

Satish C. B. Myneni

Associate Professor
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Department of Geosciences
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Professional Experience

2005-Present Associate Professor, Department of Geosciences, Princeton University
1999-2005 Assistant Professor, Department of Geosciences, Princeton University
1999-Present Affiliated faculty member of Department of Chemistry, and
Department of Civil & Environmental Engineering, Princeton University
1999-Present Faculty Staff Scientist, Lawrence Berkeley National Laboratory
1998-99 Geological Scientist, Lawrence Berkeley National Laboratory
1995-98 Post-Doctoral Scientist, Lawrence Berkeley National Laboratory
1991-95 Graduate Teaching & Research Assistant, Ohio State University
1989-91 Research Scientist (Junior Manager), Environmental Research Division
Steel Authority of India Ltd., India

Education

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| Osmania University | Geology, physics, chemistry | B.Sc (Hons) 1 st class, 1985 |
| Indian Institute of Technology | Applied geology & Geochemistry | M.Sc & M. Tech, 1989 |
| The Ohio State University | Environmental geochemistry | Ph.D, 1995 |

Honors

2003 Nominated by graduate students for the Graduate Mentoring Award
2002 Nominated by the Princeton University for the Packard Fellowship
2001 Best Research Paper on Interfacial Processes in the Environment, Basic Energy Sciences (DOE)
1998 Nominated by the Lawrence Berkeley National Laboratory for the U.S. Presidential Early Career Scientist and Engineer Award
1992 Outstanding Teaching Associate Award (1992), The Ohio State University
1985-87 Merit Scholarship, Indian Institute of Technology, Bombay

Membership in Professional Societies

American Chemical Society
The Geochemical Society

Princeton University Service

2014-present Council for International Teaching and Research, Princeton University
2013-present Seminar Committee, Department of Geosciences
2010-present Evaluation Committee, Phillips Equipment Fund, Department of Geosciences
2006-present Faculty Adviser, Wilson College, Princeton University
2007-present Mineral Collection Committee, Department of Geosciences
2012-2013 Selection Committee, Hess Post-Doctoral Fellowship, Department of Geosciences
2005-2010 Chair, Undergraduate Work Committee, Department of Geosciences
2007-2009 Web Site Committee, Department of Geosciences

- 2000-2008 Organizer, Environmental Geology & Geochemistry Seminar (EGGS) series,
Department of Geosciences
- 2004 Academic Adviser for juniors and seniors, Department of Geosciences
- 2000-2001 Academic Adviser to freshman, Wilson College, Princeton University

