

## **CURRICULUM VITAE FOR PETER ADRIAENS, PhD, PE, BCEEM**

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Professor, School for Natural Resources and the Environment (<http://www.snre.umich.edu/>)  
Finnish Distinguished Professor, Research Institute for the Finnish Economy*

Member-by-eminence, American Academy of Environmental Engineering (AAEE)  
Member, Royal Belgian Academy of Applied Sciences

### **Contact Information**

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[https://www.researchgate.net/profile/Peter\\_Adriaens2/?ev=hdr\\_xprf](https://www.researchgate.net/profile/Peter_Adriaens2/?ev=hdr_xprf)

[http://en.wikipedia.org/wiki/Peter\\_Adriaens](http://en.wikipedia.org/wiki/Peter_Adriaens)

### **Education :**

Leadership Development, Wayne State University School of Business Administration (10/02)

Postdoctoral Scholar: Environmental Engineering Science - Stanford University (1990-1992)

Ph.D.: Environmental Science, Univ. of Calif., Riverside (1989)

M.S.: Environmental Science and Engineering, State Univ. of Gent, Belgium (1986)

B.S.: Environmental Science and Engineering, State Univ. of Gent, Belgium (1984)

### **Employment and Professional Positions:**

Vice-President, President-Elect and President, Association of Environmental Engineering and Science Professors (AEESP; 2007-2009); Professor-in-Residence and Director for Asian Operations, Limnotech ([www.limno.com](http://www.limno.com); current), Chaired Professor of Entrepreneurship, Sichuan University, China (current); Associate Professor (1998-2001), Assistant Professor (1992-1998): Dept. Civil and Environmental Engineering, The University of Michigan.

### **Entrepreneurial Experience**

President, Global CleanTech LLC (inc. 2007)

CEO, KeyStone Compact Group (inc. 2009; [www.keystonecompact.com](http://www.keystonecompact.com))

Co-Founder and Head Judge, Global CleanTech Cluster Association (inc. 2010; [www.globalcleantech.org](http://www.globalcleantech.org))

CEO, Water Risk Analytics ([www.waterriskanalytics.com](http://www.waterriskanalytics.com))

CleanTech Advisor, Wolverine Venture Fund, University of Michigan – due diligence/deal sourcing.

### **Research Interests:**

1991-2006: Field and laboratory analysis of bioremediation in natural and engineered groundwater and sediments; Risk and uncertainty management for site characterization and technology implementation; Microbial sensing in complex environmental systems; Green infrastructure design

Since 2006: CleanTech entrepreneurship and venture assessment; Sustainability finance; Reverse innovation; Corporate and portfolio risk modeling.

### **Project Management Experience:**

Project Director or Co-PI for in excess of \$20M in research grants since 1994, including 6 \$ multiM. projects involving multiple institutions and disciplines

Responsibility for financial and technical reporting  
Financial management, resource allocation and decision-making  
Interviewing, hiring and releasing of project staff members, students and postdocs  
Facilities design and remodeling for project-specific requirements  
Laboratory quality, data management, and financial compliance with external audits (EPA, NIH)

**Administrative Experience:**

Member, Search Committee, Executive Director Zell Lurie Institute for Entrepreneurial Studies (2012-2013); Chair, COE Nomination Committee (2008-2011); President/President-Elect/Vice President, Association of Environmental Engineering and Science Professors (2007-2010); Chair, COE Nomination Committee (2008-2011); Member, Innovation Committee, Pfizer Facility Expansion (2009-10); Chair, Internal Assessment Committee, Taubman School of Architecture and Urban Planning; Founding Member, Center for Entrepreneurship, College of Engineering, The University of Michigan; Member, Faculty Senate Assembly, University of Michigan (2006-08); Member, Dean Search Advisory Committee, College of Engineering (2005-06); Program Director, Environmental Technology Council, College of Engineering (2001-2006); Environmental Faculty Steering Committee, 2001-2004; Acting Director, EPA/DOD National Center for Integrated Bioremediation Research and Development (NCIBRD), Oscoda, Michigan, 7/31/02-8/31/03; Associate Director, Institute for Environmental Science, Engineering and Technology (IESET), 09/01/00-8/31/02; Co-Director, Initiative in Sustainable Aqueous Systems (iSAS), 2001-2004; Member, CEE Executive Committee, 2002-2004; Chair, College of Engineering Honors and Awards Committee (01-02); Member, *ad hoc* Committee for Infrastructure Initiative (2001); COE Awards Committee Member, 09/00-8/01; Department Executive Committee, 1998-01 and 02-03; Chair, Promotion Committees PRS Dr. Jiasong Fang and Dr. Andrei Barkovskii; Curriculum Committee, Dept. Civil & Environ. Eng., 1994-1995, 1996-97; Research Committee, Dept. Civil & Environ. Eng., 1995-1996; Departmental Awards Committee, 1996-98; Grant Management/Budgeting, 1992-present.

**National and International Service (last 10 years):**

Member, AEESP Foundation (2010-2012); Co-Chair (with Gregory Characklis, University of North Carolina, Chapel Hill), NSF Workshop on “Integrating Economic and Financial Principles into Environmental Engineering Research and Education”, Washington DC (January 26-28, 2011); President, Association of Environmental Engineering and Science Professors (AEESP), 2009-2010; President-Elect, AEESP, 2008-2009; Vice President, AEESP, 2007-2008; International Advisory Board, Center for Environmental Science and Engineering – Dalian, China (Since 2006); Member, NSF CLEANER Program sensor development committee (2005-2007); Chair – Membership Committee, Association of Environmental Engineering and Science Professors (AEESP); International Advisory Board, Program on Sustainable Land Use, German National Environmental Laboratory, Leipzig, Germany (2003-2008); Member, Sustainable Water Resources Management Group, Mexico City (Director: Prof. Vaca Mier, Autonomous University of Mexico), since 2000; External Appraisal Team, Ontario Council on Graduate Studies, Department of Chemical Engineering and Applied Chemistry, University of Toronto, May 13-15, 2002; Principal Editor, Bioavailability and Bioremediation Domain, TheScientificWorld, Inc., 2001-2004; Member, Review committee, Swedish Environmental Research Foundation – Cold Climate Bioremediation Research Program, 11/01, Stockholm, Sweden; Founding Member, Environmental Science and Technology Magazine Advisory Board, 2001-2004; International Advisory Board and Scientific Committee, International Symposium for Environmental Biotechnology (ISEB 2002), Veracruz City (Mexico); International Advisory Board, Biosorption and Bioremediation Conferences, Prague, Czech Republic (since 2000); Associate Editor, J. Contaminant Hydrology (1999-2003); Science Advisory Committee, South & Southwest Hazardous Substance Research Center (1998-2002).

**Innovation and Commercialization Activities:**

Director, KeyStone Compact (Ann Arbor and St Thomas, Virgin Islands); CEO/CTO, Water Risk Analytics, Ann Arbor, MI; Co-Founder and Global Head Judge, Global CleanTech Cluster Association (since 2010); Panel moderator, Global CleanTech Investment, Cleantech Venture Day, Lahti, Finland (4/12); Invited Speaker, Low Carbon Investment Conference, London, UK (11/11); Co-Organizer and Panel Moderator, Enterprise Ireland CleanTech Investment Conference, Dublin, Ireland (11/11); Invited Speaker, Asia-Pacific Business Leaders Sustainability Conference, Sentosa Island, Singapore (10/11); Panel Moderator and Speaker, Asia-Pacific CleanTech Investment Forum, Singapore (7/11); Conference Co-Chair, Global CleanTech Cluster Association EcoCities Investment Conference, Montreal, QC, Canada (2011); Head Judge, Global CleanTech Cluster Association (<http://www.globalcleantech.org/>, since 2011); Advisory Board, OnGreen (<http://www.ongreen.com/>, since 2010); CleanTech Advisor, Frankel Commercialization Fund and Wolverine Venture Fund (since 2007); Co-

