Analytical Atomic Spectometry Metallomics II Special Issue 22, 867-877.

2007 Navarre-Sitchler, A., S.L. Brantley. Basalt weathering across scales. Earth and Planetary Science Letters 261, 321-334.

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2007 Lebedeva, M.I., R.C. Fletcher, V.N. Balashov, S.L. Brantley. A reaction diffusion model describing transformation of bedrock to saprolite. Chemical Geology 244(3-4), 624-645.

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2008 Hausrath E. M., A.K. Navarre-Sitchler, P.B. Sak, C.I. Steefel, S.L. Brantley. Basalt weathering rates on Earth and the duration of liquid water on the plains of Gusev Crater, Mars. Geology 36(1), 67-70.

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2008 Brantley, S.L., J.Z. Bandstra, J. Moore, A.F. White. Modelling chemical depletion profiles in regolith. Geoderma 145(3), 494-504.

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1991 Rowe, Gary: "The Acid Crater Lake System of Poas Volcano, Costa Rica: Geochemistry, Hydrology, and Physical Characteristics" (Ph.D.)

1991 MacInnis, Ian: "Dissolution Kinetics of Calcite and Quartz under Surface Reaction Control" (Ph.D.)

1993 Agustsdottir, Anna: "Volatile Release Rates of Grimsvotn, Volcano, Iceland" (M.S.)

1993 Stillings, Lisa: "Feldspar Surface Chemistry and Dissolution Kinetics" (Ph.D.)

1995 Koepenick, K.W.: "Volatile Emissions from Oldoinyo Lengai Volcano, Tanzania" (M.S.)

1995 Murphy, S.: "The Weathering of Biotite in a Tropical Forest Soil, Luquillo Mountains, Puerto Rico" (M.S.)

1997 Everett, Mark, "Distribution of Veins in the Kodiak Accretionary Complex" (M.S.)

1997 Nugent, Melissa, "Temporal Evolution of Feldspar Surfaces during the Initial Stages of In-situ Weathering" (M.S.)

1999 Yau, Simmy, "Dissolution Kinetics of Feldspar in the Cape Cod Aquifer, Massachusetts: Calculation of Ground Water Residence Time" (M.S.)

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2007 Moore, Joel, "Biogeochemistry of Granitic Weathering" (Ph.D.)

2007 Navarre-Sitchler, Alexis "Weathering advance rates in basalt: prediction and comparison across scales" (Ph.D.)

2008 Williams, Jennifer, "The Effect of Temperature and Precipitation on Sodium Depletion Fronts in Soils Developed on Peoria Loess" (M.S.)

2009 Alexander, Brian W. "Controls on Groundwater Chemistry in the Cape Cod Aquifer, Massachusetts: The Impact of Accessory Mineral Phases on Solute Concentrations, $^{87}Sr/^{86}Sr$, and Rare Earth Element Distributions" (M.S.)

2009 Kimball, Bryn, "Biogeochemical Cycling of Copper in Acid Mine Drainage" (Ph.D.)

Special Volumes Edited

1993 Brantley S. L., M. Velbel (eds.) Geochemical Kinetics of Mineral-Water Reactions in the Field and in the Laboratory, Chemical Geology, v 105.

2007 Brantley, S. L., White, T. S., Ragnarsdottir, K. C. (eds.) The Critical Zone: Where Rock Meets Life, Elements, v 3.

Books Edited

1995 White, A.F., S.L. Brantley, (eds.) Chemical Weathering Rates of Silicate Minerals, Mineralogical Society of America Shortcourse, v. 31.

2008 Brantley, S.L., Kubicki, J, and White, A.F. (eds.). Kinetics of Water-Rock Interaction. New York: Springer, 151-196.

Scientific Workshops or Symposiums Organized

1991 Brantley, S.L., A. White (organizers). Geochemical kinetics: Field vs. laboratory rates, special Geochemical Society-sponsored session at the Geol. Society of America Annual Meeting, (27 papers presented). Fall '91.

1992 Brantley, S.L., C. M. Eggleston (organizers). Structure, bonding, and kinetics at mineral surfaces, sponsored by Geochemistry Division for the National Meeting of the American Chemical Society, special session (35 papers presented). Spring '92.

1993 Brantley, S.L., P. Heaney (organizers). Interactions between the Geosphere and Biosphere. A Symposium Honoring the Life and Career of David A. Crerar. Princeton University, (6 invited speakers). May '93.

1993 Brantley, S.L., B. Dutrow, J. Selverstone (organizers). Fluids and Fluid Flow in the Crust. Symposium at the Geological Society of America Annual meeting. Fall '93.

1995 Brantley, S.L., A.F. White (organizers). Chemical Weathering Rates of Silicate Minerals, Mineralogical Society of America Short Course, Fall '95.

2002 Brantley, S.L. Geomicrobiology, Geochemistry of the Earth's Surface, Hawaii, May '02.

2004 Brantley, S.L. (Secretary General WRI 11). Proceedings Eleventh International Symposium on Water-Rock Interaction, Working Group of the International Association of Geochemistry and Cosmochemistry, June '04.

2005 Brantley, S.L. WSSC Workshop, The Critical Zone Exploration Network: A Tool for Understanding Earth's Weathering Engine, Arlington, Va. January 24-26 2005.

