

PEER REVIEWED PUBLICATIONS: (*STUDENT AUTHORS IN ITALICS*)

In Preparation:

- Bennett, P.C.**, Omelon, C., Engel, A.S., *Franks, M., Landrum, J.*, and Nordstrom, D.K. Biogeochemical gradients and bioenergetics of hydrothermal waters of El Tatio Geyser Field, Chile. In Preparation for *Geochimica et Cosmochimica Acta*.
- Engel, A.S.E., Omelon, C., *Franks, M.*, Bennett, P.C. Microbial mats and microbial communities of the El Tatio Geyser Field, Chile. In Preparation for *Applied and Environmental Microbiology*.
- Denbow, J.* Omelon, C., and Bennett, P.C. Arsenic metabolism by *Geobacillus* in a geyser field, El Tatio, Chile. In Preparation for *Microbial Ecology*.
- Bennett, P.C.**, Sharp, J.M., El-Shishtawy, A., Atwia, M., Bakrah, A., Noweir, A.-H. Sources and pathways of manganese in the central Nile Delta, Egypt. In Preparation for *Hydrogeology J.*

In Review/Revision

- Engel, A.S. Lee, N.M. Meisinger, D.B. Porter, M.L. Schmid, M. Stern, L.A. and **Bennett, P.C.** (**SUBMITTED**) Anaerobic Microbial Diversity in Redox-Stratified Microbial Mats: The Basis for Nutrient Spiraling in a Chemolithoautotrophic Ecosystem. In Review, *Chemical Geology*.
- Landrum, J.T.*, **Bennett, P.C.**, Engel, A.S., Pasten, P. Alseno, M. and Milliken, K. (ACCEPTED) Partitioning geochemistry of Arsenic and Antimony, El Tatio Geyser Field, Chile. *Applied Geochemistry*.

In Print/Press:

- Omelson, C.R., Pollard, W., Ferris, F.G., Bennett, P.C. (IN PRESS) Cyanobacteria within Cryptoendolithic Habitats: the Role of High pH in Biogenic Rock Weathering under Elevated Temperatures in the Canadian high Arctic. 9th International Conference on Permafrost, p. 1-6.
- Bennett, P.C.** and Engel, A.S. (2007) Microbial Sulfur Cycling in a Sulfidic Cave. *Proceedings of the Twelfth International Symposium on Water-Rock Interaction WRI-12*. (T. Bullen and Y. Wang, Eds) Taylor and Francis Group. p. 853-857.
- Landrum, J.T.*, **Bennett, P.C.**, *Alsina, M.A.* & Pastén, P.A. (2007) Biogeochemical controls on arsenic: El Tatio Geyser Field, Chile. *Proceedings of the Twelfth International Symposium on Water-Rock Interaction WRI-12*. (T. Bullen and Y. Wang, Eds) Taylor and Francis Group. p. 875-879.
- Meisinger, D.B., Zimmermann, J., Ludwig, W. Schleifer, K.H., Wanner, G. Schmid, M., **Bennett, P.C.** Engel, A.S., Lee, N.M. (2007) In situ detection of novel Acidobacteria in microbial mats from a chemolithoautotrophically-based cave ecosystem (Lower Kane Cave, WY, USA). *Environmental Microbiology*. 9, 1523-1534.
- Bennett, P.C.**, Engel, A.S., Roberts, J.A. (2007) Counting and imaging bacteria on mineral surfaces. *Clay Mineral Society Workshop Proceedings*.
- Committee on Research Priorities for Earth Science and Public Health (Skinner, C.H. Chair; **Bennett, P.C.**, and others) (2007) Earth Materials and Health, Research Priorities for Earth Science and Public Health. Board on Earth Sciences and Resources, National Research Council.

