

**BIOGRAPHICAL DATA OF
EUGENE JOSEPH LEBOEUF, PH.D., P.E.**

25 August 2010

**CURRENT
POSITION:**

Associate Professor of Civil and Environmental Engineering

ADDRESS:

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**AREAS OF
CONCENTRATION:**

Environmental Engineering, Water Resources Engineering
Water and Environmental Security, Engineering Management

**EDUCATION
CIVILIAN:**

B.S., (*magna cum laude*) Civil Engineering, May 1985
Rose-Hulman Institute of Technology, Terre Haute, Indiana

M.S., Industrial Engineering and Management Science, August 1986
Northwestern University, Evanston, Illinois

M.S., Civil Engineering (Environmental Engineering and Science), June 1993
Stanford University, Stanford, California

Ph.D., Environmental Engineering, May 1998
The University of Michigan, Ann Arbor, Michigan

Master of Strategic Studies, July 2010
U.S. Army War College, Carlisle Barracks, Pennsylvania

**EDUCATION
MILITARY:**

U.S. Army Airborne School, 1983
U.S. Army Engineer Officer Basic Course, 1987
U.S. Army Corps of Engineers: District Officer Contracting Course, 1988;
Contract Negotiation Course, 1989; Contracting Officer Representative
Course, 1989
U.S. Army Air Assault School, 1989
U.S. Army Ranger School, 1990
U.S. Army Engineer Officer Advanced Course, 1990
U.S. Army Combined Arms and Services Staff School, 1996
U.S. Army Command and General Staff Officer Course, 2004
U.S. Joint Forces Staff College, Adv. Joint Professional Military Ed., 2006
U.S. Army Reserve Battalion and Brigade Pre-Command Course, 2009
U.S. Army War College, 2010

REGISTRATION: Registered Professional Engineer, Tennessee, No. 00022904, 1992-Present
Registered Professional Engineer, Missouri, No. EN 024472, 1992-Present

SECURITY

CLEARANCE: Secret

**HONORS AND
AWARDS:**

Lewis D. Mantia Leadership Award, 1987, U.S. Army Engineer School, for top graduate of the U.S. Army Engineer Officer Basic Course

U.S. Army Achievement Medal, 1987, for performance as a combat engineer platoon commander in support of a mechanized infantry task force, 2nd Infantry Division, Republic of Korea

U.S. Army Commendation Medal, 1988, for performance as executive officer in charge of engineer task force for structural evaluation and humanitarian support following the Loma Prieta earthquake, California

Humanitarian Service Medal, 1988, U.S. Army, for humanitarian support during the Loma Prieta earthquake, California

General Douglas MacArthur Leadership Award, 1989, U.S. Army, as outstanding company-grade officer of entire U.S. Army Corps of Engineers

U.S. Army Meritorious Service Medal, 1990, for performance as Deputy Area Commander, Upper Cumberland Area Office, Nashville District Corps of Engineers

Thomas Jefferson Writing Award, 1990, U.S. Army Engineer School, for outstanding written historical analysis of Korean War

Commandant's Medal, 1990, U.S. Army Engineer School, for graduating second in the U.S. Army Engineer Officer Advanced Course, Fort Leonard Wood, Missouri

Bronze Star Medal, 1991, U.S. Army, for outstanding performance as combat engineer in support of the 1st Brigade, 3rd Armored Division, during combat operations in Operation Desert Storm

Southwest Asia Service Medal (with 2 Bronze Stars), 1991, Department of Defense, for service in U.S. military forces involved in the liberation of Kuwait during Operation Desert Storm

National Defense Service Medal, 1991, Department of Defense, for service in U.S. military during period of armed conflict

Kuwait Liberation Medal, 1991, Government of Saudi Arabia, for service in U.S. military forces involved in the liberation of Kuwait during Operation Desert Storm

Bronze de Fleury Medal, 1992, U.S. Army Engineer Regimental Association, for outstanding performance as a combat engineer

U.S. Army Meritorious Service Medal (first oak leaf cluster), 1992, for outstanding performance as Assistant Battalion Operations Officer and Instructor and Doctrine Writer, U.S. Army Engineer School

Kuwait Liberation Medal, 1996, Government of Kuwait, for service in U.S. military forces involved in the liberation of Kuwait during Operation Desert Storm

Valorous Unit Award, 1996, 1st Brigade, 3rd Armored Division, for service with 1st Brigade during Operation Desert Storm

Joint Meritorious Unit Award, 2004, Headquarters, U.S. Pacific Command, for exceptionally meritorious achievement from January 2002 to October 2004

Korean Defense Service Medal, 2004, 2nd Engineer Battalion, 2nd Infantry Division, for service in the Republic of Korea during the period February 1987 to April 1988

Joint Meritorious Unit Award (first oak leaf cluster), 2005, Headquarters, U.S. Pacific Command, for support activities related to the December 2004 tsunami in southeast Asia

Defense Meritorious Service Award, 2006, Headquarters, U.S. Pacific Command, Camp H.M. Smith, Hawaii, for exemplary service as an engineering plans and logistics officer and officer-in-charge for U.S. Army Individual Mobilization Augmentees

U.S. Army Meritorious Service Medal (second oak leaf cluster), 2010, for outstanding performance from April 2008 to May 2010 as Battalion Commander, 1st Battalion, 100th Regiment (Engineer), 1st Brigade (Engineer), 102nd Division (Maneuver Support)

Presentation Award, 1994, 50th Purdue Industrial Waste Conference

Outstanding First Presentation Award, 1998, Division of Environmental Chemistry, American Chemical Society

Outstanding Graduate Student Award, 1998, Division of Environmental Chemistry, American Chemical Society

National Science Foundation Faculty Early Career Development (CAREER) Award, 2000, Bioengineering and Environmental Systems Division, Directorate for Engineering, National Science Foundation

Publication: “Use of a First-Order Reliability Method and Lattice Boltzmann Method to Predict Permeability of Randomly-Generated Heterogeneous Porous Media” recognized as one of top 10 downloaded articles for 2005 for the journal *Advances in Water Resources* (Overall Rank: No. 6).

The Institute of International Education and NASPA: Student Affairs Administrators in Higher Education awarded the 2009 Bronze NASPA Excellence Award for the Vanderbilt Initiative for Scholarship and Global Engagement (VISAGE) program in the category “Careers, Academic Support, Service-Learning, Community Service and Related.” NASPA’s awards recognize excellence and innovation in student affairs programs and initiatives (served as one of three charter faculty in founding VISAGE program in 2008).

HONORARY SOCIETIES:

Tau Beta Pi (Indiana Beta)
Chi Epsilon (Michigan Beta)
Pi Mu Epsilon (Indiana Gamma)

PROFESSIONAL SOCIETIES:

American Chemical Society
American Geophysical Union
American Society of Civil Engineers (Member)
Association of Environmental Engineering and Science Professors
International Humic Substances Society
Reserve Officers Association of the United States
Tennessee Section, American Water Resources Association

TEACHING INTERESTS:

Physical and Chemical Processes in Environmental Systems
Surface Water Quality Modeling
Water Resources Engineering, Surface Water and Groundwater Hydrology

RESEARCH INTERESTS:

Physical and Chemical Processes in Environmental Systems
Contaminant Transport in the Environment
Water Resources Engineering
Geographic Information Systems
Management, Containment, and Disposal of Polluted Dredged Material
Environmental Management
Systems Engineering and Engineering Management
Military Engineering
Engineering Education

ACADEMIC EXPERIENCE:

2006-Present **ASSOCIATE CHAIR, DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING**, Department of Civil and Environmental Engineering, Vanderbilt University.

Responsible for teaching and conducting research in environmental engineering and water resources engineering at both undergraduate and graduate levels. Provide service to the engineering profession, university, and civic communities.

2005-Present **ASSOCIATE PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING**, Department of Civil and Environmental Engineering, Vanderbilt University. Responsible for teaching and conducting research in environmental engineering and water resources engineering at both undergraduate and graduate levels. Provide service to the engineering profession, university, and civic communities.

2005-Present **FACULTY FELLOW**, Vanderbilt Institute for Integrative Biosystems Research and Education (VIBRE), Vanderbilt University. Responsible for conducting research in environmental and biological engineering, including microfluidics devices and nanomaterial toxicity and transport.

