

Curriculum Vitae – Joseph F. Atkinson

Department of Civil, Structural and Environmental Engineering
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Education

1985 Ph.D., Civil Engineering, Massachusetts Institute of Technology
 Advisor: Donald R.F. Harleman
 1979 M.Eng., Civil Engineering, Cornell University
 1973 B.S., Independent Program of Studies, Harvey Mudd College

Professional Engineer, New York License Number 073472 (since 1996)

Positions

Current

Professor, Department of Civil, Structural and Environmental Engineering
 (CSEE), University at Buffalo (UB), Buffalo, New York, since 1998
 Department Chairman, CSEE, since July 2016
 Director, Great Lakes Program, UB, since 2000
 Adjunct Research Professor, Department of Geography and Planning, Buffalo
 State College, Buffalo, New York, since 2000

Previous

2016-2019 Associate Director, Freshwater, RENEW Institute
 2010-2016 Division Head, Environmental and Water Resources Engineering, Department of
 Civil, Structural and Environmental Engineering
 2009 Visiting Professor, Department of Civil Engineering, Technion – Israel Institute
 of Technology, Haifa, Israel
 2009 Visiting Professor, Department of Civil and Structural Engineering, Hong Kong
 Polytechnic University, Hong Kong
 1999-2000 Visiting Professor, Department of Civil Engineering, Technion – Israel Institute
 of Technology, Haifa, Israel
 1998-1999 Interim Director, Great Lakes Program, University at Buffalo
 1992 Guest Investigator, Department of Physical Oceanography, Woods Hole
 Oceanographic Institute, Woods Hole, Massachusetts
 1991-1992 Visiting Professor, Department of Civil Engineering, Technion - Israel Institute of
 Technology, Haifa, Israel
 1990-1998 Associate Professor, Department of Civil, Structural and Environmental
 Engineering, University at Buffalo
 1984-1990 Assistant Professor, Department of Civil Engineering, State University of New
 York at Buffalo
 1980-1984 Research Assistant, Department of Civil Engineering, Massachusetts Institute of
 Technology
 1979-1980 Research Fellow, Technion - Israel Institute of Technology

1978-1979 Research Assistant, Department of Civil and Environmental Engineering, Cornell University

Honors and Awards

2012 IAGLR highly cited paper award (for Makarezcic et al., Journal of Great Lakes Research, 2012).

2008-2009 Lady Davis Fellow, Technion – Israel Institute of Technology, Haifa.

1999-2000 Fulbright Senior Scholar, Technion – Israel Institute of Technology.

1991-1992 Lady Davis Fellow, Technion - Israel Institute of Technology, Haifa.

1989 Chancellor's Award for Excellence in Teaching, State University of New York.

1988-1989 Lilly Teaching Fellow, University at Buffalo.

1988 Excellence in Teaching Award, New England District, Chi Epsilon – National Civil Engineering Honor Society.

1987-1989 Listed in "Who's Who in the East", Marquis Publications.

1987, 1988 Outstanding Service Award, American Society of Civil Engineers.

1987, 1988 Listed in "Who's Who of Emerging Leaders", Marquis Publications.

1985 Teacher of the Year Award, Tau Beta Pi - National Engineering Honor Society, University at Buffalo.

1983-1984 Paul Rappaport Fellow, American Solar Energy Society.

1984 Arthur T. Ippen Fellow, Department of Civil Engineering, Massachusetts Institute of Technology.

1979-1980 Lady Davis Graduate Fellow, Technion - Israel Institute of Technology.

Teaching and Student Supervision

Courses Taught

Undergraduate

CIE 354, Fluid Mechanics; Fall 1984-1990, 1992-1996, 1998, 2008-2011 (50-140 students)

CIE 443, Hydraulic Engineering; Spring 1985-1991, 1993, 1999 (50-80 students)

CIE 444, Hydrologic Engineering, Fall 1993-1995, 1997, 2000, 2001, 2004, 2012-2013 (15-40 students)

CIE 447, Environmental Engineering Practicum, Fall 2005, 2006, 2008 (5-7 students)

CIE 449, Environmental Engineering Design, Spring 2005, 2008, 2010 (12-29 students)

EAS 103, Introduction to Engineering; Fall 1987, 1994 (20 students)

EAS 203, Applied Mechanics; Spring 1987 (120 students)

EAS 209, Mechanics of Solids, Spring 2003, 2004 (92-99 students)

EAS 451, Modern Methods in Engineering Computation; Spring 1985; Fall 1988 (95-100 students)

CSE306, Hydraulics and Hydrology (taught at Hong Kong Polytechnic University), Spring 2009 (115 students)

Graduate

CIE 500, Advanced Topics in Environmental Fluid Mechanics, Spring 2006 (5 students)

CIE 500, Ecosystem Restoration, Spring 2007 (8 students)