- Phoenix, V.R., **Bennett**, P.C., Engel, A.S., Tyler, S.W., Ferris, F.G. (2006) Chilean high-altitude hot spring sinters: a model system for UV screening mechanisms by early Precambrian cyanobacteria. *Geobiology*. 4, p. 15-28
- Bennett**, P.C. and Engel, A.S. (2005) Role of Microorganisms in Karstification. In *Microorganisms and Earth Systems: Advances in Geomicrobiology* (GM Gadd, KT Semple, and HM Lappin-Scott, eds). p. 345-364, Society for General Microbiology.
- Engel, A.S., Porter, M.L., Stern, L.A. Quinlan, S. and **Bennett**, P.C. (2004) Bacterial diversity and ecosystem functionality of filamentous microbial mats dominated by “Epsilonproteobacteria” associated with aphotic (cave) sulfidic springs. *FEMS Microbiology Ecology*. 51, 31-53.
- Engel, A.S., Stern, L.A. and **Bennett**, P.C. (2004) Microbial contributions to cave formation: New insights into sulfuric acid speleogenesis. *Geology* 32, 369-372.
- Roberts, J.A. **Bennett**, P.C., Gonzalez, L.A., Macpherson, G.L., Milliken, K.L. (2004) Microbial precipitation of dolomite in methanogenic groundwater *Geology*, 32, 277-280.
- Rogers, J.R. and **Bennett**, P.C. (2004) Mineral stimulation of subsurface microorganisms: Release of limiting nutrients from silicates. *Chemical Geology* 203, 91-108
- Engel, A.S., Lee, N., Porter, M.L., Stern, L., **Bennett**, P.C., Wagner, M. (2003) Filamentous “Epsilonproteobacteria” dominate microbial mats from sulfidic cave springs. *Applied and Environmental Microbiology* 69, 5503-5511.
- Dutton, A.R., Hovorka, S.D., **Bennett**, P.C. (2002) Effect of Pleistocene depositional heterogeneity on movement of a subsurface crude-oil spill, San Patricio County, south Texas. *Gulf Coast Association of Geological Societies Transactions*, 52, 207-215.
- Stern, L.A., Engel, A.S. **Bennett**, P.C., Porter, M. (2002) Subaqueous and subaerial speleogenesis in a sulfidic cave. *Karst Waters Institute Special Publication* 7, 89-91.
- Zimmerman, M D., **Bennett**, P.C., Sharp, J.M. Jr. and Choi, W.C. (2002) Experimental Determination of Sorption in Fractured Flow Systems. *J. Contaminant Hydrol.*, 58, 51-77.
- Rogers, J.R., **Bennett**, P.C. and Choi, W.J. (2001) Enhanced weathering of silicates by subsurface microorganisms: a strategy to release limiting inorganic nutrients? *Proceedings of the tenth international symposium on water-rock interaction WRI-10*, 1461-1464.
- Bennett**, P.C., Rogers, J.A., Hiebert, F.K., and Choi, W.J. (2001) Silicates, silicate weathering, and microbial ecology. *Geomicrobiology Journal*, 18, 3-19
- Bennett**, P.C., Hiebert, F.K., Rogers, J.A. (2000) Microbial control of mineral-groundwater equilibria: Macroscale to microscale. *Hydrogeology Journal*, 8, 47-62.
- Fryar, A.E., Macko, S.A., Mullican, W.F., Romanak, K.D., **Bennett**, P.C. (2000) Nitrate reduction during ground-water recharge, Southern High Plains, Texas. *J. Contaminant Hydrology* 40, 335-363
- Bennett**, P.C. and Rogers, J.R. (1999) The mineralogy of microbial ecology. In *Groundwater: Past Achievements and Future Challenges* (O. Sililo, ed). International Association of Hydrogeologists.
- Bennett**, P.C., Rogers, J.R., Hiebert, J.K. and Choi, W.J. (1999) Mineralogy and mineral weathering: Fundamental components of subsurface microbial ecology. *USGS Water Resources Investigation 99-4018C*. 169-176.

