

*Curriculum Vitae*

**Roger C. Viadero, Jr., Ph.D.**

Chair, Environmental Science Ph.D. Program  
Director, Institute for Environmental Studies  
Professor, Department of Biological Sciences

**WESTERN ILLINOIS UNIVERSITY · INSTITUTE FOR ENVIRONMENTAL STUDIES**  
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**EDUCATION**

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Ph.D., Civil & Environmental Engineering, West Virginia University, 1997  
M.S., Nuclear Engineering, University of Illinois at Urbana-Champaign, 1994  
B.S., Physics, Mary Washington College, *Summa Cum Laude*, Departmental Honors, *Phi Beta Kappa*, 1993

**PROFESSIONAL CERTIFICATION**

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Senior Ecologist, Ecological Society of America, certification expires 2020

**PROFESSIONAL EXPERIENCE**

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U.S. Department of Agriculture, National Institute for Food & Agriculture, Aquaculture Small Business Innovation Research (SBIR) Program  
**Science Advisor/Panel Manager** .....2015-2017

Western Illinois University, College of Arts and Sciences  
**Founding Chair, Environmental Science Ph.D. Program** .....2013-present  
**Director, Institute for Environmental Studies** .....2007-present  
**Professor, Department of Biological Sciences** .....2007-present

West Virginia University, Office of the Vice President for Research and Economic Development  
**Director, Center for Environmental Research**.....2005-2007

The George Washington University Medical Center, Homeland Security Policy Institute  
**Senior Fellow** ..... 2006

West Virginia University, Department of Civil & Environmental Engineering, College of Engineering and Mineral Resources  
**Inaugural Robert C. Byrd Associate Professor** .....2005-2007  
**Associate Professor** .....2004-2005  
**Assistant Professor** .....1999-2004

University of Wisconsin-Green Bay, Division of Natural & Applied Sciences  
**Assistant Professor, Environmental Engineering** .....1998-1999

West Virginia University, Department of Civil & Environmental Engineering  
**Research Assistant Professor** ..... 1998  
**Lecturer** .....1996-1997

University of Illinois at Urbana-Champaign, College of Engineering  
**Research Fellow** .....1995-1997

Federal Bureau of Investigation (FBI), Laboratory Division, Forensic Science Research and Training Center, FBI Academy  
**Director's Intern** ..... summer 1992

## **HONORS AND AWARDS**

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- **Inaugural Robert C. Byrd Endowed Associate Professorship**, WVU Research Corporation, 2005-2007.
- **Award for Outstanding Research**, WVU College of Engineering & Mineral Resources, 2005.
- **Paper Award** for “exceptional contribution to aquacultural engineering literature,” Aquacultural Engineering Society, 2004.
- **Member, Board of Directors**, Aquacultural Engineering Society, 2004-2006.
- **Award for Outstanding Research**, WVU College of Engineering and Mineral Resources, 2004.
- **Award for Outstanding Teaching**, WVU College of Engineering and Mineral Resources, 2003.
- **Excellence in Teaching Award**, WVU Department of Civil and Environmental Engineering, 2002.
- **J.C. Burchinal Award for Outstanding Undergraduate Teaching**, WVU Department of Civil and Environmental Engineering, 2001.
- **Excellence in Teaching Award**, WVU Department of Civil and Environmental Engineering, 2001.
- **J.C. Burchinal Award for Outstanding Undergraduate Teaching**, WVU Department of Civil and Environmental Engineering, 2000. (Awarded by vote of undergraduate CEE students.)
- **Research Fellowship**, University of Illinois at Urbana-Champaign, College of Engineering, 1993-1995.
- **Departmental Honors in Physics**, Mary Washington College, May 1993.
- **Phi Beta Kappa**, Mary Washington College, elected March 1992.

## **SERVICE**

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### **Professional Affiliations**

- Ecological Society of America
- American Fisheries Society
- Aquacultural Engineering Society
- American Institute of Chemical Engineers
- Society for Biological Engineering
- World Aquaculture Society

### **Editorial & Review Experience**

- **Editorial Board Member**, Journal of Aquacultural Engineering, Elsevier Science, Ltd., 2006-present.
- **Contributing Editor**, Government Engineer: The Journal for Public Infrastructure, 2004-2007.
- **Manuscript Reviewer** for : Applied Clay Science, Aquaculture Research, Environmental Engineering Science, Environmental Science and Pollution Research, Environmental Science and Technology, International Journal of Recirculating Aquaculture, Journal of the American Society of Mining and Reclamation, Journal of the American Water Resource Association, Journal of Aquacultural Engineering, Journal of Contaminant Hydrology, Journal of Ecological Engineering, Journal of Environmental Engineering, Water Environment Research, Separation Science and Technology, Water Research

### **Representative National and International Scientific/Professional Service**

- **Panel Manager**, U.S. Department of Agriculture, National Institute for Food and Agriculture, Institute of Bioenergy, Climate, & Environment, Small Business Innovation Research (SBIR) Program, 2016-2017.