Professional Affiliations & Service

- Joining Review Editor, frontiers in Earth Science, Biogeoscience.
- 2007-Present Editorial board, Annals of Environmental Science.
- 2007-Present Reviewed promotional applications of assistant and associate professors at various schools in USA & in Europe.
- 2010-Present Project Team Member, Inner-shell Spectroscopy, NSLS-II, Brookhaven National Laboratory.
- 2012-Present Project Team Member, Tender Energy X-ray Absorption Spectroscopy, NSLS-II, Brookhaven National Laboratory.
- 1996-Present Reviewed grant proposals for DOE (Geosciences, Chemical Sciences and Materials Sciences), NSF (Geosciences, Chemical Oceanography, Marine Geology & Geophysics, Chemical Sciences, Hydrological sciences) and USDA.
- 1994-Present Reviewed research articles for several journals, which include Science, Nature, Geochimica et Cosmochimica Acta, Environ. Science & Technology, J. Colloid Interface Science, Langmuir, Soil Science Society of America Journal, Clays and Clay Minerals, Chemical Geology, J. Synchrotron Radiation, J. Physical Chemistry, J. Am. Chem. Soc.
- 2014 Stanford Linear Accelerator Center-SFA Review Panel, DOE (SBR)
- 2014 Environmental Molecular Sciences Institute Review Panel, Pacific Northwest National Laboratory
- 2012 DOE (BES), Geochemistry Program review panel, Pacific Northwest National Laboratory.
- 2011 NSF Geobiology & Low Temperature Geochemistry, Proposal Review Panel.
- 2011 Stanford Linear Accelerator Center-SFA Review Panel, DOE (SBR).
- 2007-2011 Chair, Proposal Review Panel (X-ray Spectroscopy: Biological, Environmental & Geosciences), National Synchrotron Light Source, Brookhaven National Laboratory.
- 2007-2011 Member, Proposal Oversight Panel, National Synchrotron Light Source, Brookhaven National Laboratory.
- 2004-2011 Member, Proposal Review Panel (X-ray Spectroscopy: Biological, Environmental & Geosciences), National Synchrotron Light Source, Brookhaven National Laboratory
- 2008 NSF Ocean Sciences (Marine Geology & Geophysics), Proposal Review Panel
- 2008 DOE (ERSP) Proposal Review Panel.
- 2007-2009 Planning of synchrotron beamlines for geo, soil, and environmental sciences at the National Synchrotron Light Source II.
- 2006 DOE (ERSP) Proposal Review Panel.
- 2006 Advanced Photon Source, Review Panel (Sector 20).
- 2004 Synchrotron Radiation Center, University of Wisconsin, Preparation of white paper for the development of soft X-ray synchrotron facilities.
- 2004 Geochemistry representative, NSF/DOE workshop on User Facilities in Geosciences
- 2003 National Research Council Workshop on Novel Approaches to the Management of Greenhouse Carbon
- 2003 Proposal Review Panel, DOE (Biogeochemistry-NABIR)
- 2003 National Synchrotron Light Source, Brookhaven National Laboratory, Preparation of white paper for the development of new synchrotron (NSLS-II).
- 2000-2003 Member-elect, User Executive Committee, Stanford Synchrotron Radiation Laboratory, Stanford, CA.

2000 Workshop on Future Directions of Soft X-ray Synchrotron Research, Tennessee
1998-2004 Member of Core Research Team. Molecular environmental science initiative to construct soft X-ray spectroscopy and spectromicroscopy facilities at the Advanced Light Source, Berkeley, CA.

Advisors

Graduate Advisors:

Prof. Samuel J. Traina & Terry J. Logan The Ohio State University

Post-Doctoral Advisor:

Dr. Tetsu K. Tokunaga Lawrence Berkeley National Laboratory

Post-Doctoral Scholars Mentored

Sarah Jane White (Current), Rebecca Sanders (joining Prof@North Central College), Bhoopesh Mishra (Prof @ Illinois Institute of Technology), Juraj Majzlan (Prof @ Friedrich-Schiller-Universität Jena), Ashish Deshmukh (Senior Manager @ Environ), Timothy Strathmann (Prof @University of Illinois), Daniel Giammar (Prof @ Washington University).

Graduate Students Supervised

Graduate Students: 9 (NSF graduate student fellowships: 4, EPA STAR fellowships: 2)

Graduate Student Thesis Committees: 17

Undergraduate Independent Research Supervised

Senior Theses: 22

Junior Papers: 34

Visiting Scientists

Number of scientists visited: 4; Prof. Anne Kotchevar (@California State University), Dr. Luo (Research Scientist@State Key Laboratory, China), Prof. Martinez (@University of Puerto Rico), Prof. McDonald (@ University of West Virginia)

Funding Generated

Approximately \$3.6 million for my research group

Research Publications

Total Number of publications: 53 (Science & Nature Geosciences: 7; Geochim. Cosmochim Acta: 8; Environ. Sci. Technol.: 8; J. Phys. Chem: 6; Chem. Geol: 4; rest in different journals)

Publications from my research group: 42

H-index: 29 (last 5 years: 26)

Invited Talks

Total number of invited talks: 27 in the last 7 years (excludes contributed talks)

Teaching

Average teaching load in the last 7 years: 2.3 courses a year

Patents

Invention # 14-3027 (patent application pending; with Dr. Peter Jaffe); Nanoparticulate apatite-coated calcite/limestone filter materials for removing contaminants from contaminated water.