- *Rogers, J. R., P. C. **Bennett**, and F. K. Hiebert. 1999. Patterns of microbial colonization on silicates. *USGS Water Resources Investigation 99-4018C*. 237-242.
- Mahler, B.J., Lynch, F.L. and **Bennett**, P.C. (1999) Mobile Sediment in an Urbanizing Karst Aquifer: Implications for Contaminant Transport. *Environmental Geology* 39, 25-38.
- Rogers, J.R., **Bennett**, P.C., and Choi, W.J. (1998) Feldspars as a source of nutrients for microorganisms. *American Mineralogist*, 83, 1532-1540.
- Nicot, J.P., **Bennett**, P.C., Romanak, K.D. (1998) Gas Phase Dynamics of Playa-Wetlands. J. Environmental Engineering. 124, 1038-1046.
- Mahler, B.J., Winkler, M., **Bennett**, P.C., Hillis, D.M. (1998) DNA-Labeled Clay: A Sensitive New Method for Tracing Particle Transport. *Geology* 26, 831-834.
- Mahler, B.J., **Bennett**, P.C., and Zimmerman, M. (1998) Lanthanide clays for use in characterizing sediment transport. *Groundwater* 36, 835-843.
- Lee, R. and **Bennett**, P.C. (1998) Reductive dissolution and solute transport in a sewage contaminated glacial outwash aquifer. *Groundwater* 36, 583-595.
- Glaser, P., **Bennett**, P.C., and Siegel, D.I. and E.A. Romanowicz (1996) Paleo-reversals in ground water flow and peatland development at Lost River, MN, *Holocene* 6, 413-421.
- Bennett**, P.C. Hiebert, F.K. and Choi, W.J. (1996) Rates of Microbial Weathering of Silicates in Ground Water. *Chemical Geology*, 132, 45-53.
- Bennett** P.C. and Casey, W.H. (1993) Organic acids and the dissolution of silicates, in *The role of organic acids in geological processes*. (Pittman, E.D. and Lewan, M. eds.) Springer.
- Bennett**, P.C. and Council, T. (1993) The geochemistry of ikaite formation at Mono Lake, California: Implications for the origin of tufa mounds. *Geology*, 21, p. 971-974.
- Bennett** P.C., Siegel D.I., Baedeker M.J., Cozzarelli I. and Hult M. (1993) The fate of crude oil in a sand and gravel aquifer I. Inorganic geochemistry. *Applied Geochemistry*, 8, 529-549.
- Baedeker M.J., Cozzarelli I., **Bennett** P.C. and Siegel D.I. (1993) The fate of crude oil in a sand and gravel aquifer III. Geochemical processes. *Applied Geochemistry*, 8, 569-586.
- Hiebert, F. and **Bennett** P.C. (1992) Microbial control of silicate weathering in organic-rich ground water. *Science*, 258, 278-281.
- Bennett**, P.C. and Hiebert, F.K. (1992) Microbial mediation of silicate diagenesis in organic-rich waters. In *Proceedings of the 7th Internat. Symp. on Water Rock Interaction, Park City, Utah* (Y. Kharaka, ed.), A.A. Balkema, p. 267-271.
- Tait, C.D., Janecky, D.R., Clark, D.L. and **Bennett**, P.C. (1992) Oxalate complexation with aluminum(III) and iron (III) at moderately elevated temperatures. In *Proc. of the 7th Internat. Symp. on Water Rock Interaction*, (Y. Kharaka, ed.) A.A. Balkema, p. 349-353.
- Bennett** P.C. (1991) The chemistry of silica-organic complexation in a petroleum-contaminated aquifer. *USGS Water-Resources Investigation Report 91-4720*, p. 638-640.
- Bennett** P.C. (1991) Quartz dissolution in organic-rich aqueous systems. *Geochimica et Cosmochimica Acta*, 55, 1781-1797.