- **Review Panel Member**, U.S. Department of Agriculture, National Institute for Food and Agriculture, Institute of Bioenergy, Climate, & Environment, Small Business Innovation Research (SBIR) Program, 2014 and 2015.
- **Past President**, Aquacultural Engineering Society, 2009.
- **Member**, International Organization for Standardization (ISO) Technology Committee (TC) 234-Fisheries & Aquaculture, Society of Agricultural & Biological Engineers, 2009.
- **President**, Aquacultural Engineering Society, 2008.
- **Member**, College of Reviewers, Canada Research Chairs (Chaires de recherche du Canada), Ottawa, Ontario, Canada, 2008 and 2012.
- **First Vice President**, Aquacultural Engineering Society, 2007.
- **Program Chair**, Aquacultural Engineering Society Sponsored Sessions (1. Computer Tools for Design, Production Planning, & Operation of High-Intensity Flow-Through Production Systems and 2. Bio Floc Technology), World Aquaculture Society International Meeting, San Antonio, TX, February 27-March 2, 2007.
- **Chair**, Awards Committee, Aquacultural Engineering Society, 2007.
- **Second Vice President**, Aquacultural Engineering Society, 2006.
- **Chair**, Research Reporting Standards Committee, Aquacultural Engineering Society, 2005-2010.
- **Proposal Reviewer**, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Louisiana Sea Grant, 2005.
- **Member**, Board of Directors, Aquacultural Engineering Society, 2004-2006.
- **Chair**, Promotions & Meetings Committee, Aquacultural Engineering Society, 2004-2006.
- **Ad hoc Proposal Reviewer**, U.S. Department of Agriculture, National Institute for Food and Agriculture, Institute of Bioenergy, Climate, & Environment, Small Business Innovation Research Program, 2004, 2005, 2006, 2009, and 2010.
- **Subject Matter Expert**, aquaculture management, U.S. Department of Labor, 2003.
- **Session Chair**, “Hazardous Waste and Site Remediation,” American Power Conference, Chicago, IL, April 14-16, 1998.
- **Proposal Reviewer**, U.S. Department of Energy, Small Business Innovation Research Program, 1998.
- **Member**, Literature Review Committee (Physical/Chemical Processes and Metal Finishing), Water Environment Federation, 1996-1999.

#### **Representative Regional and State Scientific/Professional Service**

- **Conference Planning Committee Member**, “Raising the Grade in the Upper Mississippi River,” 10<sup>th</sup> Annual Upper Mississippi River Conference, Moline, IL, October 10-12, 2017.
- **Committee Chair**, Youth Summit, 10<sup>th</sup> Annual Upper Mississippi River Conference, Moline, IL, October 10-12, 2017.
- Workshop Organizing Committee Member ,
- **Conference Planning Committee Member**, “Raising the Grade in the Upper Mississippi River,” 9<sup>th</sup> Annual Upper Mississippi River Conference, Moline, IL, October 13-14, 2016.
- **Moderator**, “Raising the Grade in the Upper Mississippi River, Ecosystem Health Working Group,” 9<sup>th</sup> Annual Upper Mississippi River Conference, Moline, IL, October 13-14, 2016.
- **Committee Chair**, Youth Summit, 8<sup>th</sup> Annual Upper Mississippi River Conference, Davenport, IA, October 14-16, 2015.
- **Conference Planning Committee Member**, “The River Connecting Us,” 8<sup>th</sup> Annual Upper Mississippi River Conference, Davenport, IA, October 14-16, 2015.
- **Conference Planning Committee Member**, “A Resilient River from the Headwaters to the Gulf,” 7<sup>th</sup> Annual Upper Mississippi River Conference Joint Meeting with the Mississippi River Network, Moline, IL, October 14-17, 2014.

- **Moderator**, “Farmers Address Non-point Source Pollution,” 7<sup>th</sup> Annual Upper Mississippi River Conference Joint Meeting with the Mississippi River Network, Moline, IL, October 14-17, 2014.
- **Conference Planning Committee Member**, “Creative Collaborations,” 6<sup>th</sup> Annual Upper Mississippi River Conference Joint Meeting with the Waterfront Center’s 31<sup>st</sup> Thirty-first Urban Waterfronts Conference, Davenport, IA, September 25-28, 2013.
- **Conference Planning Committee Member**, “Make Room For the River in Your Life, Floodplain, and Architecture,” 5<sup>th</sup> Annual Upper Mississippi River Conference, Moline, IL, September 26-28, 2012.
- **Conference Planning Committee Member**, “Balancing Nature and Commerce,” 4<sup>th</sup> Annual Upper Mississippi River Conference, Bettendorf, IA, September 21-23, 2011.
- **Conference Planning Committee Member**, 3<sup>rd</sup> Annual Upper Mississippi River Conference, Moline, IL, August 25-27, 2010.
- **Conference Planning Committee Member**, “Weaving Multiple Uses into Sustainable River Communities,” 2<sup>nd</sup> Annual Upper Mississippi River Conference, Moline, IL, September 23-25, 2009.
- **Conference Planning Committee Member**, Inaugural Upper Mississippi River Conference, Moline, IL, August 21-23, 2008.
- **Moderator**, “Natural Resources & Environmental Planning,” Inaugural Upper Mississippi River Conference, Moline, IL, August 22, 2008.
- **Session Chair**, “Chemistry & Biotechnology,” West Virginia Academy of Sciences, Morgantown, WV, April 19-20, 2002.
- **Member**, Board of Directors, Water Board, Marion County West Virginia, Route 19 Water District, 2001-2003.
- **Session Chair**, “Membrane Processes II,” 31<sup>st</sup> Mid-Atlantic Industrial and Hazardous Waste Conference, Storrs, Connecticut, June 1999.