Advisor (with Tom Lyon, Dow Professor of Sustainable Science, Technology and Commerce and Director, Erb Institute of Global Sustainable Enterprise), The Ben Franklin Project: Structuring Agreements for Chinese Investment in US CleanTech Startups (2010-2011); Project Director: Water Footprints and Business Water Risk: Investment in Risk Management Strategies (2011-2012); Member, World Resources Institute, Aqueduct Alliance for Business Water Risk (2010-2013); Conference Chair, Michigan-China Clean Tech: Collaboration and Competition in Energy, Smart Grid, Green Cities and Transportation, Ann Arbor MI (2010); Panelist, West Coast CleanTech Forum, Vancouver, BC, Canada (2010); Keynote Speaker (closing session), Societal value Creation from Biotechnology, International Symposium for Environmental Biotechnology, Italy (2010); Co-Chair, Cleantech Investment and Policy Conference, Ann Arbor MI (2009); Technical Advisor, CTSI Clean Technology and Sustainable Industries Conference and Trade Show (2008-2010); Chair, CleanTech Venture Opportunities Conference, Ann Arbor MI (2007); Chair, Emerging CleanTech Opportunities workshop, CleanTech Venture Conference, Toronto, ON, Canada (2007); Consultant to Africa Stockpiles Program (World Bank), Geneva, Switzerland (11/06-1/08); Roundtable on Entrepreneurship Education (participant), Stanford University, CA (10/06); Sustainable Water Resources Round Table (Department of Interior) Workshop on Multi-Stakeholder Use of the Great Lakes (Co-chair with Paul Freedman, Limno-Tech, and Robert Goldstein, Electric Power Research Institute), Ann Arbor, MI (April, 2005); SERDP/ESTCP Workgroup on Sediment Remediation Strategies, Charlottesville, VA (8/04); Technology Benchmarking Workshop for Remediation of Dioxin-Contaminated Sediments and Floodplains, Ann Arbor, MI (3/04); Technology transfer – Bioremediation in Cold Climates, Lund, Sweden (plenary lecturer); Remediation Technologies Development Forum (Sediments group), Seattle, WA; 11/02; 220 participants, Plenary lecturer; University of Michigan Great Lakes Symposium: Our Challenging Future (hosted by Michigan Sea Grant, the School for Natural Resources and the Environment, and the Center for Sustainable Systems), Ann Arbor, MI; 11/02; 150 participants, session leader and key-note speaker (Sediment Contamination, Toxicity, and Beneficial Re-Use); International Roundtable – Intelligent Infrastructure for Sustainable Potable Water, International Symposium for Environmental Biotechnology, Cleaner Bioprocesses, and Sustainable Development, Veracruz, Mexico; 6/02; Organizer, International Advisory Committee, and Plenary lecturer; Department of Environmental Quality-Emergency Response Division, Innovative Technology Seminar, East Lansing, MI; 5/02; 120 participants; key-note speaker; Technology Transfer for Contaminated Sediments, The Housatonic Valley Association and Housatonic River work group, Utica, New York, 2/02. Lecturer; Michigan Environmental Health Association Ground Water Conference, Thompsonville, MI; 10/01; 300 participants; key-note speaker; The CWC Group, Investing in the Future of the Global Water Industry, Financing Mechanisms and Technological Needs of the Water Company of the Future, London, UK; 11/27-28 2000; 90 participants, panel member; Mexico Autonomous University, 2nd Symposium Workshop and Short Course on Sustainable Water: Issues and Technologies, Mexico City, Mexico, 11/8-11/11, 2000; Key-note speaker and lecturer; World Association of Industrial and Technological Research Organizations, Knowledge Transfer in RTOs, The Hague, The Netherlands; 10/11-10/13, 2000; Participant; Michigan Department of Environmental Quality (M-DEQ), Celebration 2000 DEQ Workshop, Roscommon, MI; 7/00; Key-Note Speaker, University of Tuebingen, National Workshop on Natural Attenuation, Stuttgart, Germany; 1/00.

#### **Invention Disclosures/Patents**

Adriaens and Faley, 2011: Keystone Compact™ – a data-driven business design and positioning™ tool; Adriaens and Faley, 2012: Building KeyStone Companies™; KeyStone Score™; Adriaens, Freedman, Marr, 2013: Water Beta™; Water Risk Analytics™; Adriaens & LimnoTech: NanoCap – Method for Design of in Situ Reactive Sediment Caps (D); Vanella & Adriaens, 2010: DNAzyme-based Nanosensors for Mercury and Arsenic (USPTO # 7,709,619); Adriaens & Chang: Multicomponent Droplet Packaging into Single Microchannel (D); Adriaens & Chang: FlowGenomics (D); Adriaens & Limno-Tech: H2-GRID-A Novel Geotextile for Sediment Remediation (D); Adriaens & Chang: Parallel High Throughput and Ultrasensitive Single Molecular Detection Platform (D); Adriaens & Dolney: Reusable Microbial Fuel Cells (D).

#### **Professional Societies/Organizations:**

Academy of Management (since 2012: Entrepreneurship, Technology & Innovation Management, Organizations and the Natural Environment); American Academy of Environmental Engineers (since 2010); United States Association of Small Business and Entrepreneurship (since 2008); CleanTech Network (since 2006); American Society for Engineering Education – Entrepreneurship Division (since 2006); International Water Association (since 2003); International Biodeterioration Society (since 2002); International Society for Environmental Biotechnology

(since 2000); Association of Environmental Engineering and Science Professors (since 2002); Remediation Technologies Development Forum (since 1995); American Geophysical Union (since 1998); European Geophysical Society (since 1998); Society for Environmental Toxicology and Chemistry (since 1998); American Chemical Society (since 1990); American Society for the Advancement of Science (since 1990); The Honor Society of Agriculture, Gamma Sigma Delta (since 1989); American Society for Microbiology (since 1988); Registered Professional Engineer, Belgium (1986).

### **Languages :**

Mother tongue: Dutch; Reading, Writing and Conversational Fluency in English, French and German.

### **Honors and Awards:**

Member, Belgian Royal Academy of Applied Sciences (2012); Member-by-Eminence, American Academy of Environmental Engineers (2009); Round Table on Entrepreneurship Education (REE), 2009, Best Paper Award on “Teaching CleanTech in Global Economies”; Hong Kong, China; Mayor of Dalian (China) Service Excellence Award for contributions to the City of Dalian (2009); COE Service Excellence Award (2009); George J. Huebner Research Excellence Award, University of Michigan (2007); Adjunct Professor, Eberhard-Karls University, Tuebingen, Germany (since 2001); 2003 CH2MHill/AEESP and Parsons Engineering Doctoral Thesis Award (Student: Dr. Michael McCormick); American Chemical Society, 2000 Best Student Paper Award; Student: Alexa N. Rihana.; American Geophysical Union (Hydrology Section) Spring 1998 Best Student Paper (Alexa N. Rihana); American Chemical Society 1998 Best Student Paper Award (John M. Lendvay); American Chemical Society 1998 Graduate Student Award in Environmental Chemistry (Angela Lindner); Recipient, Civil and Environmental Engineering Outstanding Research Award, 1997.

### **Teaching and Student Mentoring:**

#### *Teaching Experience*

U. Michigan (Since 2006): Business Basics for Entrepreneurs (ENGR 390); Entrepreneurial Business Fundamentals for Scientists and Engineers (ENG 520); CleanTech Entrepreneurship (ENG 521); CleanTech Venture Opportunities (ES 520); Financing Sustainability (CEE/ChE 686).  
U. Michigan, Ann Arbor (1992- 2005): CEE 402 Senior CEE Capstone Design Course (2004-2006); CEE 582 Environmental Microbiology, senior/graduate (1992-2006); CEE 692 Pollutant Degradation, graduate (1993-2002); CEE 592 Fundamentals of Bioremediation, graduate (1993-2004); Cellular Biotechnology 504 (co-taught with 5 colleagues from Engineering, Biology, Chemistry, Immunology), graduate (1992-1996).

#### *Staff Supervision*

Field research staff (8), 2004-2006.

Mr. Timothy Towey, Engineering Research Associate IV, 04-07; currently senior engineer, LimnoTech (Ann Arbor)  
Dr. Shu Chi Chang, postdoc 2005-2006, currently Assistant Professor, National Cheng-Kung University, Taichung, Taiwan.

Dr. Mihaela Gavril, postdoc 2004-2007, currently eMBA, Trent University, Ontario, Canada.

Dr. Raveender Vannela, postdoc, 2004-2008, currently Associate Research Scientist, University of Arizona, Tempe AZ

Dr. Noemi Barabas, postdoc 2003-2004, currently senior engineer, LimnoTech, Inc. (Ann Arbor)

Dr. Cyndee Gruden, postdoc (01-03), currently Assistant Professor, University of Toledo

Ms. Anna Khijniak, M.D., assistant research scientist, 7/01-8/03, currently medical intern, UCSD.