LIST OF PUBLICATIONS

H-Index: 29 (H-Index last 5 years: 26; as of July 10, 2014)

- 1) Kanno CM., Sanders RL., Flynn SM., Lessard G., Myneni SCB. Novel apatite-based sorbent for defluoridation: Synthesis and sorption characteristics of nano-microcrystalline hydroxyapatite-coated-limestone. *Environ. Sci. & Technol.*, 48: 5798-5807 (2014)
- 2) Yu Q., Szymanowski J., Myneni SCB., Fein JB. Characterization of sulfhydryl sites within bacterial cell envelopes using selective site-blocking and potentiometric titrations. *Chem. Geol.*, 373: 50-58 (2014).
- 3) Dunham-Cheatham S., Farrell B., Mishra B., Myneni SCB., and Fein JB. The effect of chloride on the adsorption of Hg onto three bacterial species. *Chem. Geol.*, 373: 106-114 (2014).
- 4) Myneni SCB., Hay MB., Mishra B. Applications of scanning transmission X-ray microscopy in studying clays and their chemical interactions. In *Advanced Applications of Synchrotron Radiation in Clay Science*. Clay Mineral Society special volume (V 19, 2013; in press).
- 5) Von der Heyden BP., Roychoudhury AN., Mitshali TN., Tylicszak T., Myneni SCB. Chemically and geographically distinct solid-phase iron particles in the Southern Ocean. *Science*, 338: 1199-1201 (2012).
- 6) Joe-Wong C., Shoenfelt E., Hauser EJ., Crompton N., Myneni SCB. Estimation of reactive thiol concentrations in dissolved organic matter and bacterial cell membranes in aquatic systems. *Environ. Sci. Technol.*, 46: 9854-9861 (2012).
- 7) Wanger G., Moser D., Hay M., Myneni SCB., Onstott TC., Southam G. Mobile hydrocarbon microspheres from >2-billion year old carbon-bearing seams in the South African deep subsurface. *Geobiology* 10: 496-505 (2012).
- 8) Leri AC., Myneni SCB. Natural organobromine in terrestrial ecosystems. *Geochim. Cosmochim. Acta*, 77, p.1-10 (2012).
- 9) Krzmarzick MJ., Cray BB., Harding JJ., Oyerinde OO., Leri AC., Myneni SCB., Novak PJ. A natural niche for organohalide respiring Chloroflexi. *Appl. Environ. Microbiol.* DOI:10.1128/AEM.06510-11 (2011).
- 10) Majzlan J., Alpers CN., Koch CB., McCleskey RB., Myneni SCB., Neil JM. Vibrational, X-ray absorption and Mossbauer spectra of sulfate minerals from the weathered massive sulfide deposit at Iron Mountain, California. *Chem. Geol.*, 24: 296-305 (2011).
- 11) Hay MB., Myneni SCB. X-ray absorption spectroscopy of aqueous aluminum-organic complexes. *J. Phys. Chem. A*. 114: 6138-6148 (2010).
- 12) Leri AC., Myneni SCB. Organochlorine turnover in forest ecosystems: The missing link in the terrestrial chlorine cycle. *Global Biogeochem. Cy.* 24. GB 4021. doi:10.1029/2010GB003882 (2010).
- 13) Leri AC., Hakala JA., Marcus MA., Lanzirrotti A., Reddy CM., Myneni SCB. Natural organobromine in marine sediments: New evidence of biogeochemical Br cycling. *Global Biogeochem. Cy.* 24, GB4017, doi:10.1029/2010GB003794, (2010)
- 14) Wichard T., Mishra B., Myneni SCB., Bellenger JP., Kraepiel AML. Storage and bioavailability of molybdenum in soil increased by organic matter Complexation. *Nature Geosciences*. DOI: 10.1038/NCEO589, (2009).
- 15) Hay MB., Myneni SCB. Geometric and electronic structure of the aqueous $\text{Al}(\text{H}_2\text{O})_6^{3+}$ complex *J. phys. Chem. A* 112: 10595-10603, (2008)

