Daniel E. Giammar, Ph.D., P.E.

Department of Energy, Environmental and
Chemical Engineering
Washington University
Campus Box 1180
1 Brookings Drive
St. Louis, Missouri 63130
(314) 935-6849 (O); (314) 935-7211 (fax)

6924 Amherst Ave.
St. Louis, Missouri 63130
(314) 915-9065

giammar@wustl.edu; dgiammar@princeton.edu
www.seas.wustl.edu/user/degiammar/ACL

Education

California Institute of Technology, Pasadena, California

Doctor of Philosophy, Environmental Engineering Science, June 2001

Thesis: "Geochemistry of uranium at mineral surfaces: Rates of sorption-desorption and dissolution-precipitation reactions"

Master of Science, Environmental Engineering Science, June 1998

Carnegie Mellon University, Pittsburgh, Pennsylvania

Bachelor of Science, Civil Engineering, with honors, May 1996

Academic and Professional Appointments

Washington University, St. Louis, Missouri, 2002-present

Walter E. Browne Professor of Environmental Engineering, 2014-present
Associate Professor, 2008-2014, Assistant Professor, 2002-2008
Department of Energy, Environmental and Chemical Engineering (2006-present)
Department of Civil Engineering (2002-2006)

Princeton University, Princeton, New Jersey, 2012-2013

William R. Kenan, Jr. Visiting Professor for Distinguished Teaching in the Department of Civil and Environmental Engineering and the Keller Center for Innovation and Engineering Education

University of Vienna, Vienna, Austria, November-December 2007

Guest Professor, Department of Earth Sciences, Geography, and Astronomy

Princeton University, Princeton, New Jersey, 2001-2002

Research Associate, Geosciences

California Institute of Technology, Pasadena, California, 1996-2001

Graduate Research Assistant, Environmental Engineering Science

Battelle Memorial Institute, Columbus, Ohio, Summers 1993-1996

Research Intern, Environmental Restoration

Publications (Selected Peer-Reviewed Journal Publications from a total of 61)

1. Mehta, V.S., Maillot, F., Wang, Z., Catalano, J.G. and D.E. Giammar, Transport of U(VI) through sediments amended with phosphate to induce *in situ* uranium immobilization, *Water Research*, 69: 307-317, 2015.
2. Wang, L, J.D. Fortner, and D.E. Giammar, Impact of water chemistry on elemental mobilization from Eagle Ford Shale, accepted in *Environmental Engineering Science*, October 2014.

3. Giammar, D.E., Wang, F., Guo, B., Surface, J.A., Peters, C.A., Conradi, M.S., and S.E. Hayes, Impacts of diffusive transport on carbonate mineral formation from magnesium silicate-CO_2-water reactions, *Environmental Science & Technology*, 48(24): 14344-14351, 2014.
4. Wang, Z., Xiong, W., Tebo, B.M. and D.E. Giammar, Oxidative UO_2 dissolution induced by soluble Mn(III), *Environmental Science & Technology*, 48(1): 289-298, 2014.
5. Wang, Y., Mehta, V., Welter, G.J., and D.E. Giammar, Effect of connection methods on lead release from galvanic corrosion, *Journal American Water Works Association,* E337-E351, 2013.
6. Hutchinson, T.J., Basappa, L., Dikshit, A., Luo, Y., Catalano, J.G. and D.E. Giammar, Fate of metals in fly ash during aging in laboratory-scale ash ponds, *Environmental Engineering Science*, 29(12): 1085-1091, 2012.
7. Singh, A., Catalano, J.G., Ulrich, K.-U. and D.E. Giammar, Molecular-scale structure of uranium(VI) immobilized with goethite and phosphate, *Environmental Science & Technology*, 46: 6604-6611, 2012.
8. Xie, Y. and D.E. Giammar, Effects of flow and water chemistry on lead release rates from pipe scales, *Water Research*, 45: 6525-6534, 2011.
9. Wan, W., Pepping, T.J., Banerji, T., Chaudhari, S., and D.E. Giammar, Effects of water chemistry on arsenic removal from drinking water by electrocoagulation, *Water Research*, 45: 384-392, 2011.
10. Ulrich, K.-U., Ilton, E., Sharp, J., Veeramani, H., Bernier-Latmani, R., Schofield, E., Bargar, J., and D.E. Giammar, Dissolution kinetics of biogenic UO_2 under oxidizing conditions and in the presence of carbonate, *Geochimica et Cosmochimica Acta*, 73(20): 6065-6083, 2009.
11. Zeng, H., Arashiro, M., and D.E. Giammar, Effects of water chemistry and flow rate on arsenate removal by adsorption to an iron oxide-based sorbent, *Water Research,* 42: 4629-4636, 2008.
12. Yan, B., Wrenn, B.A., Basak, S., Biswas, P., and D.E. Giammar, Microbial reduction of Fe(III) in hematite nanoparticles by *Geobacter sulfurreducens*, *Environmental Science and Technology*, 42(17): 6526-6531, 2008.
13. Xie, L. and D.E. Giammar, Equilibrium solubility and dissolution rate of the lead phosphate chloropyromorphite, *Environmental Science and Technology,* 41(23): 8050-8055, 2007.
14. Yuan, Z, Ramaswami, B., Casaletto, D., Falke, S., Angenent, L. T. and D.E. Giammar, Evaluation of chemical indicators for tracking and apportionment of phosphorus to Table Rock Lake in Southwest Missouri, USA, *Water Research,* 41: 1525-1533, 2007.