- Bennett** P.C., Siegel D.I., Hill B. and Glaser, P. (1991) The fate of silicate minerals in a peat bog. *Geology* 19, 328-331.
- Siegel, D.I., Stoner, D.W., Byrnes, T.R. and **Bennett**, P.C. (1990) A geochemical process approach to identify inorganic and organic ground water contamination. *GW Management*, 2, 1291-1306.
- Baedecker M.J., Siegel D.I., **Bennett** P.C. and Cozzarelli I.M. (1988) The fate and effects of crude oil in a shallow aquifer I. The distribution of chemical species and geochemical facies. U.S. Geological Survey, *Water-Resources Investigations Report 88-4220*, p. 13-20.
- De Lorenzo, R.A., Gray, B.C., **Bennett**, P.C. and Lamparella, V.J. (1989) Effect of crowd size on patient volume at a large, multipurpose, indoor stadium. *J. Emerg. Medicine*, 7, 379-384.
- Marley, N.A., **Bennett**, P., Janecky, D.R. and Gaffney, J.S. (1989) Spectroscopic evidence for organic diacid complexation with dissolved silica in aqueous systems. I. Oxalic Acid. *Organic Geochemistry*, 14, 525-528.
- Bennett**, P., Melcer, M., Siegel, D.I. and Hassett, J. (1988) The dissolution and solubility of quartz in dilute aqueous solutions of organic acids at 25°C. *Geochim. et Cosmochim. Acta*, 52, 1521-1530.
- Bennett**, P.C. 1989. Silica mobility in a petroleum-contaminated aquifer. U.S. Geological Survey, *Water-Resources Investigations Report 88-4220*, p. 5-12.
- Bennett**, P. and Siegel, D.I. (1987). Increased solubility of quartz in water due to complexation by dissolved organic compounds. *Nature*, 326, 684-687.
- Bennett**, P.C., Siegel, D.I. (1989) Silica-organic complexes and enhanced quartz dissolution in water by organic acids. in *Proceedings of the 6th Inter. Symp. on Water Rock Interaction, Malvern, UK* (D.L. Miles, ed.), 69-72.

CONFERENCE PROCEEDINGS

- Fryar, A.E., Macko, S.A., Romanak, D.D., **Bennett**, P.C., and Mullican, W.F. (1995) Evidence of limited denitrification beneath playas recharging the Ogallala Aquifer. in *Proceedings, Water for Texas, Research leads the way conference*, Jan. 1995.
- Ging, P.B. and **Bennett**, P.C. (1994) Evaluation of water quality conditions in the upper Bull Creek watershed. in *Factors Affecting Water Resources, Proceedings of the Fall meeting of the American Water Resources Association*, Austin, TX, Dec. 9, 1994.
- Hiebert, F.K., **Bennett**, P.C. and Pope, S.R. (1995) Enhanced mineral diagenesis secondary to intrinsic bioremediation of NAPLs. in *Toxic Substances and the Hydrologic Sciences* Proc. of the Annual meeting of the American Institute of Hydrology. p. 650-665
- Mahler, B.J. and **Bennett**, P.C. (1991) The interaction of flow mechanics and aqueous chemistry in a Texas Hill Country grotto. In *Proc. of the 3rd conference on hydrogeology, ecology, monitoring, and management of ground water in karst terranes*, Dec. 4-6, 1991, Nashville, TN. p. 405-415.

INVITED LECTURES, SYMPOSIA, AND SHORT COURSES

- *International Geological Congress 33*, (Invited Keynote Paper) August 2008
- *American Society of Microbiology* (Invited paper) June 2008
- *University of Texas El Paso* (Invited Lecture) Feb. 2007
- *Cairo University, Egypt* (Invited Lecture) Nov. 2006
- *Miami University of Ohio* (Invited Lecture) Oct. 2006
- *University of Vermont* (Invited Lecture), Oct. 2006
- *McMaster University* (Invited Lecture), Feb. 2006
- *University of Toronto* (Invited Lecture), Feb. 2006
- *University of Sheffield* (Invited Lecture), January 2006
- *University of Illinois, Dept of Microbiology*. (Invited Lecture) Oct. 2005.
- *Society for General Microbiology: Main Symposium* Invited Speaker. Sept. 2005.
- *Clay Mineral Society Workshop (2004)*. Invited Speaker.
- *William Smith Conference*, The Geological Society, October 2002
- *IAH Water-2000: Cape Town, South Africa*, Invited keynote speaker
- *Intl. Symp. GW Contamination*. (Invited speaker) June, 2000, Tokyo, Japan
- *Virginia Tech etc.* (Invited Lecture) February, 2000
- *Swiss Federal Institute for Env. Science and Technology*; (Invited Lecture). Dec. 1999
- *XIVth Intl. Symposium on Environmental Biogeochemistry (1999)* Plenary Speaker
- *University of Wisconsin (1999)* Invited Weeks Lecturer
- *Gordon Research Conference “Modeling Flow in Permeable Materials” (1998)*: Invited
- *Goldschmidt, France (1998)* Session Organizer “Bacterially mediated silicate diagenesis”
- *University of New Mexico (1998)*: Invited lecture
- *Duke University (1996)* Invited Lecture
- *GSA Annual Meeting (1995)* GSA Short Course “Contaminant Organic Geochemistry”
- *GSA Annual Meeting (1994)* “Geologic significance of microbial processes
- *University of Michigan (1992)*: Invited Turner Lecturer
- *Southern Methodist University (1992)* Invited Lecture
- *Texas A&M University (1991)* Invited Lecture