- CIE 543, Water Quality Modeling; Spring 1986, 1988, 2001- 2004, 2011-2015 (10-15 students)
- CIE 546, Environmental Fluid Mechanics; Fall 1987, 1989, 1990, 1992, 1996-1998, 2002-2006, 2009-2012, 2015 (6-22 students)
- CIE 550, Hydrologic Engineering, Fall 2001, 2002, 2004, 2012-2013 (3-5 students)
- CIE 554, Numerical Methods in Water Resources and Environmental Engineering; Spring 1994-1996 (6-10 students)

Other Teaching Activities

- 2005-2010 Organized and co-taught three-week summer workshop series on stream and ecosystem restoration.
- 2002 Co-organized and taught Great Lakes Summer Institute, 10 graduate and undergraduate students (funding from Great Lakes Protection Fund).
- 1995-1996 Received grant from Faculty Grant Program, Instructional Technology Services, UB, to develop PowerPoint presentations for undergraduate class in Fluid Dynamics (CIE 354).
- 1995 Instructor, Great Lakes Summer Institute, SUNY College at Buffalo.
- 1995 Instructor, short course on “Topics in Physical and Numerical Modeling of Natural Water Bodies”, Bari Polytechnic University, Bari, Italy.
- 1988-1991 Produced a set of videotaped laboratory exercises for use in Hydraulic Engineering course (funding from Lilly Teaching Fellowship).

Graduate Student Supervision

Doctoral students completed

1. Yuan Hui, Ph.D., “Phosphorus Dynamics and Eutrophication in Nearshore Lake Ontario: Insights from Hydrodynamic and Ecological Modeling”, Ph.D., June 2021.
2. Abduhlman Alali, “Fate and Formation of Oil-Particle Aggregates in Cold Freshwater”, Ph.D., September 2020.
3. Maliheh Karamigolbaghi, “Evaluation of Cohesive Soil Erosion Parameters”, Ph.D., August 2019.
4. Hadis Matinpour, “Flow Dynamics Modulation by Suspended Sediment”, Ph.D., June 2019.
5. Jundong Qiao, “Framework for Fish Passage Design and Evaluation: Application for emerald shiners in Niagara River”, Ph.D., June 2019.
6. Brandon Sansom, Ph.D., “Freshwater Mussels as Ecosystem Engineers: Modulation of Near-Bed Hydrodynamics through Mussel-Flow Interactions”, February 2019.
7. Seyed Mohammad Ghaneizad, “Impinging Jets in a Confined Environment: Application for Soil Erosion”, Ph.D., September 2016.
8. Stacey Blersch, “Hydraulic signatures of ecosystem integrity: Determining metrics for evaluating in-stream flow conditions and relative shifts in stream ecosystem structure and function”, Ph.D., September 2016.
9. Yanping Feng, “Cause and Management of Infrequent Widespread Blue-Green Algal Bloom in Temperate Waters”, Ph.D., February 2016.
10. Scott Brown, “Integrated Toolset for Water Quality Modeling in the Great Lakes”, Ph.D., June 2011.

11. Mary Ellen Miller, “Remote Sensing and Hydrological Modeling of Burn Scars”, Ph.D., February 2007.
12. Rajat Chakraborti, “Application of Fractal Concepts for Analysis and Modeling of Particle Aggregation”, Ph.D., February 2004.
13. Zhenxi Chen, “Stratified Open Channel Flow with Rotation – Arrested Salt Wedge”, Ph.D., August 2003.
14. Ali Sharif, “Critical Shear Stress and Erosion of Cohesive Soils”, Ph.D., September 2002.
15. Guoqing Lin, “Effects of Rotation on Turbulence in Free Surface Jets”, Ph.D., September 1998.
16. David C.J.D. Hoyal, “Experimental Study of the Vertical Transport of Suspended Particles in Stratified Fluids, with Implications to Sedimentation from Overflows and Interflows in Lakes and Estuaries”, Ph.D., January, 1998 (co-advisor with Marcus Bursik, Geology).
17. Chen-Yu Cheng, “Application and Development of Particle Image Technology for Turbulence and Particle Aggregation”, Ph.D., January 1998.
18. Takanori Hayashida, “Development of Hydrodynamic Model for Lake Ontario, Using a Geographic Information System”, Ph.D., January 1997.

Doctoral students In progress

1. Kendra Vorenkamp, PhD candidate, expected completion September 2022.
2. Angshuman Saharia, Ph.D. candidate, expected completion June 2022.