1997-2004 **ASSISTANT PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING**, Department of Civil and Environmental Engineering, Vanderbilt University. Responsible for teaching and conducting research in environmental engineering and water resources engineering at both undergraduate and graduate levels. Provide service to the engineering profession, university, and civic communities.

1999 **SUMMER FACULTY RESEARCH FELLOW**, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee. Responsible for conducting research into sequestration of metal ion contaminants with natural organic matter; investigating novel physical and chemical methods to characterize natural organic matter.

1993-1997 **GRADUATE STUDENT RESEARCH AND TEACHING ASSISTANT**, Department of Civil and Environmental Engineering, The University of Michigan. Responsible for assisting Professor Walter J. Weber, Jr. in instruction of 60 undergraduate and 50 graduate engineering students in physical and chemical aspects of natural and engineered environmental systems. Responsible for research regarding development of mechanistic models to explain sorption, desorption, and transport behavior of hydrophobic organic chemicals in natural soils and aquifer sediments. Research incorporated novel approaches to investigating physical and chemical macromolecular characteristics of soil and sediment organic matter.

1993 **GRADUATE RESEARCH ASSISTANT**, Department of Civil Engineering, Stanford University. Responsible for research regarding cost estimates for hazardous waste remediation projects. Research incorporated innovative use of decision and economic analysis to recommend alternative remediation treatment technologies for varying site characteristics.

**OTHER
FULL-TIME
EXPERIENCE:**

1992 **INSTRUCTOR AND DOCTRINE WRITER**, U.S. Army Engineer School and Center, Fort Leonard Wood, Missouri. Responsible for instructing over 1400 engineering students per year in road and airfield design, and writing technical manuals for the U.S. Army Engineer School. Responsible for research and development of new engineer publications and school courses.

1991-1992 **ASSISTANT BATTALION OPERATIONS OFFICER**, 554th Engineer Battalion, Fort Leonard Wood, Missouri. Responsible for development and revision of U.S. Army courses presented by the U.S. Army Engineer School. Assisted in the supervision of seven soldiers and two civilians. Scheduled and coordinated training for over 1400 U.S. and international engineers each year.

1990-1991 **BATTALION MAINTENANCE OFFICER**, 12th Engineer Battalion, 1st Brigade, 3rd Armored Division, Iraq, Kuwait and Saudi Arabia. Senior staff officer in charge of logistical operations during Operation Desert Storm in Saudi Arabia, Iraq, and Kuwait. Supervised 32 specialized engineers and maintenance technicians, and budget of over \$1 million. Responsible for overseeing maintenance and recovery of over 500 types of equipment in mechanized engineer battalion to include heavy construction vehicles, communication systems, and tactical vehicles.

1988-1990 **DEPUTY AREA COMMANDER**, Upper Cumberland Area, Nashville District Corps of Engineers, Pineville, Kentucky. Responsible for assisting in the supervision and quality assurance of \$51 million worth of flood mitigation, hazardous waste remediation, bridge, tunnel, and highway construction, and for negotiating contracts and modifications. Conducted public briefings. Duty station at Upper Cumberland Area Office, Pineville, Kentucky.

1987-1988 **COMPANY EXECUTIVE OFFICER**, B Company, 2nd Engineer Battalion, 2nd Infantry Division, Camp Giant, Republic of Korea. Responsible for supervision and training of

60 U.S. and Korean construction engineers and technicians, and maintenance of 45 types of engineer equipment including heavy construction and tactical vehicles in support of the 2d Infantry Division, just south of the Demilitarized Zone. As second in command, ensured execution of the commander's policies.

1987 **PLATOON COMMANDER**, B Company, 2nd Engineer Battalion, 2nd Infantry Division, Camp Giant, Republic of Korea. Responsible for supervision and training of 36 U.S. and Korean engineers and technicians. Maintained 30 types of equipment including heavy construction and tactical wheeled vehicles. Task Force Engineer for 1/5th Mechanized Infantry Battalion.

1987 **ASSISTANT BATTALION LOGISTICS OFFICER**, 2nd Engineer Battalion, 2nd Infantry Division, Camp Castle, Republic of Korea. Coordinated supply and logistics services for 650+ soldier engineer battalion. Assisted in the supervision of 22 U.S. and Korean engineers and supply technicians.

1985 **OFFICER RECRUITER**, U.S. Army Gold Bar Recruiter Program, Rose-Hulman Institute of Technology, Terre Haute, Indiana. Responsible for recruiting applicants to the U.S. Army ROTC at nearby college campuses while awaiting start of graduate fellowship at Northwestern University.

U.S. ARMY

RESERVE (COL):

2010-Present **MILITARY CHIEF**, Emergency Operations Center, Pacific Ocean Division (POD), U.S. Army Corps of Engineers, Fort Shafter, Hawaii. Serve as the military chief responsible for provision of contingency operational support for natural disasters, training exercises, and wartime contingencies to U.S. Forces in the U.S. Pacific Command area of responsibility. Serves as assistant to the Division Commander in providing command, control, leadership, and strategic direction to 1800 military and Department of the Army civilian professionals organized in a headquarters and four other Army commands in Alaska, Hawaii, Japan, Korea, and Pacific Islands under U.S. Authority. Serves as officer in charge of all U.S. Army Individual Mobilization Augmentee personnel within POD.

: 2008-2010 **BATTALION COMMANDER**, 1st Battalion, 100th Regiment (Engineer), 1st Brigade (Engineer), 102nd Division (Maneuver Support), 80th Training Command (The Army School System), Knoxville, Tennessee. Serve as commander of unit consisting of over 130 Soldiers with command and control responsibility of one battalion, a separate detachment, and six battle assembly sites located in six states. Responsible for the planning, supporting, and execution of the national Engineer TASS (The

Army School System) mission. Provides Military Occupational Specialty (MOS) reclassification and Noncommissioned Officer Education School (NCOES) Phase II training to all branches of the Service and Department of Defense civilians. Manage, develop, and mentor subordinate officers and NCOs, battalion staff, and full-time unit support personnel. Responsible for the oversight and management of the battalion's annual budget of AT, RPA, and OMAR funds. Oversee all aspects of the command to include mission execution, readiness, and transformation.

2007-2008 **ASSISTANT DIVISION COMMANDER**, U.S. Army Corps of Engineers Pacific Ocean Division, Fort Shafter, Hawaii. Serve as Assistant Commander for a Major Subordinate Command of the U.S. Army Corps of Engineers in Alaska, Hawaii, Japan, Korea, and Pacific Islands under U.S. Authority. Assists the Division Commander in providing command, control, leadership, and strategic direction to 1800 military and Department of the Army Civilian professionals organized in a Headquarters and four centrally-selected Army commands. Responsible for assisting in the implementation of policies and directives established for the Division, ensuring coordination and compliance by all major segments. Responsible for assisting in the provision of contingency operational support for natural disasters, training exercises, and wartime contingencies to U.S. Forces in the PACOM AOR. Serves as assistant Division liaison officer to PACOM.

1996-2000 **FACILITIES AND LOGISTICS PLANS ENGINEER**, U.S. Pacific Command, Camp H. M. Smith, Hawaii. Serve as an engineering advisor for facilities and logistics plans for the Commander, U.S. Pacific Command. Responsible for engineer support of operation plans, host nation funded construction, critical infrastructure protection, and antiterrorism/force protection in northeast Asia, including Japan and Korea. (Activity level: minimum of 48 drilling periods plus 21 days of active duty training per year.)

1996-2000 **INSTRUCTOR AND SPECIAL PROJECTS OFFICER**, Department of Systems Engineering, U.S. Military Academy, West Point, New York. Responsible for numerous projects, including: (1) assisting the U.S. Military Academy Operations Research Center and the U.S. Army Assistant Chief of Staff for Installation Management in defining standards for installation utilities privatization; (2) assisting U.S. Atlantic Command in evaluating critical infrastructure future concepts for mobility (including deployment), countermobility, and survivability operations; and (3) preparing final design exercises for Engineering Management courses in the Department of Systems

Engineering (each "capstone" design exercise was restructured to maximize use of recent ABET accreditation recommendations and engineering management tools acquired in preceding courses to solve real-world U. S. Army installation resource management and re-engineering problems). Engineering management skills employed included incorporation of optimization techniques, decision analysis, geographical information systems, and activity-based costing to minimize and track true costs associated with U. S. Army unit and installation activities.