- 16) Komlos, J., Mishra B., Lanzirrotti A., Myneni SCB., Jaffe PR. Real-time speciation of uranium during active bioremediation and U(IV) reoxidation. *J. Environ. Eng.* 134: 78-86. (2008)
- 17) Leri AC., Marcus MA., Myneni SCB. X-ray spectroscopic investigation of natural organochlorine distribution in weathering plant material. *Geochim. Cosmochim. Acta* 71: 5834-5846 (2007).
- 18) Hay MB., Myneni SCB. Structural environments of carboxyl groups in organic molecules from terrestrial systems: Part I: Infrared spectroscopy, *Geochim. Cosmochim. Acta* 71: 3518-3532 (2007).
- 19) Deshmukh A., Hay MB., Myneni SCB. Structural environments of carboxyl groups in organic molecules from terrestrial systems: Part II: NMR spectroscopy, *Geochim. Cosmochim. Acta* 71: 3533-3544 (2007).
- 20) Bellenger JP., Arnaud-Neu F., Asfari Z., Myneni SCB., Stiefel EI., Kraepiel AML. Complexation of oxoanions and cationic metals by the biscatecholate siderophore azotochelin. *J. Biol. Inorg. Chem.* 12: 367-376 (2007).
- 21) Edwards DC., Myneni SCB. Near Edge X-ray Absorption Fine Structure Spectroscopy of bacterial hydroxamate siderophores in aqueous solutions. *J. Phys. Chem. A* 110: 11809-11818 (2006).
- 22) Cavalleri M., Naslund LA., Edwards DC., Wernet P., Ogasawara H., Myneni SCB., Ojamae L., Odelius M., Nilsson A., Pettersson LGM. The local structure of protonated water from X-ray absorption and density functional theory. *J. Chem. Phys.* DOI: [10.1063/1.2199828](https://doi.org/10.1063/1.2199828) (2006).
- 23) Leri AC., Hay MB., Lanzirrotti A., Rao W., Myneni SCB. Quantitative speciation of absolute organohalogen concentrations in environmental samples by X-ray absorption spectroscopy. *Anal. Chem.* 78: 5711-5718 (2006).
- 24) Poussart PM., Myneni SCB., Lanzirrotti A. Tropical dendrochemistry: A novel approach to estimate age and growth from ringless trees. *Geophys. Res. Lett.*, DOI: [10.1029/2006GL026929](https://doi.org/10.1029/2006GL026929) (2006). One page interview and comment by editor in *Nature*.
- 25) Castruita M., Saito M., Schottel PC., Elmegren LA., Myneni SCB., Stiefel EI., Morel FMM. Overexpression and characterization of an iron storage and DNA-binding Dps protein from *Trichodesmium erythraeum*. *App. Env. Microbiol.* 72: 2918-2914 (2006).
- 26) Bluhm H., Andersson K., Araki T., Benzerara K., Brown GE., Dynes JJ., Ghosal S., Gilles MK., Hansed H., Heminger JC., Hitchcock AP., Ketteler G., Kilcoyne ALD., Kneedler E., Lawrence JR., Leppard GG., Majzlan J., Mun BS., Myneni SCB., Nilsson A., Ogasawara H., Ogletree DF., Pecher K., Salmeron M., Shuh D. K., Tonner B., Tyliczszak T., Warwick T., Yoon TH. (2005) Soft X-ray microscopy and spectroscopy at the molecular environmental science beamline at the Advanced Light Source. *J. Electron Spectrosc. Relat. Phenom.*, 150: 86-104 (2005).
- 27) Edwards DC., Nielsen SB., Jarzecki AA., Spiro TG., Myneni SCB. Experimental and theoretical vibrational spectroscopy studies of acetohydroxamic acid and desferrioxamine B in aqueous solutions: Effects of pH and iron complexation. *Geochim. Cosmochim. Acta*, 69: 3237-3248 (2005).
- 28) Edwards DC., Myneni SCB. Hard and soft X-ray absorption spectroscopic investigation of aqueous Fe(III)-hydroxamate siderophore complexes. *J. Phys. Chem. A*, 109: 10249-10256 (2005).
- 29) Strathmann TJ., Myneni SCB. Effect of soil fulvic acid on nickel (II) sorption and bonding at the aqueous-boehmite (γ -AlOOH) interface. *Environ. Sci. Technol.*, 39: 4027-4034 (2005).