Dr. Michael McCormick, postdoc (01-02), currently Assistant Professor, Hamilton College, NY

Mr. Charles ‘Lee’ Major (‘96-02), field manager, national Center for Integrated Bioremediation Research and Development, Oscoda, MI

Dr. Alexa N. Rihana, postdoc (00-02), currently Associate professor, Department of Civil and Environmental Engineering, Wayne State U.

Ms. Annemarie Lucas, admin. support staff/GSSA, 1999-2000

Dr. Karen Skubal, postdoc 1999-2000, Mayer Assistant Professor of Urban and Environmental Studies, Department of Civil Engineering – Case Western Reserve University; currently senior research scientist, Argonne National Laboratory.

Dr. Babu Fathepure, associate research professor, 1995-1999, currently Associate Professor, Department of Microbiology and Molecular Genetics, Oklahoma State U.

Dr. Elizabeth Carraway, postdoc 1992-93, currently Associate Professor, Department of Civil and Environmental Engineering, Clemson University  
Dr. Andrei Barkovskii, assistant research professor 1994-98, 4-8/01, currently Associate Professor, Department of Environmental Sciences, Georgia State University and College.  
Dr. Iris Albrecht, visiting assistant professor 1996-1997, stay-at-home mother and independent business owner  
Dr. Mary Lynam, research technician 1994-1997

#### *Student Mentoring*

Ms. Jingyi Wang: “*Design of NanoCap Material for Sediment Remediation: Technology Integration*”  
Ms. Xiaoliu Zhao: “*Design of NanoCap Material for Sediment Remediation: Business Development*”  
Mr. Timothy Slusser: “*Design and Feasibility of an After Market Business for Li-Batteries*”  
Mr. Hao Niu; “*Scaling of Cost-Benefit Analysis for Green Roof Deployment: Application to Washington, DC*”; Co-Chair with Prof. Jiti Zhou, Dalian Institute of Technology, Dalian, China.)  
Dr. Roya Gitiafroz; “*Anaerobic Bioremediation of Benzene*”; Chair, Elizabeth Edwards, University of Toronto.  
Mr. John Rice, Erb Student (SNRE/Ross); “*Real Options Analysis Financial Modeling for Investment in Hybrid Cooling Technology for the Power Industry*”; Co-Chair; with Michael Moore, SNRE, and Gautam Kaul, Ross School of Business).  
Dr. Robert Levine, PhD student ChemE; “*Value Chain Analysis and Life Cycle Assessment of Algae Biodiesel*”; Paper presented at the CTSI CleanTech Conference, Houston, TX  
Ms. Amy Oberlin, UG ChemE; “*Value Chain Analysis and Life Cycle Assessment of Algae Biodiesel*”; Paper presented at the CTSI CleanTech Conference, Houston, TX.

#### *Graduated PhD (Chair-listed) students:*

Dr. Erik Petrovskis (1995); Principal, GeoSyntec, Inc. (Ann Arbor)  
Dr. Hildegard Selig (1997); Postdoctoral scholar, U. Michigan  
Dr. Angela Lindner (1998); Associate Professor, U. Florida - Gainesville  
Dr. Jack Lendvay (1999); Associate Professor, U. San Francisco  
Dr. Karen Skubal (1999); Assistant Professor, Case-Western U (Ohio)  
Dr. Q. Shiang Fu (2000); Research Associate, Stanford U.  
Dr. Alexa N. Rihana (2000); Associate professor (University of Detroit-Mercy.)  
Dr. Michael McCormick (2001); Assistant Professor, Hamilton College (New York)  
Dr. Noemi Barabas (2002); LimnoTech, Inc. (Ann Arbor)  
Dr. Hirotaka Saito (2002); Assistant Professor, Tokyo University, Japan  
Dr. Shu Chi Chang (2005); Assistant Professor, Taiwan National University.  
Dr. Ke (Betty) Li (with Linda Abriola, Tufts University, 2007)  
Dr. Corrie Clark (with F. Brian Talbot, Ross School of Business, University of Michigan; 2007)  
Dr. Meng-ying Li (with Anna Michalak, 2008).  
Dr. Hoa Trinh (with Christian Lastoskie, 2009).  
Dr. Niu Hao (with Prof. Zhou, Dalian University of Technology, 2010)

#### *Visiting Research Scientists:*

Damborsky, Jiri (6/96-8/96): “Molecular Descriptors for Dioxin Dechlorination Activity”. Visiting from the Laboratory for Molecular Computations, Masaryk University, Brno, Czech Republic  
Kuty, Michal (6/96-8/96): “Molecular Descriptors for Dioxin Dechlorination Activity”. Visiting from the Laboratory for Molecular Computations, Masaryk University, Brno, Czech Republic  
Lendvay, John (5/00-8/00 and 5/01-6/01): “Field Implementation of a Halorespiration Barrier at the Bachman Road Residential Wells Site” Visiting from the University of San Francisco, Department of Environmental Science.

#### **Short Courses:**

Michigan Green Technology Entrepreneurship Academy (M-GTEA), Grand Rapids, MI (2011-2012).  
Business of Sustainability and CleanTech Entrepreneurship, Suzhou Institute of Sichuan University, Suzhou, China ('09: 30 students; '10: 70 students)  
International Summer School “Biomonitoring, bioavailability and microbial transformation of pollutants in sediments and approaches to stimulate their biodegradation”, Genoa, Italy (9/12/05-9/14/05)  
Biological Processes for Sustainable Water Use, Veracruz, Mexico (8/11/05-8/14/05), Lecturer  
Soil and Sediment Sampling Design and Methods, Ann Arbor, MI (5/10/04-5/14/04), Course Director

3<sup>rd</sup> Sustainable Potable Water Short course, Autonomous University of Mexico, Mexico City, 9/02, Plenary lecturer.  
NSF Pan-American Advanced Study Institute, Rio de Janeiro, Brasil, July 22-August 2, 2002 (co-PI and lecturer;  
Danny Reible, LSU, PI)  
NATO Advanced Study Institute, Prague, Czech Republic (2001) (organizer and lecturer; Danny Reible, LSU, PI)  
International Applied Environmental Geochemistry (AEG) Masters Course (20-35 students), University of  
Tuebingen (Germany), Microbiology I Module: April 14-18, 2000, Microbiology II Module: November 17-21,  
2000, Microbiology I Module: April 18-20, 2001, Microbiology II Module: November 26-29, 2001.,  
Microbiology II Module: 11/02, 11/03, 02/05, 11/05, 11/06.  
Environmental Microbiology: Fundamentals and Applications (30 participants), Czech Academy of Sciences;  
Prague, Czech Republic; June 6-13, 1998 (organizer and lecturer)

### **Research Grants and Contracts**

#### *Current and Pending:*

Tekes – Finnish Innovation Fund. Towards Sustainable Positioning for Value Capture and Investability  
- A Roadmap for Finnish CleanTech -; \$ 2. MM, 01/01/14-05/30/16.  
NSF – INSPIRE. Reverse Innovation and New Mobilty: Transportation Solutions for the Low Carbon Economy.  
(with Sue Zielinski, Ravi Anupindi, Ming Xu, Richard Gonzalez, Steven Skerlos, and Lewis Milford), 9/1/13-  
8/31/16. \$3M., **Denied at RSV.**  
National Collegiate Inventors and Innovators Association (NCIIA). SMART E-Team Course: Reverse Innovation  
Ventures in New Mobility (with Sue Zielinski, UM), 7/31/13-12/31/14. \$35K.  
NSF Workshop. Integrating Economic and Financial Principles into Environmental Engineering Research and  
Education, Co-PI (with G. Characklis, UNC), 10/01/10-06/30/13; \$50K., Current.  
NSF-Sustainable Energy Pathways. Sustainable Energy Reactor Facilities (SERFs) - Energy Harvesting from  
Municipal Solid Waste. 9/1/12-8/31/15; Co-PI (with Zekkos, PI, Skerlos, Love, others) \$1.5M. **Declined.**  
NSF. Valuing Water in Business Water Risk Mitigation: The Case for Opportunity-Cost Based Metrics, 09/01/13-  
08/31/16, PI \$ 304K, **Pending.**