1995-2000 **OFFICER PERSONNEL RECRUITER**, Director of Admissions, U.S. Military Academy, West Point, New York. Served as a U. S. Military Academy/Reserve Officers Training Corps Liaison Officer/Recruiter in local community. Responsible for identifying, informing, and providing assistance to qualified applicants. Recruiting activities also included conducting high school visits, counseling potential candidates, and representing USMA and ROTC during presentations to community organizations and college recruitment symposiums.

PROFESSIONAL ACTIVITIES:

National Panel Member for special workshop: "Environmentally Acceptable Endpoints: Chlorinated Organics, Energetics, and Heavy Metals," Department of Defense Strategic Environmental Research and Development Program (SERDP) and American Academy of Environmental Engineers (AAEE), Annapolis, Maryland (9-11 June 1998).

Symposium Session Chair: "Sorption of Organic Pollutants to Soil, Sediment, and Other Geologic Solids II," American Geophysical Union National Meeting, Boston, Massachusetts (June 1998).

Symposium Co-Organizer: "Sequestration of Organic Solutes in Natural Organic Matter and Mineral Aggregates," American Chemical Society National Meeting, Washington, D.C. (August 2000).

Task Force Committee Member for Water Environment Federation's development of a Treatise on Sediment Quality (January 2000 - present).

Workshop Session Leader: "Water and Organic Matter in Anthropogenic Soils: Dynamics and Processes," Technical University of Berlin, Berlin, Germany (April 2003).

Symposium Co-Organizer: European Geophysical Society/American Geophysical Union/European Union of Geophysicists Joint Assembly, Nice, France (April 2003).

Symposium Session Chair: “Physicochemical Processes in Environmental Systems: A Symposium in Honor of Professor Walter J. Weber, Jr.” American Chemical Society National Meeting, New York, New York (September 2003).

Assistant Associate Editor, Special Issue, *Environmental Science and Technology* (October 2003 – November 2004).

Student Scholarship Coordinator, Tennessee Section, American Water Resources Association (May 2004 – 2009).

Symposium Organization Committee Member, Tennessee Section, American Water Resources Association (May 2004 – present).

Member, Association of Environmental Engineering and Science Professors (AEESP) Government Affairs Committee (June 2006 – present).

Member, American Water Works Association Research Foundation (AwwaRF) Project Advisory Committee, “Identification of Source Areas to Public Water Intakes and Mixing Characteristics of the Ohio River Near the City of Cincinnati, Ohio,” Project 3179 (2007).

Member, American Society of Civil Engineers (ASCE), Environmental and Water Resources Institute (EWRI), Environmental Council Awards Committee (August 2006 – present); selected for committee chair commencing October 2010.

Workshop Co-Organizer, Professional Practice Workshop: “Compliant Strategies for Point and Non-Point Source TMDLs” (12 May 2010).

Peer-Reviewer for publications: (1) *Environmental Science and Technology*; (2) *Organic Geochemistry*; (3) *Journal of Contaminant Hydrology*; (4) *Environmental Toxicology and Chemistry*; (5) *Journal of Environmental Engineering*; (6) *Soil Science Society of America Journal*; (7) *Thermochimica Acta*; (8) *Journal of Management of Engineering*; (9) *Environmental Engineering Science*; (10) *Journal of Geotechnical and Geoenvironmental Engineering*; (11) *Journal of Hazardous Substance Research*; (12) *Journal of Environmental Quality*; (13) *Geochemica Acta*; (14) *Chemosphere*; (15) *Bioresource Technology*; (16) *Water Environment Federation Treatise on Sediment Quality*; (17) *Proceedings of the 9th International Meeting of the International Humic Substances Society*; (18) *Wiley IUPAC Biophysico-Chemical Processes Involving Natural Nonliving Organic Matter in Environmental Systems*; (19) *Elementary Hydraulics* (text book).

Peer-Reviewer for organizations: (1) National Science Foundation (national panel member for Bioengineering and Environmental Sciences Division); (2) U.S. Army Corps of Engineers; (3) U.S. Department of Energy; (4) U.S. Geological Survey; (5) U.S. Department of State Science Center Program; (6) German-Israeli Foundation for Scientific Research and Development; (7) The United States-Israel Binational Agricultural Research Development Fund; (8) American Water Works Association Research Foundation.

**ACADEMIC
ACTIVITIES:**

Elected Member, Faculty Senate, Vanderbilt University, 2003-2006.

Member, Professional Ethics and Academic Freedom Committee, Vanderbilt University, 2003-2006.

Member, Appellate Review Board, Vanderbilt University, 1999-2001; 2002-2009.

Secretary, Graduate Faculty Council, Vanderbilt University, 2010-present.

Member, Graduate Faculty Council, Vanderbilt University, 2008-present.

Member, Ad-Hoc Committee for Undergraduate Academic Policy Reform, Vanderbilt University, 2008-present.

Member, Officer Education Advisory Committee, Vanderbilt University, 2001-2005.

Faculty Marshal, Vanderbilt University Commencement, 2003-present.

Faculty Advisor, Lambda Chi Alpha Fraternity, Vanderbilt University, 1998-present.

Member, School of Engineering Curriculum Committee, 2002-2003; 2004-present.

Faculty Board of Advisors, Tau Beta Pi Engineering Honor Society, 2001-present.

Member, Environmental Science Doctoral Program Curriculum Review Committee, 2003-present.

Director of Undergraduate Studies, Department of Civil and Environmental Engineering, 2002-present.

Faculty Advisor, Chi Epsilon Civil Engineering Honor Society, Vanderbilt University, 2000-present.

Department Undergraduate Student Advisor, Department of Civil and Environmental Engineering, 1999-present (Classes of 2003, 2007, and 2012).

Faculty Judge, Engineering Student Council FedEx Egg Drop competition, December 2001.

Chair, Department Undergraduate Curriculum Reform Committee (2000-2005).

Event Organizer for the Environmental Engineering competition of the American Society of Civil Engineers Student Chapters' 1998 Southeast Regional Conference; hosted at Vanderbilt University, April 1998.

Sponsored two personnel (one incoming Vanderbilt freshman, and one local high school teacher) during the Summer Research and Education Program hosted by Vanderbilt University, July - August 1998.

United Way Campaign Departmental Representative, Vanderbilt University, 1999.

Assisted in the recruitment of graduate students during graduate student recruitment fairs at Rose-Hulman Institute of Technology, 1998, 1999, 2000, and 2003.

**CIVIC
ACTIVITIES:**

National Defense: U.S. Army Reserve Officer (Colonel), Corps of Engineers, 1993-present. Current assignment: Military Chief, Emergency Operations Center, U.S. Army Corps of Engineers Pacific Ocean Division, Fort Shafter, Hawaii.

Member, Steering Committee, City of Franklin Regional Integrated Water Resources Plan, 2009-present.

Member, Research Planning Group, Cumberland River Compact's Center for Living Watersheds, 2003-2005.

Judge for the Middle Tennessee Science and Engineering Fair (April 1998; 1999).

Assistant Event Organizer for the American Society of Civil Engineers' High School Jeopardy Program to promote civil engineering careers for Middle Tennessee high school students, 1999 (Page and Centennial High Schools in Williamson County).

**PATENTS APPLIED
FOR AND/OR
GRANTED:**

"Capillary Perfused Bioreactors with Multiple Chambers," J.P. Wiksw, F.J. Baudenbacher, C.Y. Chung, D.E. Cliffel, F.R. Haselton, W.H. Hofmeister, E.J. LeBoeuf, C.P. Lin, L.J. McCawley, A. Prokop, R.S. Reiserer, and M.A. Stremmler, U.S. Patent Number 07534601, 19 May 2009.

"Bioreactors with Multiple Chambers," J.P. Wiksw, F.J. Baudenbacher, D.E. Cliffel, F.R. Haselton, E.J. LeBoeuf, A. Prokop, R.S. Reiserer, and M.A. Stremmler, (VU0310A), pending.