1997 HENRY DARCY DISTINGUISHED LECTURESHIP

The Henry Darcy Distinguished Lecturer is selected annually by the Association of Ground Water Scientists and Engineers of the National Ground Water Association. During 1997, I was invited by 70+ academic and research institutions to present the lecture *Water, Microbes, and Rocks: The Geochemical Ecology of Contaminated Ground Water*. I visited 52 of these locations in the U.S., Canada, Australia, Germany, England and Ireland.

ABSTRACTS AND PAPERS PRESENTED (SELECTED, LAST 10 YEARS)

- Bennett, P.C. and Omelon, C.R. (2008) Microbial Geochemistry: The influence of microbes on geochemistry; the influence of geology on microbial ecology. Invited Paper, International Geological Congress, Oslo Norway.
- Omelon, C.R., Pollard, W.H., Ferris, F.G., and **Bennett, P.C.** (2008) Carbonate precipitation potential by cyanobacterial activity in high Arctic cryptoendolithic habitats. Goldschmidt Meeting, Vancouver, Canada
- Steinhauer, E.S. and **Bennett, P.C.** (2008) Microbial acceleration of sulfuric acid speleogenesis in Kane Cave, WY. Goldschmidt Meeting, Vancouver Canada.
- Franks, M.A., **Bennett, P.C.**, Omelon, C. and Engel, A.S. (2007) Environmental controls on methanogen viability in the hydrothermal waters of the El Tatio geyser field, Chile. AGU Fall Meeting.
- Linhoff, B.S., **Bennett, P.C.**, Puntsag, T. (2007) Uranium Geochemistry in Hypersaline Soda Lakes in Eastern Mongolia. AGU Fall Meeting.
- Steinhauer, E.S., Neill, M.F., Demott, L.M., Landrum, J.T., Schumacher, W. **Bennett, P.C.** (2006) Hydrogeochemical and Hydrogeological evidence for Blanco River recharge of Jacob's Well, A karst spring in Hays County, Texas. GSA Annual Meeting.
- Landrum, J.T., Engel, A.S., Milliken, K., and **Bennett, P.C.** (2006) Biogeochemistry of antimony and arsenic in hydrothermal fluids and opaline deposits from El Tatio Geyser Field, Chile. AGU Fall Meeting.
- Landrum, J.T., Milliken, K., Engel, A.S., Lansdown, J. and **Bennett, P.C.** (2005) Biogeochemical controls on As and Sb partitioning into hydrothermal silica at El Tatio, Chile. ISEB
- Meisinger, D., Lee, N., Engel, A.S., **Bennett, P.C.** (2005) Geomicrobiology: Caves as portals to novel, chemoautotrophic ecosystems in the subsurface/. Munich Environmental Microbiology meeting, Germany.
- Pearson, M.L. and **Bennett, P.C.** (2004) Geochemical and isotopic tracing of Paleozoic groundwater flow in a breached anticline. GSA Abstract with Programs.
- Roberts, J.A. and **Bennett, P.C.** (2004) Microbial influence on carbonate equilibria in a hydrocarbon-contaminated aquifer. GSA Abstract with programs.
- Mabin, K.E., **Bennett, P.C.**, Engel, A.S. and Stern, L. (2004) Sulfur dynamics during sulfuric acid speleogenesis within lower kane cave, Wyoming. GSA Abstracts with program.
- Stern, L.A., Engel, A.S., **Bennett, P.C.** Nitrogen isotope evidence of ammonia vapor assimilation by cave wall microbial biofilms in a sulfidic cave, a novel mechanism of nutrient acquisition. AGU 2003 meeting, San Francisco, CA.
- Edwards, M.E., **Bennett, P.C.**, Engel, A.S. Geochemical and isotopic constraints on the source of groundwater to Lower Kane Cave, Wyoming. AGU 2003 meeting, San Francisco, CA.
- Mabin, K., **Bennett, P.C.**, Stern, L.A., Engel, A.S. Microbial influence on sulfur speciation in Lower Kane Cave, WY. AGU 2003 meeting, San Francisco, CA.
- Engel, A.S. Stern, A., and **Bennett, P.C.** The secret to sulfuric acid speleogenesis. GSA 2003 meeting, Seattle, WA.
- Phoenix, V. R., **Bennett, P.C.**, Engel, A. S., Tyler, S.W., and Ferris F.G. Chilean high-altitude hot spring sinters: a model system for UV screening mechanisms by early Precambrian cyanobacteria. GSA meeting, Seattle, WA.