### **Representative Academic Service**

#### ***Western Illinois University***

- **Chair**, New Program Progress Assessment Committee, 2017-2018.
- **Coordinator**, WIU Udall Fellowship Coordinator, Centennial Honors College, 2016-present.
- **Member (ex-officio)**, Council on Campus Planning and Usage, WIU Faculty Senate, 2014-2017.
- **Graduate Program Coordinator**, School of Graduate Studies, 2013-present.
- **Judge, Graduate Student Research Conference**, School of Graduate Studies, 2016 - 2018.
- **Member**, University Chairs' Council, Office of the Provost and Academic Vice President, 2013-present.
- **Chair**, Illinois Board of Higher Education (IBHE) Program Review Committee, Institute for Environmental Studies, 2012.
- **Member**, WIU-Quad Cities Riverfront Campus Master Planning Committee, 2010-2015.
- **College Representative**, WIU-Quad Cities Analytic Laboratory Design Team, 2010-2013.
- **Chair**, Program Development Committee: Curriculum, Assessment, Workload, and Budget, Environmental Science Ph.D. Program, 2009-2012.
- **Chair**, Search Committee for Interim Chair, Department of Biological Sciences, 2009.
- **Chair**, New Program Needs and Feasibility Assessment Committee, Environmental Science Ph.D. Program, 2008-2009.
- **Member**, North Central Association/Higher Learning Commission Accreditation Self-Study Committee on Outreach and Public Service, 2008-2010.
- **Chair**, Curriculum Review and Revision Committee, Environmental Studies Minor, Institute for Environmental Studies, 2008-2009.

- **Advisory Board Member**, Liberal Arts and Sciences Program, 2008-present.
- **Member**, Post Wildlife Sanctuary Advisory Board, April 2008-present.
- **Member**, Search Committee for College of Arts and Sciences Associate Dean of Administration and Strategic Planning, 2008-2009.
- **Institutional Representative**, development of memoranda of understanding with the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service, 2007 and 2009, respectively.
- **Chair**, Institute for Environmental Studies Advisory Board, 2007-present.
- **Member**, Chairs Council, College of Arts and Sciences, 2007-present.

#### *West Virginia University*

- **Member**, WVU Research Cabinet, Office of the Vice President for Research & Economic Development, 2005-2007.
- **Co-Chair**, Working Group on Mass Migration through Rural Areas – Infrastructure Resource Focus, 2005-2007.
- **Member**, Advisory Committee, WVU Center for Immunopathology and Microbial Pathogenesis, WVU Health Sciences Center, 2006-2007.
- **Member**, Faculty Search Committee, WVU Center for Immunopathology and Microbial Pathogenesis, WVU Health Sciences Center, 2006-2007.
- **Chair**, WVU Center for Environmental Research Advisory Board, 2005-2007.
- **Member**, Outstanding Researcher Selection Committee, College of Engineering and Mineral Resources, 2006.
- **Member**, Department Chair Search Committee, 2006-2007.
- **Member**, Department Promotion and Tenure Committee, 2006-2007.
- **Chair**, Department Promotion and Tenure Committee, 2004-2005.
- **Faculty Advisor**, American Society of Civil Engineers Student Chapter, 2004-2007.
- **Member**, Department Accreditation Board for Engineering & Technology (ABET) Student Expectations and Performance Committee, 2004-2007.
- **Assessment Leader** (environmental and hydrotechnical engineering learning outcomes), Undergraduate Civil Engineering Curriculum Revision and ABET Review Preparation, 2003-2004.
- **Member**, Undergraduate Academic Affairs Committee, 2002-2007.
- **Founding Faculty Advisor**, Graduate Student Council, College of Engineering and Mineral Resources, 2001-2007.
- **Chair**, Environmental Engineering Faculty Search Committee, 2001, 2002, 2003.
- **Member**, Department Graduate Admissions Committee, 2001-2007.
- **Member**, Department Student Recruiting Committee, 2001-2007.
- **Member**, CEMR Safety Committee, 2001.
- **Radiation Safety Officer**, Department of Civil and Environmental Engineering, 2000-2007.
- **Member**, Department Student Awards Committee, 2000-2001.
- **Member**, Geo-Environmental Engineering Faculty Search Committee, 1999.
- **Member**, Undergraduate Laboratory Committee, 1999.
- **Member**, Department Academic Computing Committee, 1999.

#### *University of Wisconsin–Green Bay*

- **Chair**, Course Development Committee, Environmental Systems Science, Division of Natural and Applied Sciences, 1998.