"Bioreactors with an Array of Chambers and a Common Feed Line," J.P. Wiksw, D.E. Cliffel, E.J. LeBoeuf, and R.S. Reiserer, (VU0310B), pending. Filed August 27, 2003.

PUBLICATIONS**Peer-Reviewed Journal Articles**

36. Camp, J.V., Abkowitz, M.D., **LeBoeuf, E.J.** "Inland Waterway Resource and Spill Management Needs of Southeastern U.S.," *Journal of Disaster Prevention and Management* (in press).
35. Li, Y. and **LeBoeuf, E.J.** 2010. "Investigation of Transport- and Sorption-Related Factors on the Removal of Hydrophobic Organic Compounds in Heterogeneous Soils using a Hierarchical Modeling Approach," *Transport in Porous Media* 84(2) 319-333.
34. Camp, J.V., **LeBoeuf, E.J.**, and Abkowitz, M.D. 2010. "Application of an Enhanced Spill Management Information System to Inland Waterways," *Journal of Hazardous Materials* 175 (1-3), 583–592.
33. Zhang, L. and **LeBoeuf, E.J.** 2009. "A Molecular Dynamics Study of Natural Organic Matter: 1. Lignin, Kerogen, and Soot," *Journal of Organic Geochemistry* 40(11), 1132–1142.
32. Palakodeti, R. C.; **LeBoeuf, E. J.**, Clarke, J. H. 2009. "Tool for Assessment of Process Importance at the Groundwater/Surface Water Interface," *Journal of Environmental Management* 91(1) 87-101.
31. Baranowski, T.M.; **LeBoeuf, E. J.** 2008. "Consequence Management Utilizing Optimization," *Journal of Water Resources Planning and Management* 134 (4), 386-394.
30. Wang, W.; Shor, L. A.; **LeBoeuf, E. J.**; Wikswo, J. P.; Taghon, G. L.; Kosson, D. S. 2008. Protozoan Migration in Bent Microfluidic Channels," *Applied and Environmental Microbiology* 74 (6), 1945-1949.
29. Zhang, L.; **LeBoeuf, E. J.**; Xing, B. S. 2007. "Thermal Analytical Investigation of Biopolymers and Humic- and Carbonaceous-Based Soil and Sediment Organic Matter," *Environmental Science and Technology* 41 (14) 4888-4894.
28. Pignatello, J. J.; Lu, Y. F.; **LeBoeuf, E. J.**; Huang, W. L.; Song, J. Z.; Xing, B.S. 2006. "Nonlinear and Competitive Sorption of Apolar Compounds in Black Carbon-Free Natural Organic Materials," *Journal of Environmental Quality* 35 (4), 1049-1059.
27. Baranowski, T. M.; **LeBoeuf, E. J.** 2006. "Consequence Management Detection Optimization for Contaminant Isolation," *Journal of Water Resources Planning and Management* 132 (4), 274-282.
26. Li, Y.; **LeBoeuf, E. J.**; Basu, P. K. 2005. "Least Squares Finite Element Scheme for the Lattice Boltzmann Method on an Unstructured Mesh," *Physical Review E* 72, 046711 1-11.
25. DeLapp, R. C.; **LeBoeuf, E. J.**; Gu, B.; Chen, J. 2005. "Advanced Thermal Characterization of Fractionated Bulk Natural Organic Matter," *Journal of Environmental Quality* 34 (3), 842-853.
24. Li, Y.; **LeBoeuf, E. J.**; Basu, P. K. 2005. "Use of a Least Squares Finite Element Lattice Boltzmann Method to Study Fluid Flow and Mass Transfer Processes," *Lecture Notes in Computer Science* 3514: 172-179.

23. Schaumann, G. E., **LeBoeuf, E. J.** 2005. "Glass Transitions in Peat – Their Relevance and the Impact of Water," *Environmental Science and Technology* 39 (3), 800-806.
22. Li, Y., **LeBoeuf, E. J.**, Basu, P. K., Mahadevan, S. 2005 "Use of a First-Order Reliability Method and Lattice Boltzmann Method to Predict Permeability of Randomly-Generated Heterogeneous Porous Media," *Advances in Water Resources Research* 28, 835-844.
21. Wang, W., Shor, L. M., **LeBoeuf, E. J.**, Wikswo, J. P., Kosson, D. S. 2005 "Mobility of Protozoa through Narrow Channels" *Applied and Environmental Microbiology* 71 (8), 4628-4637.
20. Schaumann, G. E., **LeBoeuf, E. J.**, DeLapp, R. C., Hurrab, J. 2005. "Thermomechanical Analysis of Air-Dried Whole Soil Samples," *Thermochimica Acta* 436, 82-88.
19. Martin, P. H.; **LeBoeuf, E. J.**; Daniel, E. B.; Dobbins, J. P.; Abkowitz, M. D. 2005. "Interfacing Geographic Information Systems (GIS) with Water Resource Models: A State-of-the-Art Review," *Journal of the American Water Resources Association* 41 (6), 1471-1487.
18. Martin, P. H.; **LeBoeuf, E. J.**; Daniel, E. B.; Dobbins, J. P.; Abkowitz, M. D. 2004 "Development of a GIS-Based Spill Management Information System," *Journal of Hazardous Materials* B112, 239-252.
17. Li, Y.; **LeBoeuf, E. J.**; Basu, P. K. 2004. "Least Squares Finite Element Lattice Boltzmann Method," *Physical Review E* 69, 065701 1-4.
16. DeLapp, R. C.; **LeBoeuf, E. J.** 2004. "Thermal Analysis of Whole Soils and Sediment," *Journal of Environmental Quality* 33 (1) 330-337.
15. DeLapp, R. C.; **LeBoeuf, E. J.**; Young, K. D. 2004. "Thermodynamic Properties of Several Soil- and Sediment-Derived Natural Organic Materials," *Chemosphere* 54 (1) 527-539.
14. Li, Y.; **LeBoeuf, E. J.**; Basu, P. K.; Turner, IV, L. H. 2003. "Development of a Web-Based Mass Transfer Processes Laboratory: System Development and Implementation," *Computer Applications in Engineering Education* 11 (1), 25-39.
13. Chen, J.; **LeBoeuf, E. J.**; Dai, S.; Gu, B. 2003. "Fluorescence Spectroscopic Studies of Natural Organic Matter Fractions," *Chemosphere* 50, 639-647.
12. Chen, J.; Gu, B.; **LeBoeuf, E. J.**; Pan, H.; Dai, S. 2002. "Spectroscopic Characterization of the Structural and Functional Properties of Natural Organic Matter Fractions," *Chemosphere* 48, 59-68.
11. Weber, W. J., Jr.; **LeBoeuf, E. J.**; Young, T. M.; Huang, W. 2001. "Modeling Hydrophobic Organic Chemical Sorption/Desorption on Natural Organic Matrices: Insights from Polymer Science," *Water Research* 35 (4), 853-868.
10. Young, K. D.; **LeBoeuf, E. J.** 2001. "Development of a Glass Ampoule System for Evaluation of Long-Term Sorption/Desorption Behavior of Vapor Phase Volatile Organic Compounds in Geosorbents," *The Analyst* 126 (10), 1816-1819.