Teaching Experience

New courses developed: The Energy Water Nexus (Fall 2012 while on sabbatical at Princeton University – together with Eric Larson and Sankaran Sundaresan); Environmental Implications of Energy Technologies (Spring 2013 while on sabbatical at Princeton University); Aquatic Chemistry (Fall 2004); Sustainable Water Resources Engineering (Fall 2003)

Substantial revisions of existing courses: Introduction to Environmental Engineering (Spring 2003); Physical and Chemical Methods for Water Treatment (Spring 2004); Environmental Chemistry (Fall 2005); Environmental Engineering Laboratory (Spring 2011)

Courses Taught *(Semester taught, students in course, and overall course satisfaction evaluation score)*

Introduction to Energy, Environmental, and Chemical Engineering (ChE146A), co-taught with Jay Turner, Fall 2014, 40 students, 6.05/7.00; Fall 2013, 36 students, 5.53/7.00; Fall 2011, 53 students, 5.84/7.00; Fall 2010, 45 students, 6.35/7.00; Fall 2009, 47 students, 5.67/7.00; Fall 2008, 52 students, 5.31/7.00

Environmental Engineering Laboratory (ChE408A), Fall 2014, 11 students, 5.57/7.00; Fall 2013, 8 students, 6.00/7.00; Spring 2012, 5 students, 6.00/7.00; Spring 2011, 16 students, 5.00/7.00

Environmental Implications of Energy Technologies (CEE 304), Spring 2013, 79 students, 4.50/5.00.

Physical and Chemical Processes for Water Treatment (EECE588), Spring 2014, 10 students, 6.63/7.00; Fall 2011, 13 students, 6.63/7.00; Spring 2004, 2 students, 8.00/9.00

Environmental Chemistry (EECE443), Fall 2010, 38 students, 6.76/7.00; Fall 2009, 26 students, 5.94/7.00; Fall 2008, 39 students, 5.90/7.00; Fall 2007, 21 students, 8.54/9.00; Fall 2005, 18 students, 7.24/9.00.

Aquatic Chemistry (EECE 543), Fall 2004, 14 students; Fall 2006, 4 students.

Introduction to Environmental Engineering (EECE262), Spring 2010, 22 students, 6.60/7.00; Spring 2009, 23 students, 6.07/7.00; Spring 2008, 22 students, 6.94/7.00; Spring 2007, 48 students, 7.69/9.00; Spring 2006, 56 students, 6.48/9.00; Spring 2005, 51 students, 7.06/9.00; Spring 2004, 50 students; Spring 2003, 35 students

Sustainable Water Resources Engineering (Env/CE531), Fall 2003, 7 students, 8.29/9.00.

Doctoral Students and Post-doctoral Associates Advised

Ph.D. Students Graduated

Vrajesh Mehta, Ph.D. August 2014, Current position: Research Engineer, Philips 66.

Zimeng Wang, Ph.D. December 2013, Current position: Post-doctoral Researcher, Stanford University.
Fei Wang, Ph.D. August 2013, Current position: Post-doctoral Researcher, Virginia Tech.
Yin Wang, Ph.D. December 2012, Current position: Assistant Professor, University of Wisconsin - Milwaukee.
Yanjiao Xie, Ph.D. July 2010, Current position: Research Scientist, Nalco Corporation.
Abhas Singh, Ph.D. June 2010, Current position: Assistant Professor, Indian Institute of Technology - Kanpur.