#### *Completed:*

The Dow Chemical Company. Michigan Dioxin Exposure Study, 3/1/04-12/31/10, Co-PI \$15 M. (\$ 2.7M to co-PI)  
MEDC/Sakti: Sustainable Supply and Recycling of Electric Vehicle Battery Constituent Metals (with Christian  
Lastoskie), \$500,000.  
SERDP. Integrating Uncertainty Analysis in Risk Assessment for In Place Contaminated Sediment Strategies,  
\$1,427,000 (1/1/05-12/31/08), **PI** (Co-PIs: LimnoTech, Inc., Steven Wright).  
SERDP. Optimization of iron sulfide –based reactive barriers. **Co-PI** (PI: Hayes; Co-PIs: Abriola, Olsen,  
Demond), \$1,100,000.  
EPA-STAR, Development of Re-Usable Fuel Cells, 9/1/2004-12/31/2007, PI \$150,516.  
Michigan Tri-Corridor Fund. Development of a prototype micro-integrated flow cytometer, \$400,000; 9/1/04-  
8/31/06; Co-PI and consultant (with Steven Skerlos, ME, Jennifer Beard, Accuri Cytometers).  
The Dow Chemical Company. Technology Benchmarking Workshop for Remediation of Dioxin-Contaminated  
Sediments, 1/1/04-8/31/04, PI, \$65,000.  
U.S.EPA/Navy: “Pearl Harbor Dioxin and PCB-Contaminated Sediments: Technology Demonstration”, 10/1/02-  
12/31/03; \$650,000, co-PI (with LimnoTech, Inc. Ann Arbor, MI); UM portion \$162K.  
Chlorine Chemistry Council: “Quantification of dioxin dechlorination and outgassing fluxes in urban waterways”,  
5/1/00, gift for dioxin research; \$ 50,000 PI (with Prof. Kevin Jones, Lancaster University, UK).  
NOAA-Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET): “Technology  
Development for Contaminated Coastal and Estuarine Environments: Hydrogen-Enhanced Remediation of  
Capped and Natural Sediments”; 9/1/01-8/31/03; \$200,030; **PI** (Co-PI: Cyndee Gruden, CEE, and John Hull,  
Aquablok, Ltd.).  
Taiwan Government, NSF, UM, Ford: “Sensing, Control and Optimization of Metalworking Fluids Recycling:  
Microbiological Component (with Steven Skerlos, Mechanical Engineering; Kim Hayes, CEE; Richard Brown,  
Electrical Engineering and Computer Science); > \$ 1 m. (3 years); Co-PI.  
Michigan Department of Environmental Quality (MDEQ). "Remediation of Chlorinated Solvents at the Bachman  
Road Site Using Innovative Technologies: Surfactant Enhanced Remediation and Halorespiration, Phases II and  
III-Adjustment", 1/1/99-9/30/02; \$ 350,000, **PI** (Co-PIs: Linda Abriola, Mike Barcelona, Babu Fathepure, Kim  
Hayes, James Tiedje, Frank Loeffler, Kurt D. Pennell, Erik Petrovskis, and Robert Hickey).

NSF; "Propagation of Uncertainty in the Field Extrapolation of Laboratory Experiments: Application to Dioxin-Contaminated Sediments", 9/1/99 - 8/31/02; TDC: \$233,851, IDC: 101,813, Total: \$335,664 Co-PI (PI Pierre Goovaerts)

ONR, "Effect of Hydrogen on Microbial Community Structure and Dechlorination Potential of Marine and Estuarine Sediments", 3/1/99-10/28/02, \$350,000 (PI).

USEPA/DOE/NSF/ONR, Assessment of Biotic and Abiotic Processes Controlling the Fate of Chlorinated Solvents in Mixed Waste Under Iron and Sulfate Reducing Conditions Using Laboratory and Field Microcosms, 1/1/98-12/31/01; 97-2463; \$ 499,988; Co-PI with Kim Hayes and Michael Barcelona.

Michigan Department of Environmental Quality (MDEQ), "Remediation of Chlorinated Solvents at the Bachman Road Site Using Innovative Technologies: Surfactant Enhanced Remediation and Halorespiration, Phases II and III", 1/1/99-12/31/99; \$ 1,549,538, **PI** (Co-PIs: Linda Abriola, Mike Barcelona, Babu Fathepure, Kim Hayes, James Tiedje, Frank Loeffler, Kurt D. Pennell, Erik Petrovskis, and Robert Hickey).

National Science Foundation - Center for Microbial Ecology (MSU; James Tiedje, Director): "Ecological and Kinetic Distribution of Soil Microbial Communities"; 8/1/92-4/30/99; \$ 120,000, **PI**.

NIH (National Institutes of Health): "Cellular Biotechnology Training Program"; 7/1/96-6/30/01; \$ 3,260,219; **Co-I**, David Friedman (UM, PI).

Office of Naval Research, "Natural and Enhanced Transformation of Polychlorinated Dibenzo-p-Dioxins in Estuarine and Marine Sediments", 1/1/96-2/28/99; \$ 185,000; **PI**, Andrei Barkovskii (Co-PI).

Michigan Department of Environmental Quality (MDEQ), "Remediation of Chlorinated Solvents at the Bachman Road Site Using Innovative Technologies: Surfactant Enhanced Remediation and Halorespiration", 3/1/96-12/31/98; \$ 850,000, **PI**, Babu Fathepure (Co-PI).

National Council of the Pulp and Paper Industry for Air and Stream Improvement (NCASI); "Natural and Enhanced Dechlorination of 2,3,7,8-Tetrachlorinated Dioxins and Dibenzofurans in Biological Solids", 2/1/98-7/31/98; \$ 30,000, **PI**.

EPA-Great Lakes Mid Atlantic Hazardous Substance Research Center and DoD; "Investigations of Abiotic and Biotic Reductive Dechlorination Processes in Anaerobic Subsurface Systems", 6/1/96-5/31/98; \$158,000; **PI**, Kim F. Hayes (Co-PI).

EPA-Great Lakes Mid Atlantic Hazardous Substance Research Center; "Metabolic and Cometabolic Biodegradation Kinetics Under Variably Saturated Conditions: Correlations with Water Potential and Moisture Content", 6/1/97-5/17/98; \$ 118,718; **PI**.

University of Michigan, Program to Promote International Partnerships: "Development of Molecular Descriptors for Dioxin Dechlorination Activity", 1997-98; \$ 5,000; with Masaryk University, Czech Republic, **PI**.

U.S. Army Corps of Engineers Waterways Experiment Station, "Effects of Polycyclic Aromatic Hydrocarbons (PAH) on Reductive Transformation of Polychlorinated Dibenzo-p-Dioxins (PCDD) in Dredged Sediments", 4/1/96-1/31/97; \$ 58,000; **PI**.

U.S. EPA, "Anaerobic Transformations of Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans as a Bioremediation Strategy for Passaic River Sediments", 6/1/95-5/30/96; \$ 92,105. **PI**.

U.S. EPA, "Intrinsic Bioremediation at the Aquifer-Surface Water Interface (St. Joseph, MI)", 11/1/93-5/17/95; \$ 131,579; **PI**, Nikolaos Katopodes (Co-PI).

EPA-Great Lakes Mid Atlantic Hazardous Substance Research Center /DoD "Intrinsic Bioremediation of Chlorinated Solvents at an Aquifer-Surface Water Interface (St. Joseph, MI)", 6/1/95-5/17/97; \$ 140,680; **PI**.

EPA-Region II Superfund Research; "Anaerobic Transformation of Highly Chlorinated Dibenzo-p-Dioxins and Dibenzofurans", 10/1/93-9/30/94; \$ 91,500; **PI**.

U.S. EPA-SERDP (Strategic Environmental Research and Development Program) "Phase I of Bioremediation Field Initiative at Wurtsmith Air Force Base"; 6/1/93-5/31/95; \$690,482; **Co-PI**, Walter J. Weber, Jr. (PI), and Linda M. Abriola (Co-PI).

US-EPA, "Intrinsic Bioremediation at Fire Training Area FT-2 (Wurtsmith AFB, MI)"; 5/18/95-8/31/96, \$ 60,000; **PI**.

U.S. EPA-SERDP, "Monitoring and Predicting In Situ Bioremediation Using Microbial and Geochemical Indicators", 5/1/95-4/30/97; \$ 216,000; **Co-PI**, Larry Forney (MSU, PI), Frank Chapelle and Sheridan Haack (U.S. Geological Survey, Co-PIs).