9. Weber, W. J., Jr.; **LeBoeuf, E. J.**; Young, T. M.; Huang, W. 2001. "Modeling Hydrophobic Organic Chemical Sorption/Desorption on Natural Organic Matrices: Insights from Polymer Science," *Water Research* 35 (4), 853-868.
8. Young, K. D. and **LeBoeuf, E. J.** 2000. "Glass Transition Behavior of a Peat Humic Acid and a Stream Fulvic Acid," *Environmental Science and Technology* 34 (21), 4549-4553.
7. **LeBoeuf, E. J.**; Weber, W. J., Jr. 2000b. "Macromolecular Characteristics of Natural Organic Matter: 2. Sorption and Desorption Behavior," *Environmental Science and Technology* 34 (17), 3632-3640.
6. **LeBoeuf, E. J.**; Weber, W. J., Jr. 2000a. "Macromolecular Characteristics of Natural Organic Matter: 1. Insights from Glass Transitions and Enthalpic Relaxations," *Environmental Science and Technology* 34 (17), 3623-3631.
5. Farr, J. V.; **LeBoeuf, E. J.** 2000. "Simple Services, Inc.: A Case Study in Ownership Transition of a Small Consulting Engineering Company," *Journal of Management in Engineering* 16 (3), 68-77. This manuscript reflects a collaborative effort initiated in the summer of 1999 while I was an instructor in the Department of Systems Engineering at the U.S. Military Academy.
4. **LeBoeuf, E. J.**; Weber, W. J., Jr. 1999. "A Re-Evaluation of the General Partitioning Model for Sorption of Hydrophobic Organic Contaminants by Soils and Sediments," *Environmental Toxicology and Chemistry* 18 (8), 1617-1626.
3. Weber, W. J., Jr.; **LeBoeuf, E. J.** 1999. "Processes for Advanced Treatment of Water," *Water Science and Technology* 40 (4), 11-19. Provided lead effort on review paper for physicochemical processes for water treatment.
2. Weber, W. J., Jr.; Huang, W.; **LeBoeuf, E. J.** 1999. "Geosorbent Organic Matter and its Relationship to the Binding and Sequestration of Organic Contaminants," *Colloids and Surfaces A: Physicochemical and Engineering Aspects* 151 (1-2), 167-179.
1. **LeBoeuf, E. J.**; Weber, W. J., Jr. 1997. "A Distributed Reactivity Model for Sorption by Soils and Sediments. 8. Sorbent Organic Domains; Discovery of a Humic Acid Glass Transition and Argument for a Polymer-Based Model," *Environmental Science and Technology* 31 (6), 1697-1702.

Peer-Reviewed Book Chapters

5. **LeBoeuf, E.J.**; Zhang, L. 2009. "Thermal Analysis for Advanced Characterization of Humic Materials" *Biophysico-Chemical Processes Involving Natural Nonliving Organic Matter in Environmental Systems*, Volume 2, Senesi, N., Xing, B., and Huang, P. M., Eds., International Union of Pure and Applied Chemistry (IUPAC), Wiley Sciences, 783-836.
4. DeLapp, R. C.; **LeBoeuf, E. J.** 2003. "A Proposal for the Establishment of a Database of Thermodynamic Properties of Natural Organic Matter," In: *Humic Substances: Nature's Most Versatile Materials*, E.A. Ghabbour and G. Davies, Eds., New York: Taylor and Francis, Inc., pp. 61-81.
3. Kilduff, J. E.; **LeBoeuf, E. J.**, Nyman, M. 2002. "Sorption of Organic Compounds by Soils and Sediments: Equilibrium and Rate Processes," In *Handbook on Sediment Quality*, Water Environment

Federation, Alexandria, Virginia, pp. 7-98. Provided lead effort on chapter segments associated with equilibrium and nonequilibrium sorption processes in natural organic matter.

2. **LeBoeuf, E. J.**, Weber, W. J., Jr. 2001. "Characterization of Natural Organic Matter: A Thermal Analysis Approach", In *Understanding and Managing Organic Matter in Soils, Sediments, and Waters*, Swift, R.S. and Spark, K.M. (eds.), pp. 17-24.

1. Weber, W. J., Jr.; Huang, W.; **LeBoeuf, E. J.** 1998. "A Three-Domain Model for Sorption and Desorption of Organic Chemicals by Soils and Sediments," In *Mineral-Water Interfacial Reactions: Kinetics and Mechanisms*, Sparks, D.L. and Grundl, T.J. (eds.), pp. 222-241. Provided theoretical discussion, experimental data, and modeling efforts for sorption and desorption within natural organic matter.

Peer-Reviewed Conference Proceedings

3. Baranowski, T. M., **LeBoeuf, E. J.** "Optimal Hydraulic Response to a Water Distribution System Contamination Event" *Proceedings of the World Environmental & Water Resources Congress 2008*, American Society of Civil Engineers, Environmental and Water Resources Institute, Honolulu, Hawaii, May 2008.

2. Li, Y., **LeBoeuf, E. J.**, Basu, P. K., Turner, L. H., IV "Use of a Web-Based Virtual Laboratory to Introduce Mass Transfer Processes in Environmental Engineering and Science Courses" American Society of Engineering Educators 2003 Annual Conference and Exposition, Nashville, Tennessee, June 2003.

1. **LeBoeuf, E. J.**, Li, Y. "Utilization of Case Studies and Interactive Computer Models in an Introductory Water Resources Engineering Course" Environmental and Water Resources Institute's World Water and Environmental Conference, Philadelphia, Pennsylvania, June 2003.

Journal Comments

1. **LeBoeuf, E. J.** 1999. "LeBoeuf's Comment on 'Evaluation of the Glassy/Rubbery Model for Soil Organic Matter'," *Environmental Science and Technology* 33 (16), 2833-2834.

Government, University, or Industrial Books and Reports (non refereed)

LeBoeuf, E. J.; Thackston, E. L. Palermo, M. R.; Schroeder, P. R. "Technical Note: Design Guidance for Confined Disposal Facility Surface Covers," U.S. Army Corps of Engineers Technical Note (in review).

LeBoeuf, E. J.; Thackston, E. L.; Averett, D. E. "Technical Note: Processes for Removal of Dissolved Contaminants from Confined Disposal Facility Effluents," U.S. Army Corps of Engineers Technical Note (in review).

6. Looney, B. B., Kaback, D., **LeBoeuf, E.J.**, Rossabi, J., Skubal, K.L., Cocke, D.L., Deutsch, P.C. 2008. "Supplemental Columbia River Protection Activities at the Department of Energy Hanford Site: 2008

Technical Review," Report No. SRNL-STI-2008-00424, U.S. Department of Energy, Savannah River Site, Aiken, South Carolina, pp. 1-60.

5. Looney, B. B., Kaback, D., **LeBoeuf, E. J.**, Mulvihill-Kunz, J., Lefkoff, L. 2006. "Supplemental Columbia River Protection Activities at the Department of Energy Hanford Site: 2006 Technical Peer Review," Report No. WSRC-STI-2006-00347, U.S. Department of Energy, Savannah River Site, Aiken, South Carolina, pp. 1-323.

4. **LeBoeuf, E. J.**; Thackston, E. L.; Averett, D. E.; Palermo, M. R.; Schroeder, P. R. 2005. "Technical Note: Design Guidance for Confined Disposal Facility Leachate Control," *DOER Technical Notes Collection* (ERDC TN DOER-R7), U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi, pp. 1-12.

3. **LeBoeuf, E. J.**; Thackston, E. L. Palermo, M. R.; Schroeder, P. R. 2004. "Technical Note: Liner Design Guidance for Confined Disposal Facility Lateral Seepage Control," *DOER Technical Notes Collection* (ERDC TN DOER-R6), U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi, pp. 1-25.

2. Crawford, C.; Harrington, E.; Postlewait, T.; Reynolds, J.; Weller, S. J.; **LeBoeuf, E. J.** 1999. "Final Report: Critical Infrastructure Future Concepts," Engineering Management Technical Report, Joint Battle Lab, Joint Experimentation Directorate (J9), U.S. Atlantic Command, pp. 1-33.

1. **LeBoeuf, E. J.** (co-author of one chapter) 1993. *Planning and Design of Roads, Airbases, and Heliports in the Theater of Operations*, U. S. Army and U. S. Air Force Joint Field Manual, FM 5-330.

Conference and Invited Presentations (Presenter identified by underlined type.)

McNew, C. P.; Li, Y., Shor, L. M., LeBoeuf E. J. "Environmental Applications and Implications of Nanotechnology," scheduled for presentation at the 240th ACS meeting Boston, MA, August 2010.

Camp, J. V., LeBoeuf, E. J., Abkowitz, M. D. "Design and Implementation of an Advanced Spill Management Information System for Inland Waterways," presented at the Tennessee Geographic Information Council, Nashville, TN, April 2010.

McNew, C. P., LeBoeuf, E. J., Li, Y., Shor, L. M., Markov, D. A. "Examination of NOM Physicochemical Properties on Nanomaterial Transport," presented at the t239th ACS National Meeting, San Francisco, CA, March 2010.

Shor, L.M., Wang, W., Taghon, G.L., Wikswo, J.P., LeBoeuf, E.J., and Kosson, D.S. "Predicting Microbial Transport in Porous Media Using Microfluidic Flow Cell Arrays," presented at the First International Conference on Microbial Transport and Survival in the Subsurface, Ontario, Canada, May 2009.