- 30) Li W., Seal S., Rivero C., Lopez C., Richardson K., Pope A., Schulte A., Myneni SCB., Jain H., Antoine K., Miller AC. Role of S/Se ratio in chemical binding of As-S-Se glasses investigated by Raman, X-ray photoelectron, and extended X-ray absorption fine structure spectroscopies. *J. Appl. Phys.* 98: 053503, DOI: 10.1063/1.2009815 (2005).
- 31) Naslund L., Edwards DC., Wernet P., Bergmann U., Ogasawara H., Pettersson LGM., Myneni S CB., Nilsson A. X-ray absorption spectroscopy study of the hydrogen bond network in the bulk water of aqueous solutions. *J. Phys. Chem. A*, 109: 5995-6002 (2005).
- 32) Majzlan J., Myneni SCB. Speciation of iron and sulfate in acid waters: Aqueous clusters to mineral precipitates. *Environ. Sci. Technol.*, 39: 188-194 (2005).
- 33) Maria S, Russell LM, Gilles MK, Myneni SCB. Organic aerosol growth mechanisms and their climate forcing implications. *Science*, 306: 1921-1924 (2004).
- 34) Xue S., Leri A., Myneni SCB., Jaffe P. Uptake of bromide by two wetland plants (*Typha latifolia* and *Phragmites australis* (Cav.) Trin. Ex Steud). *Environ. Sci. Technol.* 38: 5642-5648 (2004).
- 35) Strathmann T., Myneni SCB. Speciation of aqueous Ni(II)-Carboxylate and Ni(II)-Fulvic Acid Solutions: Combined ATR-FTIR and XAFS Analysis. *Geochim. Cosmochim. Acta*, 68: 3441-1458 (2004).
- 36) Reina R., Leri A, Myneni SCB. Cl K-edge X-ray spectroscopic investigation of enzymatic formation of organochlorines in weathering plant material. *Env. Sci. Technol.* 38: 783-789 (2004).
- 37) Wei J. Saxena A., Song B., Ward BB., Beveridge TJ., Myneni SCB. Elucidation of functional groups on Gram-positive and Gram-negative bacterial surfaces using infrared spectroscopy. *Langmuir* 20: 11433-11442 (2004).
- 38) Naslund LA, Cavalleri M, Ogasawara H, Nilsson A, Pettersson LGM, Wernet P, Edwards DC, Sandstrom M, Myneni SCB. Direct evidence of orbital mixing between solvated transition-metal ions: An Oxygen 1s XAS and DFT study of aqueous systems. *J. Phys. Chem A*, 107: 6869-6876 (Cover page article) (2003).
- 39) Myneni SCB. Soft X-ray spectroscopy and spectromicroscopy studies of organic molecules in the environment. In *Rev. Mineral. Geochem. Applications of Synchrotron Radiation in Low-Temperature Geochemistry and Environmental Science*, Ed P. Fenter, M. Rivers, N. Sturchio, S. Sutton, 49: 485-579, (2002)
- 40) Russell LM, Maria SF, Myneni SCB. Mapping organic coatings on atmospheric particles. *Geophys. Res. Lett.* 29: 10.1029/2002GL014874, DOI: 10.1029/2002GL014874 (2002).
- 41) Myneni SCB. Formation of stable chlorinated hydrocarbons in weathering plant material. *Science*, 295, 1039-1041 (Science Express, published online 17 January 2002) (2002).
- 42) Myneni SCB, Luo Y, Naslund LA, Ojamae L, Ogasawara H, Pelmenchikov A, Vaterlain P, Heske C, Pettersson LGM, Nilsson A. Spectroscopic evidence for unique hydrogen bonding structures in water. *J. Phys.: Condens. Matter*, 14, L213-L219, DOI:10.1088/0953-8984/14/8/106 (2002).
- 43) Pettersson LGM, Nilsson A., Myneni SCB., Luo Y., Nyberg M., Cavalleri M., Ojamae L., Naslund L., Ogasawara H., Odelius M., Pelmenchikov A. Electronic structure effects from hydrogen bonding in the liquid phase and in chemisorption: an integrated theory and experimental effort. *J. Sync. Radiation*, 8, 136-140, (2001).
- 44) Myneni SCB. X-ray and vibrational spectroscopy of sulfate in earth materials. In: *Rev. Mineral. Sulfate Minerals: Crystallography, Geochemistry, and Environmental Significance*, ed. C. N. Alpers, J. L. Jambor, and D. K. Nordstrom, 40: 113-172, (2000).