U.S. EPA-Great Lakes Mid Atlantic Hazardous Substance Research Center; "Fundamentals of Bioavailability. Sub-project: The Effect of Water Potential on Biodegradation in the Unsaturated Zone"; 6/1/95-5/15/97; \$ 72,000; **PI**.

U.S. EPA. "A Computer Program to Model Bioventing of Organic Contaminants in Unsaturated Geological Material"; 9/1/93-9/1/95; \$200,000; **Co-PI**, Linda.M. Abriola (PI).

U.S. EPA-Great Lakes Mid Atlantic Hazardous Substance Research Center; "Fundamentals of Bioventing", 6/1/94-5/17/95; \$ 35,000. **PI.**

NIEHS (National Institute of Environmental Health Sciences); "The Mechanism of Reductive Dechlorination"; 4/1/92-3/31/95; \$320,732; **PI.**

NIEHS; "Health Hazards from Groundwater Contamination-UM Trainee core"; 4/1/92-3/31/95; \$ 97,640; **Co-I** (P.I.: Lawrence Fisher, MSU).

### **Invited Presentations and Activities:**

1. Evolutions in Sustainability Finance, GLOBE 2014, Vancouver, CA (03/14)
2. Scandinavia CleanTech Open, Malmoe, Sweden (03/14)
3. KeyStone presentation and workshop, Flemish CleanTech Association, Antwerp, Belgium (02/14)
4. SouthEast Michigan Economic Forum, Ann Arbor, MI. (11/13)
5. KeyStone Compact workshop, Singapore CleanTech MarketPlace, Singapore (09/13)
6. KeyStone Compact keynote, CleanTech Venture Day, Malmoe, Sweden (05/13)
7. TEDx talk on "Reverse Innovation", CleanTech Forum Bilbao (04/13)
8. Global CleanTech Cluster Managers Ministerial Meeting (Dublin, Ireland) "Scaling Cleantech: Investing in Global Value Chains" (04/13)
9. Panel moderator, CleanTech Venture Day, Lahti, Finland (04/12)
10. UM-Ben Gurion University (Israel) Solar Workshop (02/12)
11. Keynote (shared with Ben Taube, TLB Energy, Atlanta GA), CleanTech Clusters, Melbourne, Aus (2/12)
12. Keynote lecture 'Business Water Risk', Gordon Research Conference, New Hampshire (06/12)
13. The Berkeley Roundtable on the International Economy (BRIE), Berkeley, CA (04/12)
14. Value Chain Investing, CleanTech Venture Day, Espoo/Lahti, Finland (04/12)
15. Solar-Water Nexus Workshop, Ben Gurion University of the Negev, Israel (02/12)
16. CleanTech Investment Forum (Terrapin), Melbourne, Australia (02/12)
17. University of Gent, Department of Agricultural and BioEngineering, Belgium (11/11)
18. Low Carbon Investment Conference, London, UK (11/11)
19. Dublin CleanTech Forum, Enterprise Ireland (11/11)
20. EcoCities Investment Conference, Montreal, Canada (08/11)
21. Asia-Pacific Investment CleanTech Investment Conference (07/11)
22. Asia Business Leaders Sustainability Conference, Singapore (10/11)
23. School of Civil, Environmental and Transportation Engineering, University of Florida, Gainesville (04/11)
24. Dalian University of Technology, Dalian, China (03/11)
25. National Chung Hsing University, Taichung, China (10/10)
26. International Symposium for Environmental Biotechnology, Rimini, Italy (09/10)
27. Dalian Institute of Technology, Key-Note Lecture for Friendship Prize, Dalian (12/09)
28. Roundtable on Entrepreneurship Education, Chinese University of Hong Kong, China (10/09)
29. World Resources Institute, Beijing, China (08/09)
30. World Bank Mission, Manila, Philippines (06/09)
31. World Bank, Environment Sector Unit, Washington DC (05/09)
32. Taihu Basin Authority, Shanghai, China (05/08)
33. Suzhou Institute of Sichuan University, Suzhou, China (10/08, 12/08, 03/08)
34. Suzhou-Singapore Technology Park, Suzhou, China (08/08)
35. CleanTech Investment Conference and Trade Show, Boston, MA (05/08)
36. Ontario Center for Research and Innovation, Ottawa, ONT, Canada (06/08)
37. Arizona State University, Tempe, AZ (2/08)
38. University of California Riverside, Riverside CA (2/08)
39. CleanTech Venture Investment Conference, Toronto, ONT, Canada (9/07)
40. Key-Note Presentation, Environmental Nanotechnology, Taiwan National University, Taiwan (5/07).
41. Swiss Federal Water Research Institute (EAWAG), Zuerich, Switzerland (11/06)
42. UNEP Africa Stockpile Program, Rolle, Switzerland (11/06)
43. Department Civil and Environmental Engineering – UCLA, Los Angeles, CA (12/06)
44. Applied Research Center, Florida International University, Miami, FL (10/06)
45. Dalian Institute of Technology, Dalian, China, Key-note lecture (9/06).
46. International Symposium on Environmental Biotechnology (ISEB), Leipzig, Germany, Key-note (7/06).
47. Brookhaven National Laboratory, New York, NY (2/06)



48. Great Lakes Environmental Research Laboratory, Ann Arbor, MI (11/05)
49. East Coast Conference on Contaminated Soils and Sediments, American Society for Environmental Health Science (AEHS), Amherst, MA (10/05).
50. Public Broadcasting Documentary on Green Roof Technology and Policy, Washington, DC (4/05)
51. Department of Civil and Environmental Engineering, Rice University, Houston, TX (3/05)
52. Dioxin 2004 – Environmental Exposure Assessment/Fate and Transport, Berlin, Germany (9/04)
53. SERDP/ESTCP Workshop on Contaminated Sediments, Charlottesville, VA (8/04)
54. International Symposium for Environmental Biotechnology (ISEB), Chicago, IL (6/04)
55. Brominated Flame Retardants (BFR) 2004 – Risk Characterization and Communication, Toronto, Ontario, CANADA (6/04)
56. CONCARIBE 2004 – Helping Caribbean Nations Towards Sustainable Development, Cartagena, Colombia (5/04)
57. Remediation Technologies Development Forum (RTDF) on Sediments, Baltimore, MD (2/04).
58. School of Civil and Environmental Engineering, Purdue University, West Lafayette, IN (12/03).
59. East Coast Conference on Contaminated Soils and Sediments, American Society for Environmental Health Science (AEHS), San Diego, CA (10/03).
60. Key-Note, RISV-International Society for Environmental Biotechnology, Rimini, Italy (9/03).
61. Department of Applied Microbiology and Biotechnology, State University of Gent, Belgium (7/03).
62. Industrial Key-Note, West Coast Conference on Contaminated Soils and Sediments, American Society for Environmental Health Science (AEHS), San Diego, CA (3/03).
63. Cold Climate Bioremediation Program, University of Lund, Sweden, 1/03, Key-note.
64. Department of Geology, The University of Michigan (10/02).
65. NSF Center for Micro Electro-Mechanical Systems, Guest Lecture on “Clean Water: Access, Use, and Sustainable Exploitation”, The University of Michigan, 9/02.
66. Remediation Technologies Development Forum on Contaminated Sediments and Groundwater-Surface Water Interfaces, Seattle, WA (10/02). Key-Note.
67. International Symposium for Subsurface Microbiology (ISSM), Copenhagen, Denmark, (9/02), Key-Note.
68. 3<sup>rd</sup> International Symposium for Bioremediation and Biodeterioration, Prague, Czech Republic (7/02), Key-Note
69. Lawrence Livermore National Laboratories, Environmental and Bioinformatics Divisions, Livermore, CA (6/02), Seminar.
70. West Coast Conference on Contaminated Soils and Sediments, American Society for Environmental Health Science (AEHS), San Diego, CA (3/02).
71. Groundwater Research Institute, Technical University of Denmark, Lyngby, Denmark (11/01)
72. Departments of Civil and Environmental Engineering, Geological Sciences, and Plant and Soil Sciences, Michigan State University (1/01)
73. Industry-sponsored Key-Note Lecture, International Symposium for Environmental Biotechnology (ISEB)-2000, Kyoto, Japan (7/2000).
74. Department of Civil and Mechanical Engineering, McGill University, Montreal, Canada (7/2000)
75. Center for Biocatalysis, University of Iowa, Iowa City (3/2000)
76. Department of Environmental Science, Ohio State University, Columbus, OH (2/2000)
77. Keynote Lecture, Dechema Symposium on Natural Attenuation, Frankfurt am Main, Germany (10/99)
78. Swiss Federal Institute of Environmental Science and Technology, Department of Engineering, Duebendorf, Switzerland (9/99).
79. Lancaster University, Division of Environmental Science, Lancaster, U.K. (9/99).
80. Swiss Federal Institute of Technology, Institute of Soil and Water Management, Lausanne, Switzerland (4/99)
81. Swiss Federal Institute of Environmental Science and Technology, Department of Microbiology, Duebendorf, Switzerland (4/99).
82. The University of Bayreuth, Department of Microbiology, Bayreuth, Germany (3/99).
83. Swiss Federal Institute of Environmental Science and Technology, Department of Chemistry, Duebendorf, Switzerland (2/99).
84. University of California - Riverside, Department of Soil Science and Environmental Toxicology Program (10/98)
85. Stanford University, Department of Civil Engineering, Stanford, CA (9/98)
86. Institute for Geosciences, The University of Tuebingen, Tuebingen, Germany (7/98)

