Christopher S. Kim

Schmid College of Science and Technology
Chapman University
One University Drive
Orange, CA 92866

(714) 628-7363
(714) 532-6048 (FAX)
cskim@chapman.edu
http://www.chapman.edu/envgeo

EDUCATION

Stanford University, Stanford, California — 2002
Ph.D., Department of Geological and Environmental Sciences

Princeton University, Princeton, New Jersey — 1995
A.B. *summa cum laude*, Department of Geology
Certificate, Program in Environmental Studies

PROFESSIONAL EXPERIENCE

Professor, Schmid College of Science and Technology, Chapman University — 2016-present
Associate Dean of Academic Programs, Schmid College of Science and Technology, Chapman University — 2014-present
Director, Office of Undergraduate Research, Chapman University — 2011-2015
Associate Professor, School of Earth and Environmental Sciences, Chapman University — 2010-2016
Visiting Scholar, School of Engineering and Applied Sciences and School of Public Health, Harvard University — 2010-2011
Assistant Professor, Department of Chemistry, Chapman University — 2004-2010
Post-Doctoral Research Fellow, Earth Sciences Division, Lawrence Berkeley National Laboratory / Dept. of Earth and Planetary Sciences, University of California-Berkeley — 2002-2004

RESEARCH INTERESTS

- Distribution, transport and transformation of trace metal(loid)s in mine wastes
- Bioaccessibility and bioavailability of toxic metal(loid)s in contaminated soils and sediments
- Iron oxyhydroxide nanoparticle growth, aggregation, and reaction mechanisms in aqueous systems
- Synchrotron-based spectroscopic and microscopic methods for mineralogical/geochemical analysis

TEACHING EXPERIENCE

- Physical Geology/Lab (ENV 111/111L)
- Environmental Geology (ENV 301)
- Environmental Research (ENV 291/491)
- Senior Environmental Capstone (ENV 498)
- General Chemistry Lab (CHEM 140L/150L)
- Inorganic Chemistry/Lab (CHEM 301/302)
- Aquatic Chemistry (CHEM 326)
- Environmental Geochemistry (CHEM 327)

AWARDS AND HONORS

- Award in Mentorship of Undergraduate Research and Creative Activity, Chapman University (2017)
- Award for Pedagogical Innovation, Chapman University (2015)
- Chapman University Wang-Fradkin Senior Professorship Award, recognizing one tenured professor each year for exceptional merit in scholarly and creative activity (2014)
- Award for Curricular Innovation in Sustainability Education, Chapman University (2013)
- Emerging Investigator (1 of 15 featured in special issue), Journal of Environmental Monitoring (2012)
- Invited participant, 14th annual Chinese-American Kavli Frontiers of Science symposium, co-sponsored by the U.S. National Academy of Sciences and the Chinese Academy of Science (2011)
- Invited presenter, National Science Foundation-sponsored workshop on "Nanomaterials and the Environment: The Role of Chemistry" (2011)
- Elected Councilor, Council on Undergraduate Research, Geosciences Division (2010-2016)
- Henry Dreyfus Teacher-Scholar Award, The Camille & Henry Dreyfus Foundation (2010)
- Invited presenter, National Science Foundation-sponsored Futures in Geobiology and Low-Temperature Geochemistry Workshop (2010)
- National Science Foundation CAREER award recipient (2009-2014)

CURRENT RESEARCH FUNDING AND SUPPORT

REU Site: Summer Undergraduate Research Fellowships in Environmental and Ecological Sciences (SURFEES)." National Science Foundation - Research Experiences for Undergraduates (NSF-REU) Site award. $395,667 (2018-2021).

"Mechanisms of nanoparticle aggregation and corresponding effects on metal sorption, desorption, and incorporation processes." National Science Foundation – Division of Chemistry (Environmental Chemical Sciences program) award. $270,000 (2016-2019).

"Environmental Geochemistry Research Fund." Gift fund established by private donor to Environmental Geochemistry Laboratory. $300,000 (ongoing, established 2015).

"Environmental Geochemistry Laboratory Endowment." Endowment established by private donor to Environmental Geochemistry Laboratory. $100,000 (ongoing, established 2013).

"Correlating arsenic speciation and spatial distribution in mine wastes with arsenic bioaccessibility." SSRL Beamtime Proposal 4550. Facility access proposal (2016-2019).