## **COURSES TAUGHT** (\* graduate level course)

### **Western Illinois University**

ENVR 401 Colloquium on Environmental Studies, ENVR 675b Assessment and Management of Low Order Alluvial Stream Channels\*, ENVR 675a Watershed-Scale Environmental Assessment and Management\*, ENVR 730 Environmental Systems\*, ENVR 740 Advanced Analytic Tools in Environmental Science\*, ENVR 750 Integrated Environmental Decision Making\*, GEOG 510 Environmental Impact Analysis\*

### **West Virginia University**

CE 293 Civil Engineering Seminar, CE 347 Introduction to Environmental Engineering, CE 443 Environmental Science and Technology, CE 447 Environmental Engineering Design, CE 540 Aquatic Chemistry and Biology\*, CE 542 Physicochemical Unit Operations\*, CE 591 Hazardous Waste Site Remediation\*, CE 744 Industrial and Advanced Wastewater Treatment\*, ENG 1 Introduction to Engineering, ENG 2 Freshman Engineering Design

### **University of Wisconsin–Green Bay**

ENGR 314 Engineering Mechanics II - Dynamics, ENVSCI 102 Introduction to Environmental Science, ENVSCI 305 Environmental Systems, ENVSCI 318 Industrial Pollution Control, ENVSCI 460 Waste Management and Resource Recovery\*, ENVSP 766 Resource Management Strategy\*

## **STUDENT ADVISING**

**SUMMARY - 16 undergraduate student research advisees, 20 graduate students advised as major professor, 32 graduate student examining committees, and 2 post doctoral research advisees**

### **Undergraduate Student Research Advisees**

- April Belle, 2000-2002
- Scott Copen, 1999-2000
- Derek Dyer, 2003-2004
- Jennifer Gain, 1999
- John Gillilan, 1999-2001
- Danielle Grudzinski, 2000-2001
- Melanie Holman, 1999
- Nathaniel Krause, 2001-2002
- Jennifer McGee, 2000-2003
- Bradley Messenger, 2000-2003
- Jefferey Ross, 1999
- Andrea Rumberg, 2001-2003
- Jaime Sayre, 1998
- Aislinn Tierney, 1999-2000
- Andrew Tuel, 1999
- Ashley VanSpeybroeck, 2012

### **Graduate Students Advised or co-Advised as Major Professor**

- Victoria Livingston, Ph.D. candidate, WIU-Env. Sci., “Embryonic, Larval, and Adult Amphibian Success at a Former Superfund Site - Turned Urban Wetland - in Intermittent Hydraulic Contact with the Mississippi River: Population Counts and Heavy Metal Burdens”.
- Jennifer Sandrik-Rubio, Ph.D. candidate, WIU-Env. Sci., “Geospatial Decision Making Framework to Prioritize Stream Monitoring in the Upper Mid-West for Signs of *Ctenopharyngodon idella* (Grass Carp) Invasion”.
- Jason Hunt, Ph.D. candidate, WIU-Env. Sci., (co-advised with C. Miller-Hunt), “The Role of Environmental and Geomorphological Conditions on the Prevalence of the Invasive Mosquito, *Aedes japonicas*, between the Lower Impounded and the Illinois River Reaches in the Upper Mississippi River Watershed”.

- Terri Tobias, Ph.D. candidate, WIU-Env. Sci., (co-advised with A. Porras-Alfaro) “Role of Microbiological/Mycological Communities [Native to River Corridors in West-Central IL] and Water Quality on the Germination and Maturation of *Aedes albopictus* and *Ae. triseriatus* Larvae”.
- Anshu Singh, Ph.D. Candidate, WIU-Env. Sci., “Environmental Mobility and Partitioning of Heavy Metals in Poorly Drained Mississippi River Lowland Habitats”.
- Michele Rehbein, Ph.D. candidate, WIU-Env. Sci., (co-advised with Dr. Catherine Miller-Hunt, Department of Biological Sciences), “Modeling the Impacts of Atmospheric Variables on the Abundance of *Culex pipiens* in Proximity to Flowing Water Bodies in West-Central Illinois (tentative title)”.
- Derek Dyer, MSCE, WVU-Civil Eng., “Effectiveness of Aquatic Phytoremediation of Nutrients Via Watercress (*Nasturtium officinale*), Basil (*Ocimum basilicum*), Dill (*Anethum graveolens*), and Lettuce (*Lactuca sativa*) from Effluent of a Flow-Through Aquaculture Operation,” 2006.
- Xinchao Wei, Ph.D., WVU-Civil Eng., “Enhanced Management of Metal-Bearing Industrial Sludges through Physicochemical and Surface Investigations,” 2005.
- Jennifer Selfridge, MSE, WVU-Civil Eng., “Pharmaceuticals and Personal Care Products in Domestic Wastewaters: Water Pollutants of Emerging Concern,” 2005.
- Mark Smith, MSE, WVU-Civil Eng., “Effect of Water Quality Disturbances in a Mine Water Aquaculture System on Rainbow Trout, *Oncorhynchus mykiss*,” 2005.
- Phannindra Kunderu, MSCE, WVU-Civil Eng., “Analysis of Aging Effects and Effectiveness of Dewatering Processes on Treated Acid Mine Drainage (AMD) Sludge,” 2005.
- Jennifer McGee, MSCE, WVU-Civil Eng., “Geospatial Framework for Water Quality Impact Assessment: Corridor H,” 2005.
- Andrea Rumberg, MSCE, WVU-Civil Eng., “Applications of Acoustic Doppler Velocimetry for Characterization of Quiescent Zone Hydrodynamics in Flow-Through Aquaculture Systems: Implications for Enhanced Solids Management,” 2004.
- John Gillilan, MSCE, WVU-Civil Eng., “Land Cover and Land Use (LCLU) Impacts on Water Quality in Mid Appalachia,” 2003.
- Patrick F. Hudnall, MSCE, WVU-Civil Eng., “Characterization and Recommendations for the Remediation of Acid Mine Drainage Impacted Streams,” 2003.
- James H. Cunningham, MSCE, WVU-Civil Eng., “Effluent Characterization of Flow-Through Aquaculture Operations in West Virginia,” 2003.
- Aislinn E. Tierney, MSCE, WVU-Civil Eng., “Technical Feasibility of Using Treated Mine Waters to Rear *Oncorhynchus mykiss* as a Value-Added Use of Industrial Wastewater,” 2002.
- Jaime M. Sayre, MSCE, WVU-Civil Eng., “Ecosystem Impact Mitigation of Roadway Construction Based on Pre-Construction Engineering Analyses,” 2001.
- David A. Masciola, Ph.D., WVU-Civil Eng., “Development of Resistance-Based Model for Technical Performance Comparison of Membrane Separation Modules,” 2000.
- Ronald L. Vaughan, MSE, WVU-CEE, “High-Shear Rotary Ultrafiltration of a Synthetic Oily Wastewater: Resistance in Series Modeling,” 1998.