Smith, J., LeBoeuf, E.J., Abkowitz, M.D., Daniel, E.B., Dobbins, J.P. "Development of a Water Quality Management and Spill Response Information System," presented at the American Water Resources Association Spring Specialty Conference: GIS and Water Resources, San Mateo, California, March 2008.

Smith, J., Abkowitz, M.D., LeBoeuf, E.J. "Development of a Water Quality Management and Spill Response Information System," presented at the 18th Annual Tennessee American Water Resources Association (TNAWRA) Conference, Burns, Tennessee, April 2008.

Palakodeti, R.C., LeBoeuf, E.J., Clarke J.H. "A Screening Tool for Determination of Process Importance across the Groundwater/ Surface Water Interface," Presented at the 18th Annual Tennessee American Water Resources Association (TNAWRA) Conference, Burns, Tennessee, April 2008.

Baranowski, T.M., LeBoeuf, E.J. "Optimal Hydraulic Response to a Water Distribution System Contamination Event," presented at the World Environmental & Water Resources Congress 2008, Honolulu, Hawaii, May 2008.

Shor, L.M., Wang, W., Taghon, G.L., Wikswo, J.P., LeBoeuf, E.J., and Kosson, D.S. "Protozoan Predation Behavior in Microfluidic Habitat Networks," presented at the 108th General Meeting of the American Society of Microbiology, Boston, Massachusetts, June 2008.

Baranowski, T. M., LeBoeuf, E. J. "Consequence Management Strategies for Water Distribution System Optimization," presented at the 17th Tennessee Water Resources Symposium, Tennessee American Water Resources Association, Burns, Tennessee, April 2007.

Smith, J.V., Abkowitz, M.D., LeBoeuf, E. J., Daniel, E. B., Dobbins, J. P. "Preliminary Water Quality Management and Spill Response Stakeholder Information Needs Assessment," presented at the 17th Tennessee Water Resources Symposium, Tennessee American Water Resources Association, Burns, Tennessee, April 2007.

Palakodeti, R., LeBoeuf, E. J., Clarke J. H. "A Tool for Determination of Process Importance across the Groundwater/ Surface Water Interface," presented at the 17th Tennessee Water Resources Symposium, Tennessee American Water Resources Association, Burns, Tennessee, April 2007.

LeBoeuf, E. J., Palakodeti, R., Clarke J. H. "Model Development Framework for the Groundwater-Surface Water Interface: Approaches, Concerns, and Challenges," presented at the Association of Environmental Engineering and Science Professors (AEESP) National Education and Research Conference, Blacksburg, Virginia, June 2007.

Smith, J.V., LeBoeuf, E. J., Abkowitz, M.D., Daniel, E. B., Dobbins, J. P. "A Spill Management Information System: New Technology for Management of Inland Waterway Spill Incidents," presented at the Association of Environmental Engineering and Science Professors (AEESP) National Education and Research Conference, Blacksburg, Virginia, June 2007.

Palakodeti, R., LeBoeuf, E. J., Clarke J. H. "A Screening Tool for Determination of Process Importance across the Groundwater/Surface Water Interface," presented at the Geological Society of America Annual Meeting, Denver, Colorado, October 2007.

Palakodeti, R., LeBoeuf, E. J., Clarke J. H. "A Modeling Tool for Determination of Process Importance across the Groundwater/Surface Water Interface," presented at the 2006 American Geophysical Union National Meeting, San Francisco, California, December 2006.

Baranowski, T. M., LeBoeuf, E. J., "Consequence Management Utilizing Optimization," presented at the 8th Annual Water Distribution System Analysis Symposium, Cincinnati, Ohio, August 2006.

LeBoeuf, E. J.; Palakodeti, R.; Clarke, J. E. "Model Development Framework for the Groundwater/Surface Water Interface," presented at DuPont Corporate Headquarters, Wilmington, Delaware, August 2006.

Baranowski, T. M., LeBoeuf, E. J. "Assessment of Water Distribution System Vulnerability and Consequence Management Strategies," presented at the 16th Tennessee Water Resources Symposium, Tennessee American Water Resources Association, Burns, Tennessee, April 2006.

LeBoeuf, E. J. "Water Resources Engineering Education and Research at Vanderbilt University" presented at the 16th Tennessee Water Resources Symposium, Tennessee American Water Resources Association, Burns, Tennessee, April 2006.

Palakodeti, R., LeBoeuf, E. J., Clarke J. H. "Model Development Framework for the Groundwater/Surface Water Interface: Approaches, Concerns, and Challenges," presented at the 16th Tennessee Water Resources Symposium, Tennessee American Water Resources Association, Burns, Tennessee, April 2006.

Smith, J. V., LeBoeuf, E. J., Abkowitz, M. D.; Daniel, E. B.; Dobbins, J. P. "A Spill Management Information System (SMIS) 2.0: New Technology for Management of Our Inland Waterways," presented at the 16th Tennessee Water Resources Symposium, Tennessee American Water Resources Association, Burns, Tennessee, April 2006.

Zhang, L., DeLapp, R. C., LeBoeuf, E.J., "Thermal Analytical Study of Carbonaceous and Humic-Based Soil and Sediment Organic Matter," presented at the 2005 Soil Science Society of America National Meeting, Salt Lake City, Utah, November 2005.

LeBoeuf, E. J., (**Invited**) "Mechanistic Investigation of Non-Ideal Sorption Behavior in Humic Materials," presented at the 2005 Soil Science Society of America National Meeting, Salt Lake City, Utah, November 2005.

Baranowski, T. M., LeBoeuf, E. J., "A First-Order Reliability Method for Contaminant Detection and Isolation," presented at the 2005 Environmental and Water Resources Institute Congress, Anchorage, Alaska, May 2005.

Li, Y., LeBoeuf, E. J., Basu, P. K., "Use of a Least-Squares Finite-Element Lattice Boltzmann Method to Study Fluid Flow and Mass Transfer Processes," presented at the 2005 International Conference on Computation Science, Atlanta, Georgia, May 2005.

LeBoeuf, E. J. (**Invited**) "Bioreactors with Multiple Chambers," presented at The University of Tennessee, Knoxville, Tennessee, 23 November 2005.

Palakodeti, R., LeBoeuf, E. J., Clarke J. H. "Model Development Framework for the Groundwater-Surface Water Interface: Approaches, Concerns, and Challenges" presented at the 2004 American Geophysical Union National Meeting, San Francisco, California, December 2004.

Li, Y., LeBoeuf, E. J., Basu, P. K. "Development of a Least-Squares Finite-Element Based Lattice Boltzmann Method for Modeling Fluid Flow in Porous Media" presented at the 2004 American Geophysical Union National Meeting, San Francisco, California, December 2004.

Shor, L. M., Wang, W., LeBoeuf, E. J., Kosson, D. S. “Mobility of Protozoa through Micro-Scale Channels” presented at the 7th Biennial Symposium of the International Society of Environmental Biotechnology, Chicago, Illinois, July 2004.

Schaumann, G. E., LeBoeuf, E. J., Hurraß, J., Rosenkranz, S., Rotard, W. “Glass Transitions in Swelling Peat and Soil Samples” presented at the 21st Anniversary Meeting of the International Humic Substances Society, Sao Pedro, Brazil, scheduled July 2004.

LeBoeuf, E. J., Daniel, E. B., Martin, P. H., Dobbins, J. B. Abkowitz, M. D. “Spill Management Information System for Freshwater Incidents” presented at the 5th Biennial Freshwater Spills Symposium, New Orleans, Louisiana, April 2004.

LeBoeuf, E. J. “Water Resources Engineering Education and Research at Vanderbilt University” presented at the 14th Tennessee Water Resources Symposium, Tennessee American Water Resources Association, Burns, Tennessee, April 2004.

LeBoeuf, E. J., Daniel, E. B., Martin, P. H., Dobbins, J. B. Abkowitz, M. D. “Spill Management Information System for Inland Waterways” presented at the 14th Tennessee Water Resources Symposium, Tennessee American Water Resources Association, Burns, Tennessee, April 2004.