- 45) Myneni SCB., Brown J., Martinez GA., and Meyer-Ilse. W. Imaging of humic substance macromolecular structures in water and soils, *Science*, 286, 1335-1337 (1999).
- 46) Myneni SCB., Traina SJ., Waychunas GA., Logan TJ. Arsenate interactions with CaO: Formation of Johnbaumite. *Min. Mag.* 62A, 1050-1051 (1998).
- 47) Myneni SCB., Traina SJ., Waychunas GA., and Logan TJ. Experimental and theoretical vibrational spectroscopic evaluation of arsenate coordination in aqueous solutions, solids and at mineral-water Interfaces. *Geochim. Cosmochim. Acta*, 62, 3285-3300 (1998).
- 48) Myneni SCB., Traina SJ., Waychunas GA., and Logan TJ. Vibrational spectroscopy of functional group chemistry and arsenate coordination in ettringite. *Geochim. Cosmochim. Acta*, 62, 3499-3514 (1998).
- 49) Warwick T., Ade H., Cerasari S., Denlinger J., Franck K., Gracia A., Hayakawa S., Hitchcock A., Kikuma J., Kortright J., Meigs G., Moronne M., Myneni SCB., Rightor E., Rotenberg E., Seal S., Shin H-J., Steele R., Tyliczszak T., and Tonner B. A Scanning Transmission X-ray Microscope for Materials Science Spectromicroscopy at the Advanced Light Source. *Rev. Sci. Instr.*, 69, 2964-2973, (1998).
- 50) Myneni SCB., Tokunaga TK., Brown Jr., GE. Green Rust in the Lab and in the Soil. Note. *Science*, 281, 1111a (1998).
- 51) Myneni SCB., Traina SJ., and Logan TJ. Ettringite Solubility and Geochemistry of the Ca(OH)₂-Al₂(SO₄)₃-H₂O System at 1 atm Pressure and 298 K. *Chem. Geol.*, 148, 1-19, (1998).
- 52) Myneni SCB, Tokunaga TK., Brown Jr., GE. Abiotic Se Redox Chemistry in the Presence of Fe(II, III)-oxides. *Science*, 278, 1106-1109 (1997).
- 53) Myneni SCB., Traina SJ., Logan TJ., and Waychunas GA. Oxyanion Behavior in Alkaline Environments: Sorption and Desorption of AsO₄³⁻ in Ettringite. *Environ. Sci. Technol.*, 31, 1761-1768 (1997).