87. Second Conference on Biosorption and Bioremediation, Prague, Czech Republic (7/98)
88. Michigan Department of Environmental Quality - Annu. Mtg., Lansing, MI (5/98)
89. 3d Int. Symposium on Environmental Chemistry "Warszawa '98", Warsaw, Poland (4/98).
90. Society for Industrial Microbiology, Reno, NV (8/97).
91. International Symposium for Environmental Biotechnology (ISEB), Ostend, Belgium (4/97).
92. Medical University of South Carolina, Charleston, S.C. (10/96).
93. Charles University/Institute of Chemical Technology, Prague, Czech Republic (5/96).
94. Masaryk University, Department of Environmental Sciences, Brno, Czech Republic (5/96).
95. Key-Note Speaker, International NATO Workshop on Quantitative Structure-Activity Relationships (QSBR II), Luhacovice, Czech Republic (5/96).
96. University of Stuttgart and Fraunhofer Institute for Microbiology (12/95)
97. Swiss Federal Institute for Water Science Technology (EAWAG), Zuerich, Switzerland (12/95).
98. Rhone-Poulenc Organisation, Lyon France (12/95).
99. University of Amsterdam, Dept. Environ. Toxicology and Chemistry, The Netherlands (12/95).
100. National Environmental Research Institute (NERI), Roskilde, Denmark (12/95).
101. International Conference on Biosorption and Bioremediation. Prague, Czech Republic (10/95).
102. Chair, Session on "Bioremediation of Chlorinated Aromatic Compounds", 15th International Dioxin Conference, Edmonton, Alberta, Canada (8/95).
103. 8th International C1 Symposium, San Diego, California (8/95)
104. Oxychem Research and Development, Grand Island, NY (1995)
105. Michigan Biotechnology Institute, Lansing, MI (3/95)
106. Dow Chemical, Midland, MI. (1995)
107. 5th International Symposium on Environmental Research Topics (hosted by Dr. F.W. Karasek, Univ. of Waterloo), Phoenix, Arizona (1994)
108. US-EPA Bioremediation Risk Assessment Workshop, Duluth, Minnesota (1993)
109. Universität für Bodenkultur (University for Soil Sciences) - Vienna, Austria (1993).
110. DECHEMA Int. Symposium on "Soil Decontamination using Biological Processes", Karlsruhe, Germany (1992).
111. Dehalogenation Conf., "Anaerobic Dehalogenation and its Environmental Implications", Athens, Georgia (1992).
112. Institut für Mikrobiologie, Universität Stuttgart, Germany (1990).
113. GBF, Gesellschaft für Biotechnologische Forschung, Braunschweig, Germany (1990).
114. Annual Forum for Applied Biotechnology, Gent, Belgium (1990).

**Journal Publications (most important recent articles in bold):**

1. Adriaens, P. and D. De Lange. 2012. Field Structuration Around New Issues: Clean Energy Entrepreneurialism in Emerging Economies. Ross School of Business Paper No. 1180. Available at SSRN: <http://ssrn.com/abstract=2171852>. Submitted to Journal of Business Ethics.
2. Adriaens, P. and D. De Lange. 2012. Balancing Exploration and Exploitation in Small World Clean-Tech Clusters. Ross School of Business Paper No. 1177. Available at SSRN: <http://ssrn.com/abstract=2149607>. Submitted to Strategic Management Journal.
3. Towey, T.P., N. Barabas, A. Demond, A. Franzblau, D. H. Garabrant, B. W. Gillespie, J. Lepkowski, and P. Adriaens. 2012. Polytopic Vector Analysis of Soil, Dust, and Serum Samples To Evaluate Exposure Sources of PCDD/Fs. *Environ. Toxicol. Chem.* 31 (10), pp. 2191–2200 .
4. **Larson, W.L., P.L. Freedman, V. Passinsky, E. Grubb and P Adriaens. 2012. Mitigating Corporate Water Risk: Financial Market Tools and Supply Management Strategies. *Water Alternatives* 5(3): 582-602.**
5. Rice, J., G. Kaul, and P. Adriaens. 2013. Real Options Analysis Financial Modeling for Investment in Hybrid Cooling Technology for the Power Industry, *J. Manage. Econ.* In Review.
6. Characklis, G. W., P. Adriaens, J. B. Braden, J. Davis, B. Hamilton, J. B. Hughes, M. J. Small, and J. Wolfe. 2011. Increasing the Role of Economics in Environmental Research (or Moving beyond the Mindset That Economics = Accounting), *Environ. Sci. Technol.* 45, pp. 6235-6236.
7. **Demond, A., A. Franzblau, D. Garabrant, X. Jiang, P. Adriaens, Q. Chen, B. Gillespie, W. Hao, B. Hong, O. Jolliet, J. Lepkowski. 2011. Human Exposure from Dioxins in Soil. *Environ. Sci. Technol.*, 46 (3), pp 1296–1302.**
8. Clark, C.E., P. Adriaens, and C.M. Lastoskie. 2011. Fugacity-based Multimedia Model of a Green Roof System. *Environ. Toxicol. Chem.* In Review.