- Engel, A.S., Stern, A., and **Bennett**, P.C. 2003. Condensation on cave walls: Implications for cave enlargement and sulfuric acid speleogenesis. Goldschmidt Conference, Kurishiki, Japan. *Geochimica et Cosmochimica Acta*: p. A455.
- Engel, A.S., **Bennett**, P.C., Stern, L.A. 2003. Volatile organosulfur gas production from aphotic (cave) sulfur-based microbial communities. *16th International Symposium of Environmental Biogeochemistry*. Oirase, Aomori Prefecture, Japan: p. 184.
- Engel, A.S., **Bennett**, P.C., and Stern, L.A. 2003. Consequences of low pH, cave-wall condensation and biofilm development to sulfuric acid speleogenesis. *National Speleological Society meeting Guidebook*, Porterville, CA: p. 8-95.
- Bennett**, P.C., Sharp, J.M., El-Shishtawy, A., Atwia, M., Bakrah, A., Noweir, A.-H. (2002) Trace metal geochemistry in the central Nile Delta, Egypt. *GSA Abs. with Programs*
- Engel, A.S., Stern, L.A., Porter, M.L. **Bennett**, P.C. (2002) Sulfur cycling and nutrient spiraling in karst. *GSA Abstracts with Programs*.
- Bennett**, P.C., Engel, A.S., Stern, L.S., Rogers, J.R. (2002) Microbial ecology on mineral surfaces. *International Mineralogical Association*, Edinburgh, Sept. 2002
- Engel, A.S. **Bennett**, P.C., Stern, L.A., Porter, M.L., Lee, N., Wagner, M. (2002) Epsilon-Proteobacterial diversity from sulfidic cave springs . *International Symposium of Subsurface Microbiology*, Copenhagen, Sept. 2002.
- Stern, L.A., Engel, A.S., **Bennett**, P.C. (2002) In-situ microbial calcite dissolution by sulfur-oxidizing bacteria in a limestone cave. *International Symposium of Subsurface Microbiology*, Copenhagen, Sept. 2002.
- Engel, A.S., Stern, L.A., **Bennett**, P.C (2002) Microbial Processing of Sulfur Gases from a Terrestrial Cave Ecosystem. *NASA Astrobiology*, Dec. 2001
- Engel, A.S., **Bennett**, P.C., and Stern, L.A. (2001) Sulfuric acid speleogenesis: Microbial karst and microbial crust. *AGU, 82(47), Fall Meet. Suppl., Abstract B22E-05*.
- Stern, L.S., Engel, A.S., and Bennett, P.C. (2001) Organic sulfur gas production in sulfidic caves. *AGU, 82(47), Fall Meet. Suppl., Abstract B32C-08*
- Perry, J.L. and **Bennett**, P.C. (2001) Environmental impacts of Class-A foam. *AGU, 82(47), Fall Meet. Suppl., Abstract B52C-428*
- Rogers, J.R. and **Bennett**, P.C. (2001) Ferroan dolomite mineralization by iron-reducing bacteria. *Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract B12C-0141*.
- Engel, A S, **Bennett**, P C, Stern, L A (2001) Biogeochemical diversity in a Sulfidic Karst System, Kane Caves, Wyoming. *International Symposium on Environmental Biogeochemistry, ISEB 14*, Wroclaw, Poland
- Bennett**, P.C. and Rogers, J.R. (2001) Microbial control of carbonate weathering in a contaminated aquifer. *Eleventh Annual V. M. Goldschmidt Conference*, Abstract #3586.
- Bennett**, P C., Sharp, J M, El-Shishtawy, A, Atwia, M G, Bakrah, A E, Noweir, A M (2000) Hydrogeology and Redox-Sensitive Trace Metals in the Central Nile Delta, Egypt. *AGU, 81 (48)*, Abstract # H71B-31
- Rogers, J.R., **Bennett**, P.C. (2000) Biomass Determination of Silicate Surfaces in Groundwater Systems. *AGU, 81 (48) Abstract #B11E-12*
- Bennett**, P.C., Rogers, J.R., Engel, A.S. (2000) Mineral Surfaces as Microbial Habitats. *Eos Trans. AGU, 81 (48)*, Abstract #B11E-05 INVITED
- Engel, A S, **Bennett**, P C, Stern, L A (2000) Mineralogic and Geochemical Consequences of Microbial Habitat Modification in Sulfidic Karst Systems: Examples from the Kane Caves, Wyoming *AGU, 81 (48)*, Abstract # B71B-04