EDUCATIONAL AND PROFESSIONAL ACTIVITIES

- Expert witness, Environmental Defender Law Center (EDLC) (2016-2018)
- Session Co-chair, "Geochemical reactivity of nanoparticles, aggregates, coatings and organo-nanoparticulate flocculates," American Chemical Society National Meeting, San Diego, CA (2016)
- Co-chair, Council on Undergraduate Research (CUR) Biennial Conference (2016)
- Co-leader, National Science Foundation Workshop on "Early Career Geoscience Faculty: Teaching, Research, and Managing Your Career" (2014)
- Co-leader, Reviews in Mineralogy and Geochemistry (RiMG) short course on "Environmental Geochemistry, Mineralogy, and Microbiology of Arsenic" (2014)
- Technical Assistance/Expert Witness, State of California Attorney General (2013-2016)
- Co-host, Council on Undergraduate Research (CUR) Annual Business Meeting (2013)
- Co-organizer, Undergraduate Research Program Directors Conference (2013)
- Session Co-chair, "Biogeochemical influences on metal bioavailability in contaminated soils and sediments", 22nd V.M. Goldschmidt Conference, Montreal, Canada (2012)
- Session Co-chair, "Assessing the effective reactivity of aggregated environmental nanomaterials", Division of Geochemistry, American Chemical Society National Meeting, Denver, CO (2011)
- Associate Editor, *Geochimica et Cosmochimica Acta* (2010-2015)
- Treasurer, Geochemistry Division, American Chemical Society (2010-2013)
- Session Co-chair, "Spectroscopic Investigations of Metal Interactions at Mineral/Water/Microbial Interfaces", Division of Geochemistry, American Chemical Society National Meeting, San Francisco, CA (2010)
- Member, Executive Committee, Human Health and Environmental Consequences of Metal Mining and Smelting (2009-2011)
- Chair, Environmental Science & Policy Curriculum Committee (2009-2010, 2011-2013)
- Instructor, Chapman University Watershed Certificate Program (2009-2011)
- Chair, Synchrotron and Neutron Users Group (SNUG) (2008-2010)
- Instructor, Project SMART (K-2nd grade education), Chapman University (2008-2010)
- Instructor, Collaboration for Success in Science Partnership (3rd/4th grade education), California Mathematics and Science Partnership, Department of Education (2006-2008)
- Co-chair, 33rd Annual SSRL Users Meeting, Stanford, CA (2006)
- Session Co-chair, "Nanoscale Size Effects on Geochemical Processes: Reactivity, Kinetics, and Pathways," 16th Annual V.M. Goldschmidt Conference, Melbourne, Australia (2006)
- Mentor, Troy Tech High School summer internship program (2005-2012)

- Environmental consultant, Geologica Inc. (2003-2004)
- Proposal reviewer, National Science Foundation-Division of Earth Sciences (EAR), National Science Foundation-Research Experiences for Undergraduates (REU), National Science Foundation-Graduate Research Fellowship Program (GRFP), American Chemical Society-Petroleum Research Fund, Stanford Synchrotron Radiation Lightsource, Canadian Light Source
- Manuscript reviewer, *American Mineralogist, Applied Geochemistry, Chemical Geology, Environmental Geochemistry and Health, Environmental Science & Technology, Environmental Science: Nano, Geochemical Transactions, Geochimica et Cosmochimica Acta, Journal of Colloid and Interface Science, Journal of Environmental Monitoring, Journal of Nanoparticle Research, Nature Communications, PLOS One, Science, Science of the Total Environment, Soil Systems, Water Research*
- Member, American Chemical Society (2001-present), American Geophysical Union (1999-present), Geological Society of America (1999-present), The Geochemical Society (1999-present)

PUBLICATIONS (student authors underlined) **Google Scholar h-index: 18**

1. O'Connor, K.P., Rosales, R.A., Whiteman, K.K., and **Kim, C.S.** Wetting/drying cycles influence arsenic bioaccessibility in mine-impacted sediments. *Environmental Geochemistry and Health (in preparation)*.

2. Anthony, T.L., Francies, J.M., Shdo, S.M., and **Kim, C.S.** (2018) Particle size-dependent trends in arsenic bioaccessibility through *in vitro* extractions of mine wastes. *Journal of Hazardous Materials(in preparation)*.