Manuscripts in review/submitted

- 1) Dunham-Cheatham S., Farrell B., Mishra B., Myneni SCB, and Fein JB. The effect of natural organic matter on the adsorption of mercury to bacterial species. (*Geochim. Cosmochim. Acta*).
- 2) Von der Heyden BP., Hauser EJ., Mishra B., Martinez GA., Bowie A., Tyliczszak T., Mishali TN., Roychoudhury AN., Myneni SCB. Ubiquitous presence of Fe(II) in aquatic colloids and its association with organic carbon. (*Environ. Sci. & Technol. Letters*).
- 3) Mishra B., Shoenfelt E., Yee N., Fein J., Myneni SCB. Mercury-thiol complexes on bacterial cell envelopes. (*Environ. Sci. & Technol. Letters*).
- 4) Hongmei C., Hussain ANA., Sanders RL., Myneni SCB., Mopper K., Hatcher PG. Production of novel black carbon and aliphatic molecules from terrestrial organic matter in the presence of sunlight and iron. (submitted this week to *Science*).

INVITED TALKS

2014

- Frontiers in Synchrotron Environmental Science, Chicago (To be presented in September)
- Kaplan Symposium on Biogeochemistry- Where Earth Meets Biology, Jerusalem
- National Synchrotron Light Source Workshop on “Synchrotron Based Probes for Studying the Interactions Between Living Systems and the Environment”
- Department of Energy- Subsurface Biogeochemical Research Conference, DC
- Department of Energy, Environmental, and Chemical Engineering, Washington University, St. Louis.
- Keynote, Soil-Water-Plant Summit, Washington University, St. Louis
- Symposium on “Biogeochemistry in support of climate-land modeling”. American Chemical Society National Meetings

2013

- Monte Verita Conference on Iron Biogeochemistry: From molecular processes to global cycles, Ascona, Switzerland
- Symposium on the “Chemistry of light elements at environmental interfaces”. American Chemical Society National Meetings, New Orleans
- Clay Minerals Society Workshop on Synchrotron Applications to Clay Minerals, Urbana-Champaign, Illinois
- Workshop on Carbon Cycle in Soils, Stanford, California

2012

- Telluride Conference on Biogeochemistry and Redox Chemistry of Iron, Telluride, CO
- Workshop on Rock & Cell: From the Meso to the Nanoscale with X-ray Spectromicroscopy, Brookhaven National Laboratory, NY

2011

- Institute of Biogeochemistry & Pollutant Dynamics, ETH, Switzerland
- Chemodynamics and Biointerfaces: Bioavailability and Biological Effects of Chemicals in the Environment, Ascona, Switzerland
- Workshop on supercritical CO₂ and material interactions, Brookhaven National Laboratory, NY

2009

- American Vacuum Society, Symposium on In-situ Spectroscopy- Interfacial Science & Catalysis, San Jose, CA
- International Summit on Cement Hydration Kinetics, Quebec City, Quebec, Canada

2008

- Canadian Light Source, Workshop on synchrotron applications in Geo and environmental and geosciences
- NSLSII Workshop on Synchrotron Facilities for Geological & Environmental Sciences
- Warren Lecture, Department of Civil Engineering, University of Minnesota
- American Chemical Society National Meetings, New Orleans

2007

- Department of Civil Engineering & Geological Sciences, University of Notre Dame
- User’s Conference, Stanford Linear Accelerator Center, Stanford
- Workshop on spectromicroscopy studies in soft X-ray region, Stanford Linear Accelerator Center, Stanford, CA

- Advanced Photon Source, Argonne National Laboratory, Chicago
- Workshop on Tender X-ray Spectroscopy, National Synchrotron Light Source, Brookhaven National Laboratory, NY

2006

- European Mineralogical Society Meetings, Bath, UK
- Keynote, World Congress of Soil Science, Philadelphia
- Keynote, Frontiers in Geochemistry. American Chemical Society National Meetings, San Francisco
- Workshop on Spectromicroscopy, Advanced Photon Source, Argonne National Laboratory, Chicago.
- National Synchrotron Light Source, Brookhaven National Laboratory

2005

- United Kingdom Synchrotron Research User's Conference (had to be cancelled in the last minute because of a health problem)
- BES Workshop on Surface and Interfacial Sciences
- Goldschmidt Conference, Moscow, Idaho
- Pacifichem Conference, Hawaii