2005 Brantley, S.L. The Earth's Weathering Engine: Coupling Chemical Weathering with Physical Erosion, Biology, Hydrology and Climate, Goldschmidt Conference, May 19-23, 2005.

2005 Brantley, S.L., T.S. White. The Critical Zone Exploration Network: A Tool for Understanding Earth's Weathering Engine, AGU Fall Meeting, October 24-26, 2005.

2007 Hausrath, E., S.L. Brantley, J. Michalski. Chemical and physical weathering of basalt on the Earth, Moon, and Mars, Goldschmidt Conference.

2009 Brantley, S.L., P. Megonigal, F. Scatena. Frontiers in Exploration of the Critical Zone II: The Geobiology of Weathering and Erosion, an NSF-Sponsored Workshop, Washington, DC, October 5-7, 2009.

National Committees

1995 Member, National Research Council Committee for Yucca Mountain Peer Review: Surface Characteristics, Preclosure Hydrology, and Erosion
1997 Participated in National Academies of Science Frontiers of Science
1998 Organized the National Academies of Science Frontiers of Science
1999 Served as outside reviewer for "Research Needs in Subsurface Science", publication by the National Research Council reviewing the U.S. Dept. of Energy's Environmental Management Science Program
2001-2003 Member, National Research Council Committee on Long-Term Institutional Management of DOE Legacy Waste Sites: Phase 2
2003-2006 Member, Advisory Committee for Directorate of Geosciences, National Sciences Foundation
2004 Member, NSF Committee of Visitors to review EAR Instrumentation and Facilities program
2005 Chair, NSF Committee of Visitors to review EAR Surface Earth Processes
2005-2007 Vice-chair of the Earth Sciences Policy and Research in Space Solid-Earth Panel established to write the Solid-Earth Contribution to the "Earth Science Applications from Space: A Community Assessment and Strategy for the Future" (Decadal Study)
2005-2007 Member, NRC Space Studies Board Panel, Astrobiology Strategy for the Exploration of Mars
08-present Member, Department of Energy, Council on Earth Sciences
2007-2010 Member of the National Research Council Committee on Challenges and Opportunities in Earth Surface Science
2010-2015 Member, CarbonEARTH Advisory Committee
2010-present Associated Partner, EU Isotopes and Weathering Network
2009-present Project Partner, SoilTrEC (Soil Transformations in European Catchements), coordinated through the University of Sheffield (UK)

Professional Societies and Service to Scientific Community

Member, Steering Committee, IGERT National Recruitment Program Advisory Committee (committee to enhance diversity within IGERT programs nationally)

The Geochemical Society: Nominations Committee, member, 1990-1992; Chair of Nominations Committee, 1992-1993; Member of Board of Councilors (Directors) of the Society, 1995-1998; Publications Committee, 1999-2002; Vice President, 2004-2005, and President, 2006-2007; Past-President 2008-2009.

Secretary General for WRI 11 (Water-Rock Interaction Working Group of the International Association of Geochemistry and Cosmochemistry), 2004-2007.

Serves as manuscript reviewer for: *Geochimica Cosmochimica Acta, Geology, Chemical Geology, Science, Water Resources Research,* as well as other journals

Reviewer of grant proposals for National Science Foundation, Petroleum Research Fund, Department of Energy, NASA, and other agencies here and in Europe
DOE Science Review Panel Member, Natural and Accelerated Bioremediation Interdisciplinary Research Program, 2003
DOE Science Review Panel Chair, Environmental Molecular Science Program, July 2005
NSF Earth Sciences Postdoctoral program, served as panelist
NSF Environmental Geochemistry and Biogeochemistry Program (EGB), served as panelist
American Geophysical Union, member
American Chemical Society, member
American Women in Science, member
Association for Women Geoscientists, member
Penn State Commission for Women, member, 2005-2007
DOE Biological and Environmental Research Advisory/COV Panel, 2007

Editorial Activities
Assistant Editor for Chemical Geology, 1/89 - 1/91
Editor for Chemical Geology, 10/91-7/00
Editorial board for Chemical Geology, 7/00-present
Editorial board for Geofluids, 10/99-present
Editorial board for G^3, 10/00-present
Editorial board for Geobiology, 6/02-present

Summary of Research Interests
Water-rock interaction; soil geochemistry and weathering; geomicrobiology; measurement of the kinetics of dissolution and precipitation of minerals in the laboratory and in the field; surface chemistry of minerals; environmental water problems and biogeochemical cycles; fluid-volcano interactions; volcanic release of volatiles.

Undergraduate and Graduate Courses Taught
Geosciences 4 (Rocks and Minerals), Geosciences 201 (Earth Materials), Geosciences 303 (Environmental Geology), Geosciences 413 (Techniques in Environmental Geochemistry), Geosciences 522 (Geochemistry of Aqueous Systems), Geosciences 523 (Sedimentary Geochemistry), Geosciences 589 (Seminar in Aqueous Geochemistry) Geosciences 560 (Kinetics of Geochemical Systems), Geosciences 589 (Geochem Seminar), Geosciences 597 (Fluids in the Earth), Geosciences 597 (Biogeochemical Analysis), Earth 100 (Environment Earth).