3. Poulin, B.A., Gerbig, C.A., Kim, C.S., Stegemeier, J.P., Ryan, J.N., and Aiken, G.R. (2017) Effects of sulfide concentration and dissolved organic matter characteristics on the structure of nanocolloidal metacinnabar. *Environmental Science & Technology* **51**(22), 13133-13142. http://dx.doi.org/10.1021/acs.est.7b02687

4. **Kim, C.S.**, Leahy, A., and Kendrick, L. (2017) Credit where credit is due: The faculty-student research banking system as a means to incentivize faculty-mentored research. *Scholarship and Practice of Undergraduate Research* **1**(1):1-8. http://dx.doi.org/10.18833/spur/1/1/8

5. Dale, J.G., Stegemeier, J.P., and **Kim, C.S.** (2015) Aggregation of nanoscale iron oxyhydroxides and corresponding effects on metal uptake, retention, and speciation: I. Ionic-strength and pH. *Geochimica et Cosmochimica Acta* **148**, 100-112. http://dx.doi.org/10.1016/j.gca.2014.08.029

6. Stegemeier, J.P., Reinsch, B.C., Lentini, C.J., Dale, J.G., and **Kim, C.S.** (2015) Aggregation of nanoscale iron oxyhydroxides and corresponding effects on metal uptake, retention, and speciation: II. Temperature and time. *Geochimica et Cosmochimica Acta* **148**, 113-129. http://dx.doi.org/10.1016/j.gca.2014.08.031

7. Foster, A.L., and **Kim, C.S.** (2014) Arsenic speciation in solids using X-ray absorption spectroscopy. In Arsenic: Environmental Geochemistry, Mineralogy, and Microbiology, Reviews in Mineralogy and Geochemistry, Bowell, R.J., Alpers, C.N., Jamieson, H.E., Nordstrom, D.K., and Majzlan, J. (Eds.) **79**, 257-369. http://www.minsocam.org/msa/rim/rim79.html

8. **Kim, C.S.**, Anthony, T., Goldstein, D., and Rytuba, J.J. (2014) Windborne transport and surface enrichment of arsenic in semi-arid mining regions: examples from the Mojave Desert, California. *Journal of Aeolian Research* **14**, 85-96. http://dx.doi.org/10.1016/j.aeolia.2014.02.007

9. Chesne, R.B., and **Kim, C.S.** (2014) Zn(II) and Cu(II) adsorption and retention onto iron oxyhydroxide nanoparticles: effects of particle aggregation and salinity. *Geochemical Transactions* **15**(6). http://dx.doi.org/10.1186/1467-4866-15-6

10. Kim, C.S., and Shafie, D.M. (2014) Designing the campus environmental audit as a senior capstone course: achieving the triple bottom line. *CUR Quarterly on the Web* **34**(4). http://www.cur.org/download.aspx?id=3026

11. **Kim, C.S.**, Chi, C., Miller, S.R., Sugihara, E.S., Akau, J. Rytuba, J.J., and Webb, S.M. (2013) (Micro)spectroscopic analyses of particle size dependence on arsenic distribution and speciation in mine wastes. *Environmental Science & Technology* **47**, 8164-8171. http://dx.doi.org/10.1021/es4010653

12. Wang, Q., Nemoto, M., Li, D., Weaver, J. C., Weden, B., Stegemeier, J., Bozhilov, K. N., Wood, L. R., Milliron, G. W., **Kim, C. S.**, DiMasi, E. and Kisailus, D. (2013) Phase transformations and structural developments in the radular teeth of *Cryptochiton Stelleri*. *Advanced Functional Materials* **23**(23), 2908-2917. http://dx.doi.org/10.1002/adfm.201202894

13. **Kim, C.S.**, Stack, D.H., and Rytuba, J.J. (2012) Fluvial transport and surface enrichment of arsenic in semi-arid mining regions: examples from the Mojave Desert, California. *Journal of Environmental Monitoring (*special issue on emerging investigators, inside cover article) **14**, 1798-1813. http://dx.doi.org/10.1039/c2em30135k

14. Gerbig, C.A., **Kim, C.S.**, Stegemeier, J.P., Ryan, J.N., and Aiken, G.R. (2011) Formation of nanocolloidal metacinnabar in mercury-DOM-sulfide systems. *Environmental Science & Technology* **45**(21), 9180-9187. http://dx.doi.org/10.1021/es201837h