9. **Hao, N., C.E. Clark, J. Zhou, and P. Adriaens. 2010. *Scaling of Economic Benefits from Green Roof Implementation in Washington DC. Environ. Sci. Technol.*, 4 (11), pp 4302–4308.**
10. Hao, N., C.E. Clark, J. Zhou, and P. Adriaens. 2012. Impact of Cap and Trade Uncertainties on Green Roof Potential as an Energy Efficiency Technology. *Energy Policy*, In Review.
11. Demond, A., Towey, T., Adriaens, P., Zhong, X., Knutson, K., Chen, Q., Hong, B., Gillespie, B., Chang, S.-C., Franzblau, A., Garabrant, D., Lepkowski, J., Luksemburg, W., Maier, M. 2010. Relationship between polychlorinated dibenzo-p-dioxin, polychlorinated dibenzofuran, and dioxin-like polychlorinated biphenyl concentrations in vegetation and soil on residential properties. *Environ. Toxicol. Chem.* 29(12): 2660-8.
12. Franzblau A., Hedgeman E., Jolliet O., Knutson K., Towey T., Chen Q., Hong B., Adriaens P., Demond A., Garabrant D., Gillespie B., Lepkowski J. 2010. The University of Michigan Dioxin Exposure Study: A Follow-Up Investigation of a Case With High Serum Concentration of 2,3,4,7,8-Pentachlorobenzofuran. *Environ. Health Pers.* 118(9): 1313-1317.
13. Gillespie, B., Q. Chen, H. Reichert, A. Franzblau, E. Hedgeman, J. Lepkowski, P. Adriaens, A. Demond, W. Luksemburg, and D. Garabrant, 2010, Estimating population distributions when some data are below a limit of detection by using a reverse Kaplan-Meier estimator. *Epidemiology*, 21(4): S64-S70.
14. Franzblau, A., L. Zwica, K. Knutson, Q. Chen, S.-Y. Lee, B. Hong, P. Adriaens, A. Demond, D. Garabrant, B. Gillespie, J. Lepkowski, W. Luksemburg, M. Maier, T. Towey. 2009. An Investigation of Homes with High Concentrations of PCDDs, PCDFs, and/or Dioxin-Like PCBs in House Dust. *J. Occup. Environ. Hygiene* 6:3,188-199.
15. Chen, Q., D. Garabrant, E. Hedgeman, R. Little, M. Elliott, B. Gillespie, B. Hong, S.-Y. Lee, J. Lepkowski, A. Franzblau, P. Adriaens, A. Demond, and D. Paterson, 2010. Estimation of Background Serum 2,3,7,8-TCDD Concentrations by Using Quantile Regression in the UMDES and NHANES Populations. *Epidemiology*, 21(4): S51-S57.
16. Towey, T., Chang, S-C, , Demond, A, Wright, D, Barabas, N, Chen, Q, Franzblau, A, Garabrant D, Gillespie, B, Lepkowski, J, Hedgeman E, Knutson, K, Zwica, L, Luksemburg W, Maier M , and P. Adriaens. 2010. Hierarchical Cluster Analysis of Dioxins and Furans in Michigan Soils: Differentiation of Industrial and Background Congener Profiles. *Environ. Toxicol. Chem.*, Vol. 29, No. 1, pp. 64–72.
17. Franzblau, A., L. Zwica, K. Knutson, Q. Chen, S.-Y. Lee, B. Hong, P. Adriaens, A. Demond, D. Garabrant, B. Gillespie, J. Lepkowski, W. Luksemburg, M. Maier, T. Towey. 2009. An Investigation of Homes with High Concentrations of PCDDs, PCDFs, and/or Dioxin-Like PCBs in House Dust. *J. Occup. Environ. Hygiene* 6:3,188-199.
18. **Garabrant, D.H., A. Franzblau, J. Lepkowski, B. W. Gillespie, P. Adriaens, A. Demond, B. Ward, K. LaDronka, E. Hedgeman, K. Knutson, L. Zwica, K. Olson, T. Towey, Q. Chen and B. Hong. 2009. *The University of Michigan Dioxin Exposure Study: Methods for an Environmental Exposure Study of Polychlorinated Dioxins, Furans and Biphenyls. Environ. Health. Perspect.* 117 (5): 803-810.**
19. Garabrant, D.H., A. Franzblau, J. Lepkowski, B. W. Gillespie, P. Adriaens, A. Demond, E. Hedgeman, K. Knutson, L. Zwica, K. Olson, T. Towey, Q. Chen, B. Hong, C.-W. Chang, S.-Y. Lee, B. Ward, K. LaDronka, W. Luksemburg and M. Maier. 2009. The University of Michigan Dioxin Exposure Study: Predictors of Human Serum Dioxin Concentrations in Midland and Saginaw, Michigan. *Environ. Health. Perspect.* 117 (5): 818-824.
20. Hedgeman E., C. Q, Hong B, Chang CW, Olson K, LaDronka K, Ward B, Adriaens P, Demond A, Gillespie BW, Lepkowski J, Franzblau A, Garabrant DH. 2009. The University of Michigan Dioxin Exposure Study: Population Survey Results and Serum Concentrations for Polychlorinated Dioxins, Furans and Biphenyls *Environ Health Perspect.* 117 (5): 811-817.
21. Franzblau, A., A. Demond, T. Towey, P. Adriaens, S.-C. Chang, W. Luksemburg, M. Maier, D. Garabrant, B. Gillespie, J. Lepkowski, C.-W. Chang, Q. Chen, B. Hong. 2009. Residences with Anomalous Soil Concentrations of Dioxin-Like Compounds in Two Communities in Michigan, USA: A Case Study. *Chemosphere*, 74 (3): 395-403.
22. Garabrant, D.H., B. Hong, Q. Chen, C.-W. Chang, X. Jiang, A. Franzblau, J. Lepkowski, P. Adriaens, A. Demond, E. Hedgeman, K. Knutson, T. Towey, and B. W. Gillespie. 2008. Factors that Predict Serum PCB, PCDD, and PCDF Concentrations in Michigan, USA. *Epidemiology*. 16(5), S265, November Supplement
23. Knutson, K., B. Hong, Q. Chen, C.-W. Chang, E. Hedgeman, T. Towey, O. Jolliet, B. W. Gillespie, A. Franzblau, J. Lepkowski, P. Adriaens, A. Demond, and D. H. Garabrant. 2008. The Relationship Between Blood Serum Dioxin Levels and Breast Feeding. *Epidemiology*. 16(5), S179, November Supplement.
24. Demond, A., P. Adriaens, T. Towey, S-C. Chang, B. Hong, Q. Chen, C.-W. Chang, A. Franzblau, D. H. Garabrant, B. W. Gillespie, E. Hedgeman, K. Knutson, S.-Y. Lee, J. Lepkowski, K. Olson, B. Ward, L. Zwica,

- W. Luksemburg, and M. Maier. 2008. Statistical Comparison of Residential Soil Concentrations of PCDDs, PCDFs and PCBs from Two Communities in Michigan. *Environ. Sci. Technol.* 42(15), 5441–5448.
25. **Goovaerts, P. H. T. Trinh, A. Demond, A. Franzblau, D. Garabrant, B. Gillespie, J. Lepkowski, and P. Adriaens. 2008. Geostatistical Modeling of the Spatial Distribution of Soil Dioxin in the Vicinity of an Incinerator: 1. Theory and Application. *Environ. Sci. Technol.*, 42(10); 3648-3654.**
  26. Goovaerts, P., H. T. Trinh, A. H. Demond, T. Towey, S.-C. Chang, D. Gwinn, B. Hong, A. Franzblau, D. Garabrant, B. W. Gillespie, J. Lepkowski, and P. Adriaens. 2008. Geostatistical Modeling of the Spatial Distribution of Soil Dioxin in the Vicinity of an Incinerator: 2. Verification and Calibration. *Environ. Sci. Technol.*, 42(10); 3655-3661.
  27. **Clark, C.E., P. Adriaens, and B. Talbot. 2008. Green Roof Valuation: A Probabilistic Economic Analysis of Environmental Benefits. *Environ. Sci. Technol.*, 42 (6), 2155–2161.**
  28. McCormick, M.L., M. Gerdenich, and P. Adriaens. 2011. Biogenesis of nano-scale magnetite during reduction of two-line ferrihydrite by *Geobacter metallireducens*. *Geochim. Cosmochim. Acta*. In Review.
  29. Franzblau, A. E. Hedgeman, Q. Chen, S.-Y. Lee, P. Adriaens, A. Demond, D. Garabrant, B. Gillespie, B. Hong, O. Jolliet, J. Lepkowski, W. Luksemburg, M. Maier, and Y. Wenger. 2008. Case Report: Human Exposure to Dioxins from Clay. *Environ. Health Perspect.* 116:238–242.
  30. **Vannela, R., and P. Adriaens. 2007. In Vitro Selection of Hg (II) and As (V)-Dependent RNA-Cleaving DNazymes, *Env. Eng. Sci.*, 24, 73-84.**
  31. Gruden, C., R. McCulloch, T. Towey, J. Wolfe, and P. Adriaens. 2007. Hydrogen-based Activity Enhancement in Sediment Cultures and Intact Sediments. *Env. Eng. Sci.* 24: 696-706.
  32. Chang, S.-C. and P. Adriaens. 2007. Nano-Immunodetection and Quantification of Mycobacteria in Metalworking Fluids, *Environ. Eng. Sci.*, 24, 58-72.
  33. Adriaens, P., A. Michalak and M-Y. Li. 2006. Scaling of Sediment Bioremediation Processes and Applications. *Eng. Life Sci.* 6 (3), 217-227.
  34. Chang, S-C, Anderson, T., Bahrman, S, Gruden CL, Khijniak, AI, Adriaens, P. 2005. Comparing recovering efficiency of immunomagnetic separation and centrifugation of mycobacteria in metalworking fluids. *J. Ind. Microbiol. Biotechnol.* 32: 629-638.
  35. Lindner, A.S., J. Semrau, and P. Adriaens. 2005. Substituent Effects on the Oxidation of Substituted Biphenyl Congeners by Type II Methanotroph Strain CSC1. *Arch. Microbiol.* 183: 266-276.
  36. Fu, Q. S., A. L. Barkovskii, P. Adriaens. 2005. Microbial dechlorination of dioxins in estuarine enrichment cultures: effects of respiratory conditions and priming compound on community structure and dechlorination patterns. *Marine Environ. Res.*, 59: 177-195.
  37. **Barabas, N., P. Goovaerts, and P. Adriaens. 2004. Modified polytopic vector analysis to identify and quantify dioxin dechlorination signatures in sediments. 1. Theory. *Environ. Sci. Technol.*, 38: 1813-1820.**
  38. Barabas, N., P. Goovaerts, and P. Adriaens. 2004. Modified polytopic vector analysis to identify and quantify dioxin dechlorination signatures in sediments. 2. Application to the Passaic River Superfund site. *Environ. Sci. Technol.*, 38: 1821-1827.
  39. **McCormick, M.L., and P. Adriaens. 2004. Product Distribution During Tetrachloromethane Degradation under Iron-Reducing Conditions. *Environ. Sci. Technol.*, 38: 1045-1053.**
  40. Chang, S.-C., A.N. Rihana, S. Bahrman, C. Gruden, A.I. Khijniak, S.J. Skerlos, and P. Adriaens. 2004. Flow Cytometric Detection and Quantification of Mycobacteria in Metalworking Fluids. *Int. J. Biodet. Biodeg.*, 54: 105-112.
  41. **Gruden, C., Skerlos, S.J., and P. Adriaens. 2004. Flow Cytometry for Microbial Sensing in Environmental Sustainability Applications: Current Status and Future Prospects. *FEMS Microbiol. Ecol.* 49: 37-49.**
  42. Gruden, C.L., Khijniak, A., and Adriaens, P. 2003. Activity Assessment of Microorganisms Eluted from Sediment Using CTC (5-cyano-2,3-ditolyl tetrazolium chloride): A Quantitative Comparison of Flow Cytometry to Epifluorescent Microscopy. *J. Microb. Meth.* 55 (3): 865-874.
  43. Park, J., J. Malinverni, P. Adriaens, and J.J. Kukor. 2003. Quantitative Structure-Activity Relationship (QSAR) Analysis of Aromatic Inducer Specificity in NtrC-like Transcriptional Activators from Aromatic Oxidizing Bacteria. *FEMS Microbiol. Lett.* 224: 45-52.
  44. Lindner, A.S.; C. Whitfield; N. Chen; J.D. Semrau; and P. Adriaens. 2003. Quantitative Structure-Biodegradation Relationships for *Ortho*-Substituted Biphenyl Compounds Oxidized by *Methylosinus trichosporium* OB3b. *Env. Tox. Chem.*, 22(10), 2251-2257.