Schaumann, G. E., LeBoeuf, E. J. “Glass Transitions in Soil Samples – Their Relevance and the Impact of Water” presented at Mitteilungen der Deutschen Bodenkundlichen Gesellschaft, Frankfurt, Germany, October 2003.

LeBoeuf, E. J. “Properties of Macromolecular Organic Matter and Their Influence on Sorption and Release of Contaminants from Soils and Sediments” presented at the 225th National Meeting of the American Chemical Society, New York, New York, September 2003.

LeBoeuf, E. J., Martin, P. H., Daniel, E. B., Dobbins, J. B. Abkowitz, M. D. (**Invited**) “A Spill Management Information System for Inland Waterways” presented at the Professional Development Workshop, Society of American Military Engineers, Nashville Post, Nashville, Tennessee, August 2003.

Li, Y., LeBoeuf, E. J., Basu, P. K., Turner, L. H., IV “Use of a Web-Based Virtual Laboratory to Introduce Mass Transfer Processes in Environmental Engineering and Science Courses” presented at the American Society of Engineering Educators 2003 Annual Conference and Exposition, Nashville, Tennessee, June 2003.

LeBoeuf, E. J., Li, Y. “Utilization of Case Studies and Interactive Computer Models in an Introductory Water Resources Engineering Course” presented at the Environmental and Water Resources Institute’s World Water and Environmental Conference, Philadelphia, Pennsylvania, June 2003.

Young, K. D.; LeBoeuf, E. J. "Influence of Organic Matter Macromolecular Mobility on Sorption Behavior of Organic Compounds" presented at the Joint Assembly of the European Geophysical Society, American Geophysical Union and European Union of Geophysicists, Nice, France, April 2003.

LeBoeuf, E. J., Delapp, R. C.; Young, K. D. (**Keynote Address**) “Effects of Soil Moisture and Other Factors on the Sorption and Release of Contaminants from Soils” presented at the Joint Session of Interurban and Kinetics of Soil Physico-Chemical Processes, Berlin, Germany, April 2003.

Schaumann, G. E.; LeBoeuf, E. J.; Braun, B.; Szewzyk, U., Rotard, W. "Glass Transitions in Soil Samples and Biofilms?" presented at the Water and Organic Matter in Anthropogenic Soils: Dynamics and Processes Conference, Berlin, Germany, April 2003.

LeBoeuf, E. J., Delapp, R. C.; Young, K. D. (**Keynote Address**) "Thermodynamic Properties of Soil- and Sediment-Derived Natural Organic Materials", 20th Anniversary Meeting of the International Humic Substances Society, Boston, Massachusetts, July 2002.

Young, K. D.; LeBoeuf, E. J. "Influence of Macromolecular Mobility on Sorption/Diffusion of Trichloroethylene in Natural Organic Matter" presented at Bioremediation and Biodegradation: Current Advances in Reducing Toxicity, Exposure, and Environmental Consequences, Asilomar Conference Center, Pacific Grove, California, June 2002.

LeBoeuf, E. J. "Water Resources Engineering Education and Research at Vanderbilt University" presented at the 12th Tennessee Water Resources Symposium, Tennessee American Water Resources Association, Burns, Tennessee, April 2002.

Delapp, R. C.; Young, K. D.; LeBoeuf, E. J. "Characterization of Thermodynamic Properties of Several Soil and Sediment Derived Natural Organic Matter Materials," scheduled for presentation at the 2001 Fall Meeting, 222nd American Chemical Society National Meeting, Chicago, Illinois, August 2001.

LeBoeuf, E. J.; Weber, W. J., Jr. (**Invited Lecture**) "To Be Sequestered or Not To Be Sequestered, What is the Question?," presented at the 2001 Fall Meeting, Soil Science Society of America National Meeting, Charlotte, North Carolina, October 2001.

Young, K. D.; LeBoeuf, E. J. "Equilibrium Sorption and Desorption Behavior of Trichloroethylene in a Sediment Derived Humic Acid" presented at the 21st Annual Meeting in North America, Society of Environmental Toxicology and Chemistry, Nashville, TN, November 2000.

Young, K. D.; LeBoeuf, E. J. "Evaluation of Diffusion Mechanisms in Natural Organic Matter" presented at the 2000 Fall Meeting, 220th American Chemical Society National Meeting, Washington, D.C., August 2000.

Chen, J.; LeBoeuf, E. J.; Choi, S.; Gu, B. "Spectroscopic Characterization of Structural and Functional Properties of Natural Organic Matter Fractions," presented at the 2000 Fall Meeting, 220th American Chemical Society National Meeting, Washington, D.C., August 2000.

LeBoeuf, E. J. (**Invited**) "Macromolecular Characteristics of Natural Organic Matter: Insights from Glass Transitions and Enthalpic Relaxations," Department of Chemistry, Middle Tennessee State University, Murfreesboro, Tennessee, October 1999.

LeBoeuf, E. J. (**Invited**) "Use of TMDSC, TMA, and PALS to Investigate Natural Organic Matter Structure," Department of Civil and Environmental Engineering, University of Illinois, Urbana-Champaign, Illinois, September 1999.

LeBoeuf, E. J. (**Invited**) "Influence of Glass Transition Behavior of Natural Organic Matter on Sorption Behavior," Environmental Sciences Division, Oak Ridge National Laboratory, July 1999.

Weber, W. J., Jr.; LeBoeuf, E. J. (**Plenary Presentation**) "Processes for Advanced Treatment of Water," presented at the 2nd International Conference of the International Association of Water Quality, Milan, Italy, August 1998.

LeBoeuf, E. J.; Weber, W. J., Jr. (**Invited**) "Nonequilibrium Sorption and Desorption Behavior of Phenanthrene in Rubbery and Glassy Organic Matter," presented at the Society of Environmental Toxicology and Chemistry International Meeting, Charlotte, North Carolina, November 1998.

LeBoeuf, E. J.; Weber, W. J., Jr. "Biopolymer and Sediment-Derived Natural Organic Matter Glass Transitions," presented at the Fall Meeting of the Soil Science Society of America, Baltimore, Maryland, October 1998.

LeBoeuf, E. J.; Weber, W. J., Jr. "Characterization of Natural Organic Matter: A Thermal Analysis Approach," presented at the 9th International Meeting of the International Humic Substances Society, Adelaide, Australia, September 1998.

LeBoeuf, E. J.; Weber, W. J., Jr. "Evaluation of a Flory-Huggins Based Partitioning Model for Sorption in Natural Organic Matter," presented at the 1998 Fall Meeting, 216th American Chemical Society National Meeting, Boston, Massachusetts, August 1998.

LeBoeuf, E. J.; Weber, W. J., Jr., "Glass Transition Behavior of Aldrich and Leonardite Humic Acids," presented at the Fall Meeting of the American Geophysical Union, Boston, Massachusetts, June 1998.

LeBoeuf, E. J. (**Invited**) "Macromolecular Characteristics of Natural Organic Matter and Their Influence on Sorption and Desorption Behavior," Department of Environmental Systems Engineering, Clemson University, Clemson, South Carolina, April 1998.

LeBoeuf, E. J.; Weber, W. J., Jr. "Measurement of Isothermic Heats of Sorption of Organic Contaminants from Aqueous Solution on Rubbery and Glassy Organic Matrices," presented at the 1997 Fall Meeting, 214th American Chemical Society National Meeting, Las Vegas, Nevada, August 1997.

LeBoeuf, E. J.; Weber, W. J., Jr. "Natural Organic Matter Glass Transitions and Their Influence on Organic Contaminant Sorption and Desorption Behavior," presented at the 1997 Fall Meeting, 214th American Chemical Society National Meeting, Las Vegas, Nevada, August 1997.

LeBoeuf, E. J.; Weber, W. J., Jr. "Investigation of a Humic Acid Glass Transition and a Logic for Invoking Polymer Sorption Theory," presented at the Fall Meeting of the American Geophysical Union, San Francisco, California, December, 1996.

LeBoeuf, E. J.; Huang, W.; Bhandari, A.; Weber, W. J., Jr. "Predicting Bioavailability: Contaminant Sorption-Desorption Rates and Equilibria in the Saturated Zone," presented at the First Annual Environmental Forum, Ann Arbor, Michigan, November, 1996.