15. **Kim, C.S.**, Wilson, K.M., and Rytuba, J.J. (2011) Particle-size dependence on metal distributions in mine wastes: implications for water contamination and human exposure. *Applied Geochemistry* **26**, 484-495. http://dx.doi.org/10.1016/j.apgeochem.2011.01.007

16. Jew, A.D., **Kim, C.S.**, Rytuba, J.J., Gustin, M.S., and Brown, G.E. Jr. (2011) A new technique for quantification of elemental Hg in mine wastes and its implications for mercury evasion into the atmosphere. *Environmental Science & Technology* **45**(2), 412-417. http://dx.doi.org/10.1021/es1023527

17. Reinsch, B.C., **Kim, C.S.**, and Lowry, G.L. (2010) Chemical transformations during aging of zero-valent iron nanoparticles in the presence of common groundwater dissolved constituents. *Environmental Science & Technology* **44**(9), 3455–3461. http://dx.doi.org/10.1021/es902924h

18. Gilbert, B., Ching, K.A., Ono, R.K., and **Kim, C.S.** (2009) The effects of nanoparticle aggregation processes on aggregate structure and metal uptake. *Journal of Colloid and Interface Science* **339**(2), 285-295. http://dx.doi.org/10.1016/j.jcis.2009.07.058

19. **Kim, C.S.**, Lentini, C.J., and Waychunas, G.A. (2008) Synchrotron-based studies of metal adsorption and structural incorporation with iron oxyhydroxide nanoparticles. In *Adsorption of Metals By Geomedia II*, Barnett, M. (Ed.), Elsevier Academic Press, 153-185. http://dx.doi.org/10.1016/S1571-9197(07)07006-1

20. Gilbert, B., Lu, G. and **Kim, C.S.** (2007) Stable cluster formation in aqueous suspensions of iron oxyhydroxide nanoparticles. *Journal of Colloid and Interface Science* **313**, 152-159. http://dx.doi.org/10.1016/j.jcis.2007.04.038

21. **Kim, C.S.** (2005) Speciation of mercury using synchrotron radiation. In Mercury: Sources, Measurements, Cycles, and Effects, Parsons, M.B. and Percival, J.B. (Eds.), Halifax, Canada, Mineralogical Association of Canada Short Course Volume **34**, 95-122. http://dx.doi.org/10.2113/gsecongeo.101.1.250

22. **Kim, C.S.** (2005) Adsorption mechanisms of heavy metals. In Heavy Metal Ions in the Environment: Origin, Interaction and Remediation, Bradl, H. (Ed.), Amsterdam, Elsevier Academic Press, 269 p. ISBN-13: 978-012088381

23. Waychunas, G.A., **Kim, C.S.**, and Banfield, J.F. (2005) Nanoparticulate oxide minerals in soils and sediments: unique properties and contaminant scavenging mechanisms. *Journal of Nanoparticle Research* **7**, 409-433. http://dx.doi.org/10.1007/s11051-005-6931-x

24. Lowry, G.V., Shaw, S., **Kim, C.S.**, Rytuba, J.J., and Brown, G.E. Jr. (2004) Macroscopic and microscopic observations of particle-facilitated mercury transport from New Idria and Sulphur Bank mercury mine tailings. *Environmental Science & Technology* **38**(19), 5101-5111. http://dx.doi.org/10.1021/es034636c

25. **Kim, C.S.**, Rytuba, J.J., and Brown, G.E. Jr. (2004) EXAFS study of Hg(II) sorption to Fe- and Al-(hydr)oxide surfaces: I. Effects of pH. *Journal of Colloid and Interface Science* **271**(1), 1-15. http://dx.doi.org/10.1016/S0021-9797(03)00330-8

26. **Kim, C.S.**, Rytuba, J.J., and Brown, G.E. Jr. (2004) EXAFS study of Hg(II) sorption to Fe- and Al-(hydr)-oxide surfaces: II. Effects of chloride and sulfate. *Journal of Colloid and Interface Science* **270**(1), 9-20. http://dx.doi.org/10.1016/j.jcis.2003.07.029

27. **Kim, C.S.**, Rytuba, J.J., and Brown, G.E. Jr. (2004) Geological and anthropogenic factors influencing mercury speciation in mine wastes: an EXAFS spectroscopy study. *Applied Geochemistry* **19**(3), 379-393. http://dx.doi.org/10.1016/S0883-2927(03)00147-1