#### **Membership on Graduate Student Thesis/Dissertation Examining Committees**

- Paige Eryke, M.S. student, Biological Sciences, “Mosses as Green Engineers in Controlling Bank Erosion along Low Order Streams: Geomorphological and Ecological Analyses (tentative title),” degree in progress.
- Hannah Helms, M.S., WIU-Biology, “Single-Standing Wind Turbines Impact Bat Populations during Low Nocturnal Wind Speeds and Fall Migration,” 2016.
- Michele Rehbein, M.S., WIU-Biology, “Arbovirus Surveillance in Rural Western Illinois, 2016.
- John Bendick, Ph.D., University of Maryland-Chemical, Biochemical & Environmental Engineering, “High Shear Rotary Membrane System Enhancements for Naval Wastewaters, 2013.

- Babita Gurung, M.A., WIU-Geography, "Influence of Historical Land Use & Physiography on Current Forest Composition at the Post Wildlife Sanctuary, McDonough County, Illinois," 2011.
- Raj Gondle, Ph.D., WVU-Civil Eng. "Numerical Modeling of Overburden Response during Geologic Sequestration," 2010.
- Selina Goddard, M.S., WIU-Biological Sciences, "Temporal Assessment of Forest Habitat at the Ira & Reatha T. Post Wildlife Sanctuary, McDonough County, IL," 2010.
- Honghong Wei, MSE, WVU-Civil Eng., "Impact of Mine Land Restoration & Revegetation on Water Quality in a Mid-Appalachian Watershed: A Stream Monitoring Study," 2008.
- Joshua Pike, MSCE, WVU-Civil Eng., "Numerical Modeling of Soil- Geosynthetic Interactions," 2007.
- Lara Raas-Hedrick, Ph.D., WVU-Division of Forestry, Wildlife, & Fisheries Resources, "Evaluation of the Impacts of Highway Construction on Sediment and Benthic Macroinvertebrates in Appalachian Streams," 2007.
- Raj Gondle, MSCE, WVU-Civil Eng., "Finite Element Analysis of Long-Term Performance of High Density Polyethylene Pipes," 2006.
- Xiaochao Tang, MSCE, WVU-Civil Eng., "Numerical Analysis of the Geomechanical Response of Overburden Strata to Carbon Dioxide Sequestration Injection in Coal Seams," 2006.
- Ronald Ingram, MSCE, WVU-Civil Eng., "Pullout Study of Soil-Geosynthetic Interface and Boundary Effects with Cohesion and Cohesionless Soils," 2006.
- Ricardo Longhi, Ph.D., WVU-Civil Eng., "Experimental and Numerical Investigation of Seepage Through Longitudinal Drains," 2006.
- Krishan Kakarla, MSCE, WVU-Civil Eng., "Numerical Analysis of Seepage in Earth Slopes," 2005.
- Johnathan Niemiec, MSCE, WVU-Civil Eng., "Investigation of Soil-Geosynthetic Interface Properties," 2005.
- Hemachandar Mada, MSCE, WVU-Civil Eng., "Numerical Analysis of Flowable Fill as a Backfill Material around Buried Pipe," 2005.
- Atif Hamid, MSCE, WVU-Civil Eng., "Geomorphological Characterization of Beaver Creek and Development of a Regional Curve," 2004.
- Vijay Duvvuir, MSCE, WVU-Civil Eng., "Determination of Permeability in Low Permeable Materials in Geomechanics," 2004.
- Christopher Ryan, MSCE, WVU-Civil Eng., "A Geotechnical Investigation of the Montrose Wetland Site," 2004.
- Rafif Srour, Ph.D., WVU-Division of Plant & Soil Science, "Metal-Surface Reactions in Mixed Aqueous-Organic Solvent Systems," 2004.
- Tummala Vijayalakshmi, MSCE, WVU-Civil Eng., "Watershed-Scale Hydrologic Modeling for Habitat Restoration," 2003.
- Kyle Stephens, MS, WVU-Division of Plant & Soil Science, "Characterization and Classification of Wetland Soils in the Beaver Creek Watershed," 2003.
- Vipin Bardwaj, MSE, WVU-Civil Eng., "Anti-Scale Magnetic Water Conditioning," 2002.
- Xiujin Qin, Ph.D., WVU-Civil Eng., "Effects of Plant Flavonoids on Polynuclear Aromatic Hydrocarbon Transformation in Rhizosphere Soil," 2000.
- Mark Grant, MSE, WVU-Civil Eng., "Enhanced Limestone Dissolution in the Treatment of Acid Mine Drainage Utilizing a CO<sub>2</sub> Pre-Treatment," 2000.
- Mookdawan Kornpitaksak, MSE, UWGB-Env. Sci., "Embryonic, Larval, and Adult Amphibian Success at a former Superfund Site - Turned Urban W, "Removal of Fine Particulate Matter from Intensive Recirculating Aquaculture Systems Using Microfiltration," 2000.
- David A. Masciola, MSCE, WVU-Civil Eng., "Effects of Transmembrane Pressure and Membrane Rotation on Water Quality in the High-Shear Rotary Ultrafiltration System," 1999.