2004

- State University of New York, Stony Brook
- Canadian Light Source, University of Saskatchewan
- Soil Science Society of America, Symposium on Biogeochemical Cycling of Elements in Soils, Seattle
- Stanford Synchrotron Radiation Laboratory
- Workshop on Frontiers in Soft X-ray, VUV, and Infrared Research; Synchrotron Research Center, University of Wisconsin, Madison, WI
- Gordon Research Conference, Organic Geochemistry
- Gordon Research Conference, Environmental Chemistry (Water)
- Scientific Advisory Committee, Advanced Light Source, Berkeley
- Clay Minerals Society Symposium on Microbe-Mineral Interactions, Richland
- DOE/NSF Workshop on Research Facilities in Geosciences, Washington DC
- Future Directions in Actinide Chemistry, NSF/DOE Workshop, May (Could not attend)
- Department of Geosciences, University of Chicago, May (Could not accept)
- Key Note Speaker, International Humic Substance Society Conference, Boston

2003

- Turner Lecture, Department of Geological Sciences, University of Michigan, MI
- Environmental Research Division, Argonne National Laboratory, Argonne, IL
- Telluride Conference on Aqueous Geochemistry, Telluride, CO
- NABIR(DOE)/ Stanford Synchrotron Radiation Laboratory Workshop (could not attend)
- American Chemical Society, Princeton Chapter
- Guest Lecture, Center for Environmental Molecular Science, State University of New York, Stony Brook
- Mesilla Conference on Interfacial Phenomena, Mesilla de Mesilla, NM
- Argonne National Laboratory/DOE Workshop, Argonne, IL

2002

- Goldschmidt Conference, Switzerland
- Mineralogical Society of America, Monterey, CA
- National Synchrotron Light Source, Brookhaven National Laboratory, Brookhaven, NY

2001

- Department of Soil & Environmental Sciences, University of Delaware
- Goldschmidt Conference, VA
- Department of Civil & Environmental Engineering, Johns Hopkins University, Baltimore, MD

2000

- International Conference on Electron Spectroscopy, Berkeley, CA
- Mineralogical Society of America, Geochemistry of Sulfate, Lake Tahoe, CA
- ETH, Switzerland (could not attend because of VISA related issues and teaching duties)
- DOE (Basic Energy Sciences) Workshop on Surface Chemical Processes, Washington, DC
- XAS Workshop on sulfur containing systems, Stanford Synchrotron Radiation Laboratory, Stanford, CA
- Advanced Photon Source, User's Conference, Chicago
- American Chemical Society, Washington, DC

1999

- International Conference on X-ray Microscopy, Berkeley
- Department of Geological and Environmental Sciences, Stanford University, Stanford, CA
- Department of Civil and Environmental Engineering, Stanford University
- User's Conference, Advanced Light Source
- User's Conference, Stanford Synchrotron Radiation Laboratory, Stanford, CA

1998

- Department of Geological and Environmental Sciences, Stanford University, Stanford, CA
- Department of Earth Sciences, Pennsylvania State University, PA
- Department of Geosciences, Princeton University, Princeton, NJ
- DOE/ NABIR workshop on biogeochemistry of contaminated systems, Washington DC
- DOE (Basic Energy Sciences) Workshop on Aqueous Geochemistry & Interfacial Phenomena, Pascoe, WA
- Department of Environmental Science, Policy and Management, University of California, Berkeley
- American Chemical Society National Meetings

1996

- Department of Geological and Environmental Sciences, Stanford University, Stanford, CA
- Department of Environmental Science, Policy and Management, University of California, Berkeley, CA
- Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA
- Department of Civil & Environmental Engineering, Stanford University, Stanford, CA
- Earth Sciences Division, Lawrence Livermore National Laboratory, Livermore, CA

1995

- Earth Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA
- Wyoming Research Center, Laramie, WY