28. **Kim, C.S.**, Bloom, N.S., Rytuba, J.J., and Brown, G.E. Jr. (2003) Mercury speciation by X-ray absorption fine structure spectroscopy and sequential chemical extractions: a comparison of speciation methods. *Environmental Science & Technology* **37**(22), 5102-5108. http://dx.doi.org/10.1021/es0341485

29. Sladek, C., Gustin, M.S., **Kim, C.S.**, and Biester, H. (2002) Assessment of three methods for determining mercury speciation in mine waste. *Geochemistry, Exploration, Environment, Analysis* **2**(4), 369-375. http://dx.doi.org/10.1144/1467-787302-036

30. Gustin, M.S., Biester, H., and **Kim, C.S.** (2002) Investigation of the light enhanced emission of mercury from naturally enriched substrate. *Atmospheric Environment* **36**, 3241-3254. http://dx.doi.org/10.1016/S1352-2310(02)00329-1

31. **Kim, C.S.**, Brown, G.E. Jr., and Rytuba, J.J. (2000) Characterization and speciation of mercury-bearing mine wastes using X-ray absorption spectroscopy (XAS). *Science of the Total Environment* **261**(1-3), 157-168. http://dx.doi.org/10.1016/S0048-9697(00)00640-9

32. **Kim, C.S.**, Rytuba, J.J., and Brown, G.E. Jr. (1999) Utility of EXAFS in speciation and characterization of mercury-bearing mine wastes. *Journal of Synchrotron Radiation* **6**, 648-650. http://dx.doi.org/10.1107/S0909049598016197

33. **Kim, C.S.**, Yates, D.M., and Heaney, P.J. (1997) The layered sodium silicate magadiite: analog to smectite for benzene sorption from water. *Clays and Clay Minerals* **45**(6), 881-885. http://dx.doi.org/10.1346/CCMN.1997.0450612

REPORTS

Rytuba, J.J., **Kim, C.S.**, and Goldstein, D.G. (2011) Review of samples of sediment, tailings, and waters adjacent to the Cactus Queen gold mine, Kern County, California: U.S. Geological Survey Open-File Report 2011-1034, 34 p. http://pubs.usgs.gov/of/2011/1034/

Rytuba, J.J., Hothem, R.L., May, J.T., **Kim, C.S.**, Lawler, D., Goldstein, D., and Brussee, B.E. (2009) Environmental impact of the Helen, Research, and Chicago mercury mines on water, sediment, and biota in upper Dry Creek watershed, Lake County, California: U.S. Geological Survey Open-File Report 2008-1382, 59 p. http://pubs.usgs.gov/of/2008/1382/

Rytuba, J.J., Hothem, R.L., May, J.T., **Kim, C.S.**, Lawler, David, and Goldstein, D. (2009) Environmental impact of the Contact and Sonoma mercury mines on water, sediment, and biota in Anna Belcher and Little Sulphur Creek watersheds, Sonoma County, California: U.S. Geological Survey Open-File Report 2008-1381, 76 p. http://pubs.usgs.gov/of/2008-1381/

SELECTED CONFERENCE PRESENTATIONS (student authors underlined)

Kim, C.S., Burtis, N., Cooper, J.C., and Hok, S. "Arsenic distribution and speciation in mine wastes: developing a proxy for long-term exposure risk." Invited oral presentation at 27th annual V.M. Goldschmidt Conference, August 2017, Paris, France.

Kim, C.S. "Nanoscale iron hydroxides: unique properties and contaminant scavenging mechanisms (a brief history)." Invited oral presentation at 253rd American Chemical Society National Meeting, April 2017, San Francisco, CA.

Kim, C.S., El-Askary, H.M., Hellberg, R. "The Summer Undergraduate Research Fellowship in Earth and Environmental Sciences (SURFEES) Program: Targeting Community College Students through Research Experiences at 4-Year Colleges." Oral presentation at 2016 Biennial Council on Undergraduate Research Conference, June 2016, Tampa, FL.

Kim, C.S., Leahy, A., Kendrick, L. "Credit where credit is due: The faculty-student research banking system as a means to incentivize faculty-mentored research." Oral presentation at 2016 Biennial Council on Undergraduate Research Conference, June 2016, Tampa, FL.

Kim, C.S. "Enhanced distribution and bioavailability of arsenic as an outcome of gold mining processes." Invited oral presentation at 251st American Chemical Society National Meeting, March 2016, San Diego, CA.