- Michael Malak, MSCE, WVU-Civil Eng., “Optimization of a High-Shear Rotary Ultrafiltration System for Tubular UF Residual Treatment,” 1999.
- Daryl Hudson, MSE, WVU-Civil Eng., “Industrial Discharge into Domestic Sewers,” 1998.
- Elvin Yúzugúllú, MSE, WVU-Civil Eng., “Influence of Surfactant Solution on the Hydraulic Conductivity of Glacial Till Soil at the RMI Facility-Ashtabulah, Ohio,” 1998.
- Alanna Morris, MSCE, WVU-Civil Eng., “Development of a Standard Operating Plan for a Full-Scale Tubular Ultrafiltration System,” 1998.

#### Post Doctoral Researchers Supervised

- Dr. Xinchao Wei, WVU-Civil Eng., 2006 – 2006.
- Dr. Karen Buzby, WVU-Civil Eng., 2003 – 2005.

## PUBLICATIONS

**SUMMARY - 1 book edited, 36 papers in archival journals (1 under review), 5 book chapters, 2 invited papers, 15 papers written as a contributing editor, 3 conference white papers, and 51 conference papers**

#### Book Edited

- Griffin, Donald (2012). *Voices of the Hennepin Canal: Promoters, Politicians, and the U.S. Army Corps of Engineers*, Roger Viadero, Jr., Editor, Western Illinois University, Macomb, IL, ISBN: 978-0-9777116-2-8.

#### Papers in Archival Journals (*\*student author*)

- Kang, R., Chacko, E., Kaur, D., and R. Viadero. “Siltng Patterns in the Reservoirs of Small- and Medium-Sized Earthen Check Dams,” *Earth Surface Processes and Landforms*, under review August 2017 (manuscript number ESP-17-0303).
- Viadero, R., and R. Fortney. (2015). “Water Quality Assessment and Environmental Impact Minimization for Highway Construction in a Coal-Mined Watershed: the Beaver Creek Drainage,” *Southeastern Naturalist*, 14 (7), 112-120.
- Wei, X., Bhojappa, S. \*, Lin, L. and R. Viadero (2012). “Performance of Nano-Magnetite for Removal of Selenium from Aqueous Solutions,” *Environmental Engineering Science*, 29 (6), 526-532. <http://dx.doi.org/10.1089/ees.2011.0383>
- Wei, X., Wei, H. \*, and R. Viadero (2011). “Post-Reclamation Water Quality Trends in a Mid-Appalachian Watershed of Abandoned Mine Lands,” *Science of the Total Environment*, 409 (5), 941-948. <http://dx.doi.org/10.1016/j.scitotenv.2010.11.030>
- Chen, Y. \*, Viadero, R., Wei, X., Hedrick, L. \*, Welsh, S., Anderson, J., and L. Lin (2008). “Effects of Highway Construction on Stream Water Quality and Macroinvertebrate Condition in a Mid-Atlantic Highlands Watershed, USA,” *Journal of Environmental Quality*, 38, 1672-1682.
- Wei, X., Viadero, R., and S. Bhojappa\* (2008). “Phosphorus Removal by Acid Mine Drainage Sludge from Secondary Effluents of Municipal Wastewater Treatment Plants,” *Water Research*, 42, 3275-3284.
- Viadero, R., Fortney, R., and A. Tierney (2008). “Impact Assessment and Remediation Strategies for Roadway Construction in Acid-Bearing Media: A Case Study from Mid-Appalachia,” *Journal of Infrastructure Systems*, 14 (3), 223-229. [http://dx.doi.org/10.1061/\(ASCE\)1076-0342\(2008\)14:3\(223\)](http://dx.doi.org/10.1061/(ASCE)1076-0342(2008)14:3(223))
- Fortney, R., Grafton, W., Stephenson, S., Coxe, R., and R. Viadero. “The Vascular Plant Flora of Roadside Habitats in West Virginia,” *Castanea: The Journal of the Southern Appalachian Botanical Society*, in press.