LeBoeuf, E. J.; Huang, W.; Bhandari, A.; Weber, W. J., Jr. "Predicting Bioavailability: Contaminant Sorption-Desorption Rates and Equilibria in the Saturated Zone," presented at the Annual Combined Forum of the Center for Microbial Ecology, Institute for Environmental Toxicology and the Great Lakes and Mid-Atlantic Center for Hazardous Substance Research, Lansing, Michigan, September 1996.

LeBoeuf, E. J.; Weber, W. J., Jr. "Investigation of the Surface Area and Pore Structure of Natural and Model Sorbents: A Comparison of Argon, Carbon Dioxide, and Nitrogen Gas Sorption," presented at the 51st Purdue Industrial Waste Conference, West Lafayette, Indiana, May 1996.

LeBoeuf, E. J.; Huang, W.; Weber, W. J., Jr. "Sorption of Phenanthrene by Natural and Synthetic Organic Matrices," presented at the HSRC/WERC Joint Conference on the Environment, Albuquerque, New Mexico, May 1996.

Johnson, M. D.; LeBoeuf, E. J.; Young T. M.; Weber, W. J., Jr. "Supercritical CO₂ Extraction of Phenanthrene from Synthetic Polymers," presented at the 7th International Symposium on Supercritical Fluid Chromatography and Extraction, Indianapolis, Indiana, March 1996.

Weber, W. J., Jr.; LeBoeuf, E. J.; Young, T. M. (**Keynote Address**) "Adsorption Processes and Technology," Separation Technology VI: Advances and Opportunities in Environmental Separation, Snowbird, Utah, July 1995.

LeBoeuf, E. J.; Roberts, P. V.; McCarty, P. L. "Evaluation and Application of Cost Estimates for Hazardous Waste Remediation," presented at the 50th Purdue Industrial Waste Conference, West Lafayette, Indiana, May 1995.

Ph.D Dissertation Committees (Thesis completed)

19. Camp, Janey V. (**Co-Chair**) "Development of a GIS-Based Spill Response Information System for the Tennessee Valley Authority," Vanderbilt University, August 2009.

18. Yang, Yaning (Committee Member), Department of Civil and Environmental Engineering, The University of Illinois, "The Role of Carbonaceous Materials in Soil, Pavement Dust, and Lake Sediments on the Fate of Organic Pollutants in Small Urban Watersheds," The University of Illinois, December 2009.

17. Glover, Thomas Grant (Committee Member), Department of Chemical Engineering, "Studies on Adsorbent Synthesis, Adsorption Kinetics, and Adsorption System Sensitivity," Vanderbilt University, May 2008.

16. Schindler, Bryan (Committee Member), Department of Chemical Engineering, "Density Functional Theory for Adsorption of Straight Chain Hydrocarbons: Model and Supporting Experiments," Vanderbilt University, August 2008.

15. Redmill, Patrick S. (Committee Member), Department of Chemical Engineering, "Probing Biologically Relevant Solubility Parameters for Selected Nanoscale Building Blocks Using Molecular Simulations," Vanderbilt University, December 2008.

14. Baranowski, Terrana M. (**Chair**) "Reliability and Security of Water Distribution Systems," May 2007.

13. Wang, Wei (**Co-Chair**) "Predator-Prey Relationships Between Protozoa and Bacteria," August 2007.

12. Zhang, Lu (**Chair**) "Thermalanalytical and Molecular Dynamics Simulation Studies of Soil- and Sediment-Derived Organic Macromolecules," December 2006.
11. Bryant, Derek L. (Committee Member) "System Design Considerations for Assessing the Risks of Chemical Spills into Soils Using GIS," May 2006.
10. Li, Yusong (**Chair**) "Development of a Finite-Element and Finite-Difference Based Discrete Numerical Mass Transfer Model for Instruction and Research," August 2005.
9. Lu, Jin (Committee Member), Department of Chemical Engineering, "Improving the Representation of Multicomponent Aerosols in Numerical Models," December 2005.
8. Wang, Yu (Committee Member), Department of Chemical Engineering, "Studies on Adsorption Kinetics Using Frequency Response Methods," December 2005.
7. Bell, Katherine Young (**Chair**) "Effects of Macromolecular Mobility on the Equilibrium and Nonequilibrium Behavior of Vapor Phase Sorbates in Natural Organic Matter," Ph.D., Vanderbilt University, May 2004.
6. Boonyakitsombut, Saroch (Committee Member) "Anaerobic Biotransformation of Propionate," Ph.D. Vanderbilt University, May 2001.
5. Matainaho, Fifaia (Committee Member) "Comparison of Reactor Configurations for Anaerobic Processes," Ph.D. Vanderbilt University, May 2001.
4. Kim, Moonil (Committee Member) "Comparison of Mesophilic and Thermophilic Digestion," Ph.D. Vanderbilt University, May 2001.
3. Cevallos, Jorge E. (Committee Member) "Environmental and Process Requirements to Produce Secondary Quality Effluent from Anaerobic Treatment of Dilute Wastewaters," Ph.D., Vanderbilt University, 2000.
2. Duran, Jorge (Committee Member) "Response of Anaerobic Treatment to Process Upsets," Ph.D., Vanderbilt University, May 2003.
1. Qi, Nan (Committee Member) "Adsorption Equilibria of Organic Compounds and Water Vapor on Activated Carbon and Fixed-Bed Humidity Swings," Ph.D., Vanderbilt University, December 2003.

Ph.D Dissertation Committees (Thesis not yet complete)

Palakodeti, Ravi (**Co-Chair**) "Model Development Framework for the Groundwater-Surface Water Interface," (expected December 2010).

Furtado, Amanda M. B. (Committee Member), Department of Chemical and Biomolecular Engineering, "Design and Characterization of Novel Nanoporous Adsorbent Materials for Air Purification" (since summer 2009).

Tuberquia, Juan Carlos (Committee Member), Department of Chemical and Biomolecular Engineering, "Polyhomologation to Develop Thick Self-Assembled Monolayers and Superhydrophobic Films Through Surface-Initiated Polymerization" (since summer 2009).

Ph.D Pre-Candidate Advisees (pending Ph.D. candidacy)

McNew, Coy P. (**Expected Chair**) "Examination of Sorbed Phase Natural Organic Matter Physicochemical Properties on Nanomaterial Transport," (since summer 2009).

Smith-Sawyer, Heather (**Expected Chair**) "Simulation of Controlled Reservoir System Constituent Response to Flow Perturbations," (part-time Ph.D. student since summer 2009).

Shaw, Amelia R. (**Expected Chair**) "Optimization of Large-Scale Controlled Reservoir System Constituent Response to Power Generation Activities," (since fall 2010).

Master of Engineering Thesis Advisees

Mosely, Juli "Enhanced Nitrogen and CBOD Removal in Recirculating Sand Filter by Addition of Plastic Media in a Recirculation Tank," Master of Engineering, Vanderbilt University, December 2000.

Master of Science Thesis Advisees

Sun, Yuanjian "Increasing the Capacity of Recirculating Sand Filter Wastewater Treatment Facilities," Master of Science, Environmental Engineering, Vanderbilt University, August 2002.

Yu, Wen "Molecular Dynamic Simulations of the Coefficients of Thermal Expansion and Glass Transition Temperatures in a Model Humic Acid," Master of Science, Environmental Engineering, Vanderbilt University, August 2002.

Delapp, Rossane C. "Thermal Analysis of Soil and Sediment Organic Matter: Establishment of a Database for Heat Capacity, Thermal Expansion, and Glass Transition Information," December 2003.

Martin, Paul H. "Development of a GIS-Based Spill Management Information System, Phase I: Proof of Principle Demonstration for the Cheatham Reach, Nashville, Tennessee," December 2003.

Service as Second Reader of Master of Science Thesis

Dionne, Marc, "Nutrient Requirements for Anaerobic Conversion of Propionate," Nashville, Tennessee, 1999.

Choksi, Surama, "Formation of acetic acid from reaction of acetone with granular activated carbon," Nashville, Tennessee, 1999.

Ursillo, Pepi, "The Role of Process Configuration and Substrate Complexity in Anaerobic Wastewater Treatment," Nashville, Tennessee, 1998.