- Rogers, J.R., **Bennett**, P.C., and Choi, W.J (2000) Ligand promoted nutrient mobilization from silicates. *GSA Abs. Prog.* 32.
- Rogers, J.R., **Bennett**, P.C., and Hiebert, F.K. Ullman, W.J. (1999) Bacterial mobilization of phosphorus from silicates. *GSA Abs. Prog.* 31.
- Bennett**, P.C. and Martineau, D.T. (1999) Hydrogeochemistry of the Pine River coal-bed methane seep. *GSA Abs. Prog.* 31.
- Rogers, J.R., **Bennett**, P.C., and Hiebert, F.K. (1998) Are feldspars a source of phosphorus for microorganisms? *GSA Abs.Prog.* 30, A-305.
- Bennett**, P.C., Rogers, J.R., and Hiebert, F.K. (1998) Geochemical ecology of an oil contaminated aquifer. *GSA Abs.Prog.* 30, A-14.
- Rogers, J.R., **Bennett**, P.C., and Ullman, W.J. (1998) Biochemical release of a limiting nutrient from feldspars. *Proc. of the V.M. Goldschmidt Conference*
- Bennett**, P.C., Rogers, J.R., and Choi, W.J. (1998) Selective weathering of silicates by microorganisms: Nutrient driven destruction of feldspars. . *Proc. V.M. Goldschmidt Conf.*
- Zimmerman, M.D., **Bennett**, P.C., and Sharp, J.M. (1997) Experimental determination of sorption in a fractured-rock flow system. *EOS v. 78, F275.*
- Lee, R.W. and **Bennett**, P.C. (1997) Reductive dissolution and reactive solute transport in a sewage-contaminated glacial outwash aquifer. *EOS, v. 78, F293.*

FUNDED RESEARCH (*CURRENT):

- Bennett, P.C. and Kocurek, G. Origin of the Siwa Depression, Western Desert, Egypt. (SUBMITTED), US-Egypt Fund/National Science Foundation.
- Bennett, P.C. The Geochemical Ecology of Cryptoendolithic Microorganisms: Relationships Between Cyanobacteria and sandstone weathering in the Canadian High Arctic. (SUBMITTED) National Science Foundation Polar Programs. 6/2008-6/2010
- .*Bennett, P.C. The geochemical significance of Dark Life. UT Jackson School of Geosciences Research Initiative. \$130,000. 8/15/2006 – 8/31/2008.
- *Bennett, P.C. The Kinetics of Microbial Speleogenesis. National Science Foundation, geochemistry and geobiology , EAR-[0617160](#). \$65,000 8/15/2006-8/14/2009
- *Bennett, P.C., (with S.S. Engel, LSU). Hydrobiogeochemistry of As and Sb at El Tatio Geyser Field. NSF-geochemistry and geobiology. \$120,000 (UT Portion). EAR-[0545336](#) 8/15/2006-8/14/2008
- Bennett, P.C. and Sharp, J.M. Sediment Transport in an Urbanizing Karst Watershed. 3/1/2001-2/28/2003. NSF Hydrological Sciences EAR 0001197. \$90,000
- Bennett, P.C. and Stern, L.A. Sulfuric Acid Speleogenesis by Chemolithotrophic Bacteria: Community Structure and Habitat Modification by Acid Extremophiles. NSF Life in Extreme Environments (LExEn) Program. EAR 0085576 12/1/2000 – 11/30/2004 \$356,000
- Carlson, W.D., Bennett, P.C., and Milliken, K.L. Electron-Beam Microscopy and Microanalysis of Natural Materials. Acquisition of a Electron Probe and Environmental Scanning Electron Microscope. W.M. Keck Foundation. \$750,000 + \$400,000 match.
- Sharp, J.M. and Bennett, P.C. Study of factors affecting chemical composition of groundwater in the Nile delta (Egypt) U.S. State Dept./U.S. Egypt Science and Technology Joint Fund Program. \$30,000, 9/1/99-8/31/99