- Wei, X. and R. Viadero (2007). "Adsorption and Precoat Filtration Studies of Synthetic Dye Removal by Acid Mine Drainage Sludge," *Journal of Environmental Engineering*, 133 (6), 633-640. [http://dx.doi.org/10.1061/\(ASCE\)0733-9372\(2007\)133:6\(633\)](http://dx.doi.org/10.1061/(ASCE)0733-9372(2007)133:6(633))
- Buzby, K. and R. Viadero (2007). "Structural and Functional Aspects of Treated Mine Water and Aquaculture Effluent Streams," *Hydrobiologia*, 583 (1), 251-263. <http://dx.doi.org/10.1007/s10750-006-0534-0>
- Wei, X. and R. Viadero (2007). "Synthesis of Magnetite Nanoparticles with Ferric Iron Recovered from Acid Mine Drainage: Implications for Environmental Engineering," *Colloids and Surfaces: Physicochemical and Engineering Aspects*, 294 (1-3), 280-286. <http://dx.doi.org/10.1016/j.colsurfa.2006.07.060>
- Chen, Y.\* , Lin, L., Viadero, R., and D. Gang (2007). "Non-point Source Pollution," *Water Environment Research*, 79 (17), 2032-2048. <http://dx.doi.org/10.2175/106143007X218656>
- Viadero, R., Rumberg, A.\* , Gray, D., Tierney, A., and K. Semmens (2006). "Acoustic Doppler Velocimetry in Aquaculture Research: Raceway and Quiescent Zone Hydrodynamics," *Aquacultural Engineering*, 34 (1), 16-25. <http://dx.doi.org/10.1016/j.aquaeng.2005.03.002>
- Viadero, R., Wei, X., and K. Buzby (2006). "Characterization and Dewatering Evaluation of Acid Mine Drainage Sludge from Ammonia Neutralization," *Environmental Engineering Science*, 23 (4), 734-743. <http://www.dx.doi.org/10.1089/ees.2006.23.734>
- Wei, X., Viadero, R., and K. Buzby (2005). "Recovery of Iron and Aluminum from Acid Mine Drainage by Selective Precipitation," *Environmental Engineering Science*, 22 (6), 745-755. <http://www.dx.doi.org/10.1089/ees.2005.22.745>
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### Conference Presentations and Proceeding Papers (*†presenting author, \*student author*)

- Kang, R.<sup>†</sup>, Chacko, E., Kaur, D., and R. Viadero. "Patterns of Silting in the Reservoirs of Small- and Medium-Sized Earthen Check Dams in the Shiwalik Foot Hills of the Himalayas, Geological Society of America Annual Meeting, Seattle, WA October 22-25, 2017.
- Tobias, T.<sup>\*†</sup>, Hunt, J.<sup>\*</sup>, Viadero, R., Miller-Hunt, C., and A. Porras-Alfaro, "Yeast Diversity in an Urban Stream and Their Impact on Mosquito Populations," Mycological Society of America, Athens, GA, June 16 – 19, 2017.
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### **Written as Contributing Editor to a Professional Publication**

- Viadero, R. (2007). “Adaptive Management for Infrastructure Development & Environmental Stewardship,” *Government Engineer: The Journal for Public Infrastructure*, 4 (5), 18-19.
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### **SPONSORED RESEARCH**

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#### **| SUMMARY - \$6.8 M total, \$5.0 M as PI, and \$1.8M as co-PI**

- “Long-Term Riparian and Aquatic Ecosystem Monitoring on the Upper Mississippi River,” Earthwatch Institute, 2009, PI: S. Jenkins, co-PIs: T. Spier, J. Lamer, M. Romano, and R. Viadero, \$16,000.
- “Long-Term Riparian and Aquatic Ecosystem Monitoring on the Upper Mississippi River,” Earthwatch Institute, 2008, PI: S. Jenkins, co-PIs: T. Spier, J. Lamer, M. Romano, and R. Viadero, \$16,000.
- “Evaluating Restoration and Mitigation Species and Market Opportunities to Advance the Commercialization of the Aquatic Plant Industry,” Northeastern Regional Aquaculture Center (NRAC), U.S. Department of Agriculture, 2008, PIs: Drs. A. Lazur<sup>U. Maryland</sup> and D. McIntosh<sup>Delaware State</sup>, co-PIs: K. Semmens and R. Viadero, \$449,903.