45. Adriaens, P., S. Skerlos, E.A. Edwards, P. Goovaerts, and T. Egli. 2003. Intelligent Infrastructure for Sustainable Potable Water Supplies: A Roundtable for Emerging Transnational Research and Technology Development Needs. *Biotechnol. Adv.* 22, 119-134.
46. Lendvay, J.M., M. J. Barcelona, G. Daniels, M. Dollhopf, B. Z. Fathepure, M. Gebhard, R. Heine, R. Hickey, R. Krajmalnik-Brown, F. E. Löffler, C. L. Major, Jr., E. Petrovskis, J. Shi, J. M. Tiedje and P. Adriaens. 2003. Bioreactive Barriers: Bioaugmentation and Biostimulation for Chlorinated Solvent Remediation. *Environ. Sci. Technol.* 37: 1422-1431.
47. Barabas, N., P. Adriaens, and P. Goovaerts. 2002. An Integrated Field-Scale Approach to Demonstrate Dioxin Transformation in Estuarine Sediments. *Soil Sed. Contam.* 11: 474.
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105. Adriaens, P., I.D. Albrecht, Q. Fu, and A.L. Barkovskii. Microbial Dechlorination of Polychlorinated Dibenzo-p-Dioxins under Estuarine Conditions. Abstr. In Situ On Site Bioremediation: The Fifth International Symposium, San Diego CA (4/99).
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133. Lynam, M.M., J. Damborsky, M. Kutyl, and P. Adriaens. The Use of Molecular Orbital Calculations in the Development of Structure Activity Relationships for Polychlorinated Dioxins. Am. Chem. Soc. Meet., San Francisco, CA (4/97).
134. Hillers, A., and P. Adriaens. Influence of water potential on the degradation kinetics of toluene and toluate in unsaturated soils and model systems. 97th. Gen Meet. Am Soc. Microbiol., Miami Beach, FL. (5/97)
135. Rihana, A., A. L. Barkovskii, and P. Adriaens. The Effects of Acclimation and Cell Attachment to Soil Particles on Community Structure and Metabolic Activity. 97th. Gen Meet. Am Soc. Microbiol., Miami Beach, FL. (5/97)
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139. Adriaens, P., A.L. Barkovskii, M. Lynam, and J. Damborsky. Dechlorination of Polychlorinated Dibenzo-p-Dioxins in Reduced Sediments: Microbiology, Stoichiometry, and Reactivity. Office of Naval Research Workshop on Biological Dehalogenation in Marine Sediments, Bethesda, Maryland (6/96)
140. Lendvay, J., and P. Adriaens. Effect of Electron Donor and Electron Acceptor Concentrations on Reductive Dechlorination Rates of TCE at a Sulfidogenic Ground Water /Surface Water Interface. HSRC/WERC Joint Conference on the Environment, Albuquerque, New Mexico (5/96).
141. Barkovskii, A.L., and P. Adriaens. Dechlorination of Chlorinated Dioxins: Comparative Impact of the Driving Forces in Reduced Environments. 96th Gen. Meet. Am. Soc. Microbiol. Q-154, New Orleans, LA (1996).
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### **Blog Posts:**

- Academy of Management, Organizations and the Natural Environment Division, monthly blogs 07/12-03/13.
- Financial Times (Faley and Adriaens): "Schools think too narrowly on entrepreneurship" (02/2013)
- Forbes - Insights and ideas for technology leaders: "So, Is There Another Tech Bubble Or Not?" (4963 views, 12 fbshares, 87 tweets, 32 In shares, 42 submits)
- Forbes: "Facebook Valuation: We Don't Know What We Don't Know" (4211 views, 16 fbshares, FBshares, 34 tweets, 16 In shares)
- VentureBeat: "What Facebook isn't telling you about its risky ad business" (43 Facebook shares, 172 tweets, 50 in shares, 14 G+1 recommends)
- MSNBC.com: "Valuation of Facebook" (72 f recommends, 35 tweets)
- CleanTechies.com: "The case for clustering" (8 fb likes, 52 tweets, 26 IN shares)
- TreeHugger.com: "Clustering for economic development"
- CleanEnergy blog: "Global CleanTech clusters"
- Greenbiz.com (with Tom Lyon, RSB): "The Race to be the World's Top Cleantech Innovator" (26 tweets, 38 likes)
- Michigan Capitol Confidential (with Tom Lyon, RSB): "Experts Say State Battery-Plant Subsidy Is a "Risky Venture" (52 tweets, 37 shares)
- Reuters.com/small business (with Tom Lyon, RSB): "Innovation is how we make our living: Is China buying?" (17 tweets, 24 likes, 61 in shares)

**Editorial Activities:**

Associate Editor, Journal of Contaminant Hydrology (2000-2003)  
Review 6-8 manuscripts (Applied and Environmental Microbiology, Environmental Science and Technology, Applied Microbiology and Biotechnology, Water Resources Research, Environmental Toxicology and Chemistry, Bioremediation Journal), and 3-5 proposals (EPA, USDA, NSF, Michigan Great Lakes Protection Fund) per semester.

**Consulting and Litigation:**

Latham & Watkins LLP, San Francisco, CA (since 2007)  
King & Spalding LLP, Atlanta GA (since 2008)  
United Nations Environment Program, International Pesticide Consultant for Compliance with the Stockholm Convention on Persistent Organic Pollutants (2004-2006)  
Round Table Scholar, Washington, DC.  
General Electric – Ecomagination Strategy (2005 - 2006)  
Towa Kagaku, Inc., Hiroshima/Tokyo, Japan, 1995-present  
National Council of the Pulp and Paper Industry for Air and Stream Improvement (NCASI), 1996-present.  
Soils and Materials Engineers (Ann Arbor), 1994-present  
The Dow Chemical Company (Midland), 1998  
LimnoTech, Ann Arbor MI, 1993-present  
Alpha Industries Inc, Logansport IN, 1991-92  
Varnum, Riddering, Schmidt & Howlett, Attorneys-At-Law (Grand Rapids), 1992-present  
Alcoa, Technical Center, Pittsburg, Ill, 2003-present.