- Banner, J.L., Bennett, P.C., Connelly, J. and Housh, T. Acquisition of a high-resolution ICP-MS. National Science Foundation, Major Research Instrumentation. \$229,000. 8/1/98-8/1/01 (matched by the University of Texas for a total of \$658,000)
- Bennett, P.C. Microbial Weathering of Feldspars: Aggressive Release of Limiting Nutrients. National Science Foundation. \$144,000, 6/1/99-12/1/01
- Bennett, P.C. Mineral chemistry controls of microbial ecology during intrinsic biodegradation of petroleum. American Chemical Society, Petroleum Research Fund. 6/98 – 9/00. \$60,000
- Bennett, P.C. Investigations of methane seeps in the Pine River Valley, Colorado. Colorado Oil and Gas Conservation Commission, 9/95-9/96. \$9,000
- Famiglietti, J.S., Bennett, P.C., Sharp, J.M., and Banner, J. Graduate Research Traineeships in Hydrology: Role of the Hydrologic Cycle in the Coupled Earth System. 9/94-9/00; \$537,500.
- Bennett, P.C. and Hillis, D. Polymer-labeled clays for tracing groundwater flow and transport in fractures. Texas Higher Education Coordinating Board, Advanced Technology Program. 1/94-1/96, \$136,000
- Bennett, P.C. and Sharp, J.M. Mass transport properties of fracture skins. National Science Foundation, 1/94-6/98, \$254,000
- Bennett, P.C. Silicate dissolution in organic-rich aqueous systems: reaction mechanisms and rate control. National Science Foundation. 9/91-9/93, \$129,000
- Bennett, P.C. Characterization of the contaminant organic geochemistry of the PANTEX facility and surrounding site. U.S. Department of Energy. 1990-1995, \$526,000
- Bennett, P.C. The aqueous organic chemistry of silica in geologic systems. American Chemical Society, Petroleum Research Foundation. 7/90-6/92, \$18,000
- Bennett, P.C. Innovative biological techniques for the remediation of manufactured gas sites. Remediation Technologies Inc., Niagara Mohawk Project #04-9276, 6/89 - 3/90, \$10,400

OUTREACH:

The Kane Cave research project was featured in the WGBH-NOVA program, “The Mysterious Life of Caves” (originally aired 2002, repeated several times since), with a parallel article in the *Smithsonian Magazine* (Oct. 2002 issue) <http://www.pbs.org/wgbh/nova/caves/>. This program shown in modified form in 2003 in the UK by BBC as “The Secret Life of Caves”, and then translated for broadcast in at least Sweden and France. The work was also featured in a radio spot on *MicrobeWorld*, sponsored by the American Society for Microbiology. Based on the May, 2004 *Geology* publication, highlight articles have appeared in *Science*, *Nature*, *Spiegel*, and *Nederlandse Geologische Vereniging*, and additional articles have appeared in six languages based on Internet searches.

UNIVERSITY SERVICE:

University Research Safety Advisory Committee (AY1998 to present).
 College of Natural Sciences Safety Committee (AY1995 2003, Chair AY1996 to 2003).
 University Research Policy committee (AY1995-1997). Chair for AY 1997.

University Committee on Objectivity in Research (AY1997). Committee member.

Departmental Service

Graduate Advisor (AY2003 to 2006)

Chair, Graduate Studies Comm.(AY2003-2006), Adm. & Sup. Comm.(1995-1997; 2003-2006)

Safety Officer/Safety Committee Chair (AY1993 to present).