- “Solids Removal and Sludge Handling in Small Flow Through Aquaculture Systems: Technological, Operational, & Economical Improvements,” U.S. Department of Agriculture, 2006-2007, PI: R. Viadero, co-PIs: D. Gray and A. Tierney, \$117,190.
- “Mine Water Aquaculture Productivity and Economic Enhancements Through Year-Round Operation with Recreationally-Relevant Warm Water Fish Species,” U.S. Department of Agriculture, 2005-2007, PI: R. Viadero, co-PI: K. Semmens, \$91,160.
- “Recovery of Nutrients from Aquaculture Process Water Using Watercress, Basil, and Dill: Effects of Seasonal Factors on Performance,” U.S. Department of Agriculture, 2005-2007, PI: R. Viadero, co-PIs: T. West and K. Semmens, \$67,780.
- “Program to Stimulate Interdisciplinary Research,” West Virginia University Research Corporation, 2005-2007, PI: R. Viadero, \$400,000.
- “Increasing Economic and Environmental Sustainability of Aquaculture Production Systems Through Aquatic Plant Culture,” Sustainable Agriculture Research and Education Program (SARE), U.S. Department of Agriculture, 2005-2006, PIs: Drs. A. Lazur<sup>U. Maryland</sup> and D. McIntosh<sup>Delaware State U.</sup>, co-PIs: K. Semmens and R. Viadero, \$278,076.
- “Stream Monitoring Study for Appalachian Corridor H: Water Quality, Fisheries, and Benthic Macroinvertebrate Studies” and Amendments, Federal Highways Administration via the West Virginia Division of Highways, 2006-2010, PI: R. Viadero, co-PIs: R. Fortney, J. Anderson, and S. Welsh, \$1,097,010.
- “Production Evaluation of Two Commercial Diets for Rainbow Trout in Treated Mine Water,” U.S. Department of Agriculture, 2004-2005, PI: R. Viadero, co-PI: K. Semmens, \$77,264.
- “Value-Added Use of Aquaculture Process Waters: Growth of Watercress (*Nasturtium officinale* R.Br.),” U.S. Department of Agriculture, 2004-2005, PI: R. Viadero, co-PIs: T. West and K. Semmens, \$125,067.
- “Stream Monitoring Study for Appalachian Corridor H: Water Quality, Fisheries, and Benthic Macroinvertebrate Studies” and Amendments, Federal Highways Administration via the West Virginia Division of Highways, 2003-2006, PI: R. Viadero, co-PI’s: R. Fortney, and J. Anderson, \$1,029,980.
- “Cooperative Agreement Between the WV Department of Environmental Protection, Division of Mining & Reclamation, Office of Special Reclamation and West Virginia University’s Department of Civil & Environmental Engineering,” West Virginia Department of Environmental Protection, 2003-2005, PI: R. Viadero, \$248,355.
- “Development and Verification of a Model to Describe Production of Rainbow Trout in Raceway Systems,” U.S. Department of Agriculture, 2003-2004, PI: R. Viadero, co-PIs: R. Turton and K. Semmens, \$93,817.
- “Treatment of Effluent from Modular Composite Raceway System and Assessment and Design of Novel Quiescent Zone,” U.S. Department of Agriculture, 2002-2004, PI: R. Viadero, co-PIs: J. Davalos and K. Semmens \$124,382.
- “Acid-Base Accounting, Revegetation Planning, and Development of Plans for Stream Channel Restoration in Acid Mine Drainage Impacted Lands”, Federal Highways Administration via the West Virginia Division of Highways, 2002-2004, PI: R. Viadero, co-PI’s: R. Fortney, J. Skousen, and J. Sencindiver, \$168,632.
- “Partnership for Innovation: Honeycomb Polymer Materials for Construction and Aquaculture Marketing Development,” National Science Foundation, 2001-2004, PI: J. Davalos, co-PIs: J. Plunket, R. Viadero, and K. Semmens, \$597,378.
- “Technical Assessment and Application of Remediation Measures for Highway Construction Through Acid Mine Drainage Impacted Lands,” Federal Highways Administration via the West Virginia Division of Highways, 2001-2003, PI: R. Viadero, co-PIs: R. Fortney, D. Gray, J. Skousen, and J. Sencindiver, \$548,614.
- “In Situ Stream Water Quality Monitoring along Appalachian Corridor H,” Federal Highways Administration via the West Virginia Division of Highways, 2001-2003, PI: R. Viadero, co-PI: R. Fortney \$110,502.

- “Trout Production Raceway System Using Advanced Composite Materials,” State of West Virginia Higher Education Policy Commission, 2001-2002, PI: J. Davalos, co-PIs: J. Plunket, R. Viadero, and K. Semmens, \$140,000.
- “Stream Monitoring Study for Appalachian Corridor H: Water Quality, Fisheries, and Benthic Macroinvertebrate Studies” and Amendments, Federal Highways Administration via the West Virginia Division of Highways, 2000-2003, PI: R. Viadero, co-PI: R. Fortney, \$698,786.
- “Evaluation of Highway and Other Transportation Rights-of-Way in West Virginia as Habitats & Vectors for Invasive Species,” West Virginia Division of Highways, 2000-2002, PI: R. Fortney, co-PI: R. Viadero, \$162,931.
- “Strategic Assessment of Roadway Runoff Research Needs in West Virginia,” West Virginia Division of Highways, 2000-2001, PI: R. Viadero, co-PI: R. Fortney, \$97,773.
- “Assessment of Benthic Macroinvertebrates in Environmental Impact Assessment,” Potesta & Associates, 2000-2001, PI: T. Jones, co-PI’s: R. Fortney and R. Viadero, \$25,000.
- “Removal of Fine Particulate Matter from Intensive Fish Production Systems Using Microfiltration,” University of Wisconsin System, 1999-2000, PI: R. Viadero, co-PI: J. Noblet, \$39,000.