Liyun Xie, Ph.D. May 2007, Current position: Environmental Engineer in Houston, Texas.
Hui Zeng, Ph.D. December 2008, Current position: Environmental Engineer in Houston, Texas.

Current Ph.D. Students

Yeunook Bae, Ph.D. expected May 2018, Geologic carbon sequestration.

Chao Pan, Ph.D. expected May 2017, Drinking water treatment for Cr(VI) removal.

Zezhen Pan, Ph.D. expected May 2017, Remediation of uranium-contaminated environments

Lin Wang, Ph.D. expected December 2014, Arsenic reactions with iron oxides for water treatment.
Wei Xiong, Ph.D. expected May 2016, Reactions involved in geologic carbon sequestration.

Post-doctoral Research Associate Advised

Jose Manuel Cerrato	Stability of biogenic uranium(IV)	2010-2013
Lisa Blue	Stability of biogenic uranium(IV)	2009-2010
Yun Luo	Speciation of metals in coal fly ash	2009-2011
Dr. Kai-Uwe Ulrich	Coupled uranium-manganese biogeochemical cycles	2006-2009
Yin Wang	Uranium remediation	2012-2013
Zimeng Wang	Iron biogeochemistry	2013-2014
Dr. Zhiwen Yuan	Chemical indicators for pollutant source apportionment.	2004-2005
Dr. Beizhan Yan	Microbially-mediated reduction of iron oxide nanoparticles	2006-2007

Honors and Awards Received by Students

- Vrajesh Mehta, Ph.D. student, Student Paper Competition Award Winner for the Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds.
- Zimeng Wang, Ph.D. student, 2013 Chinese Scholar Council Award for Outstanding Self-Financed Students Abroad.
- Zimeng Wang, Ph.D. student, 2013 Graduate Student Award in Environmental Chemistry from the American Chemical Society Division of Environmental Chemistry
- Matthew Ashner, B.S. Chemical Engineering, American Chemical Society Environmental Chemistry Division Undergraduate Award, 2012
- Yin Wang, Ph.D. student, Best Student Paper Award at 2011 Water Quality Technology Conference.
- Yanjiao Xie, Ph.D. student, 2010 Graduate Student Award of the American Chemical Society Division of Environmental Chemistry

Professional Service and Development

Licensed Professional Engineer in the State of Missouri, 2011-present

Editorial Positions

- Associate Editor, *Environmental Science & Technology,* 2014-present
- Associate Editor, *Geochimica et Cosmochimica Acta,* 2012-2013
- Member of Peer Review Editorial Board (2013-2014), Member of Journal Editorial Board (2014-present), *Journal – American Water Works Association*

Service to Professional Organizations

- Co-Organizer of Association of Environmental Engineering and Science Professors' workshop *Navigating the Academic Job Search*, University of Iowa, Iowa city, Iowa, July 26, 2009.
- Panelist on National Science Foundation CAREER Workshop, Golden, Colorado, July 14, 2014; Virginia Tech, Blacksburg, Virginia, July 29, 2007.
- Member of the Student Services Committee of the Association of Environmental Engineering and Science Professors, 2005-2012

Professional Association Memberships

American Academy of Environmental Engineers, American Chemical Society, American Society of Civil Engineers, American Water Works Association, Association of Environmental Engineering and Science Professors, The Geochemical Society, Water Environment Foundation

Tau Beta Pi Engineering Honor Society, Chi Epsilon Civil Engineering Honor Society, Phi Kappa Phi

Honors

Chemical Geology Most Cited Article 2005 to 2010, awarded in 2011
Emerson Excellence in Teaching Award, 2010
Department of Energy, Environmental and Chemical Engineering Teaching Award, 2009
Dean's Award for Excellence in Teaching, 2008
Environmental Science and Technology Excellence in Review Award, 2005
Association of Graduate Students Big Fish Award for Mentoring, 2005
EnvESA Professor of the Year, 2004
Caltech Graduate Dean's Award for Outstanding Community Service, 2001
National Science Foundation Graduate Research Fellowship, 1996-1999
Andrew Carnegie Society Scholar, 1995-1996
Carnegie Tradition Scholarship (half-tuition merit-based scholarship), 1992-1996
National Merit Scholarship, 1992-1996