Kim, C.S. "Effects of aggregation, ligand complexation and time on metal adsorption/retention to iron oxyhydroxide nanoparticles." Invited oral presentation at 25th annual V.M. Goldschmidt Conference, August 2015, Prague, Czech Republic.

Kim, C.S., and Foster, A.L. "The Environmental Legacy of California's Gold Rush: Arsenic and Mercury Contamination from Historic Mining." Invited plenary presentation at 24th annual V.M. Goldschmidt Conference, June 2014, Sacramento, CA.

Kim, C.S., Chesne, R.B., and Burns, L.E. "Influences of aggregation on nanoparticle adsorption and retention of dissolved Zn(II) and Cu(II)." Invited oral presentation at 246th American Chemical Society National Meeting, September 2013, Indianapolis, IN.

Kim, C.S., Stack, D.H., and Rytuba, J.J. "Fluvial and windborne transport of arsenic-bearing mine tailings in semi-arid environments." Oral presentation at 22nd annual V.M. Goldschmidt Conference, June 2012, Montreal, Canada.

Kim, C.S. "Particle size dependence on arsenic and other trace element concentrations in mine waste material from the Empire Mine, California." Oral presentation at National Association of Abandoned Mine Lands Programs annual conference, November 2011, Squaw Valley, CA.

Kim, C.S. "Aggregation of nanoscale iron oxyhydroxides and corresponding effects on metal uptake, retention, and speciation." Invited poster presentation at the Fourteenth Annual Chinese-American Kavli Frontiers of Science Symposium, November 2011, Shenzhen, China.

Kim, C.S., Dale, J.G., Stegemeier, J.P., and Gilbert, B. "Structural incorporation as a means of metal sequestration into nanoparticle aggregates." Invited oral presentation at 240th American Chemical Society national meeting, October 2010, Denver, CO.

Kim, C.S., and Rytuba, J.J. "(Micro)spectroscopic investigations of arsenic speciation trends in mine wastes." Oral presentation at 20th V.M. Goldschmidt geochemistry conference, June 2010, Knoxville, TN.

Kim, C.S., Dale, J.G., Stegemeier, J.P., and Gilbert, B. "Effects of nanoparticle aggregation on metal uptake, retention, and speciation." Invited oral presentation at Geological Society of America Annual Meeting, October 2009, Portland, OR.

SELECTED INVITED LECTURES/SEMINARS

- Orange Chamber of Commerce – Business Leaders Group, May 2018
- University of Southern California, Department of Earth Sciences, October 2017
- Orange High School, June 2016, June 2015
- American Chemical Society – Orange County Chapter, February 2016, October 2013
- United States Geological Survey, March 2015
- Pomona College, Department of Geology, October 2013
- The University of Arizona, Superfund Research Program (*Airborne Mineral Dust Contaminants: Impacts on Human Health and the Environment*), May 2013
- University of Oklahoma, School of Geology and Geophysics, October 2012
- Unix Users Association of Southern California, April 2012
- Assumption College, Department of Natural Sciences, March 2011
- Harvard University, Kennedy School of Government, CA Professional Interest Council, April 2010
- University of California Riverside, Department of Chemical and Environmental Engineering, February 2010
- Harvard University, School of Public Health, Department of Environmental Health, January 2010
- University of Athens (Greece), Department of Physics, December 2009
- San Francisco State University, Department of Chemistry and Biochemistry, December 2009
- Harvard University, Environmental Science and Engineering Seminar Series, School of Engineering and Applied Sciences, November 2009
- Florida International University, Department of Chemistry and Biochemistry, February 2009.
- Yonsei University (South Korea), Institute of Earth-Atmosphere-Astronomy and Institute of Groundwater and Soil Environment, January 2009
- Seoul National University (South Korea), School of Earth and Environmental Sciences, January 2009
- Carnegie-Mellon University, Inaugural environmental seminar at the Center for the Environmental Implications of Nanotechnology (CEINT), November 2008
- California State University Fullerton, Department of Chemistry & Biochemistry, September 2008
- Environmental Protection Agency Region 9, April 2008
- Whittier College, Environmental Colloquium, February 2008
- Rutgers University, Center for Environmental Prediction, Department of Environmental Sciences, September 2007
- University of Wisconsin-Madison, Department of Geology and Geophysics, April 2007