Masters students completed (with thesis, unless otherwise noted)

1. Molly Dreyer, M.S., “An experimental investigation on the impact of wood debris arrangements on flow characteristics in a wave tank”, September 2020.
2. Kathryn Rozwod, M.S. (project), “Assessing the Erodibility of Glacial Sediments within the Western New York Nuclear Service Center”, December 2016 (co-advised with Sean Bennett).
3. Jeffrey Melomo, M.S. (project), “Assessing the capabilities of Flow 3D to predict the hydrodynamics produced from flow over a single freshwater mussel”, June 2016.
4. Dung Thi Phuong Le, M.S. (project), “GIS mapping of Upper Niagara River Fish Habitat”, February 2016.
5. Shaurya Sood, M.S., “Turbulence and Velocity Barriers to Upstream Emerald Shiner (*Notropis atherinoides*) Movement: A Field Study at Broderick Park, Buffalo, NY”, September 2015 (co-advisor with S. Delavan; degree conferral February 2016).
6. Xiaojing Zhang, M.S. (project), “SWAT Modeling for the Buffalo River, NY, Watershed”, September 2015.
7. Fatima Bukhari, “Assessing Calculations of Vertical Eddy Diffusivities in Near-Shore Lake Environments”, M.S., September 2015.
8. Quanquan Liang, “Longitudinal dispersion coefficient estimation in two-dimensional open channel flow”, M.S., February 2014.
9. Bum Kyu Kim, “Numerical solution of the one-dimensional advection-diffusion equation using VBA”, M.S., September 2013.
10. Michael Goettel, “Analysis of the swimming behavioral response of western blacknose dace in a turbulence modified flow field”, M.S., May 2013.
11. Fatema Begum, “Wind-driven mixing in near-shore lake environments: Application to phosphorus dynamics”, M.S., February 2013.

12. Jared Pristach, "Green Infrastructure in Shrinking Cities: Investigating the True Effects of Rain Barrels and Rain Gardens", M.S., February 2013.
13. Yinting Hou, "Turbulence Modulation by Suspended Sediment Within a Mixing Box", M.S., September 2011.
14. Qin Ji, "Cladophora Modeling in the Great Lakes", M.S., September 2011.
15. Carrie Hinners, "Modification of Flow and Boundary Stresses by Vegetation Cover on Bank-Toe Surfaces", M.S., June 2011.
16. Sheng Hu, "Multiple Particle Types for Modeling Particle-Associated Contaminant Transport", M.S., June 2011.
17. Yanping Feng, "Computational Study of the Physical Features in Lake Ontario Nearshore Waters", M.S., September 2010.
18. Xueqin Xue, "Delineating Resource Sheds in the Lower Great Lakes", M.S., February 2010.
19. Pradeep Nagaraja, "Particle Tracking Sediment Transport Model for the Buffalo River", M.S., September 2008.
20. Sougandh Kalluri, "A Web-Based Modeling Approach for Tracking Algal Blooms in the Lower Great Lakes", M.S., June 2008.
21. Swathi Bondugula, "Resource Shed Delineation in Lake Erie", M.S., June 2008.
22. Badri Vishal Yadav, "Circulation and Mixing in Lake Champlain", M.S., February 2008.
23. Karen Beljan, "Modeling Polychlorinated Biphenyls in the Niagara River for Application to a Total Maximum Daily Load Analysis of Lake Ontario", M.S., June 2007.
24. Tarun Singh, "Temperature Predictions in Lake Ontario", M.S., February 2007.
25. Kavin Gandhi, "Conceptual Framework for Coupled Hydrodynamic/Algae Population Dynamics Model for Large Lakes", M.S., September 2006.
26. Damian Gomez, "Alternative Formulation of Velocity Profile in Open Channel Flow", M.S., February 2006.
27. Preetam Kuchikulla, "Applications of Particle Tracking Model for Large Lakes", M.S., February 2006.
28. Dilip Gargeya, "Development of a Management Tool for Sediment Remediation in the Buffalo River", M.S., September 2005.
29. Gopi Jaligama, "A Two-Dimensional Coupled Hydrodynamic/Water Quality Model for Great Lakes Tributaries", M.S., June 2004.
30. Jason Williams, "Evaluation of Sediment Transport Models of the Buffalo River", M.S., February 2004.
31. Shwet Prakash, "Semi-Lagrangian Evaluation of Circulation and Transport in Lake Ontario", M.S., February 2004.
32. Aditya Ramamurthy, "Non-Intrusive Optical Methods to Study Three-Dimensional Particle Characteristics", M.S., September 2003.
33. Chueh-Hsin Chang, "Thermal Bar Dynamics in Lake Ontario", M.S., February 2003.
34. Meera Gupta, "Sedimentation Characteristics of Hypopycnal Plumes", M.S., February 2003.
35. Vijay Sridharan, "Formation and Initial Propagation of Thermal Bar", M.S., September 2002.
36. David Morreale, "A Survey of Current Great Lakes Research", M.Eng., September 2002.
37. Madhusudhan Balasubramanian, "Flow and Sedimentation Characteristics of a Surface Discharge into a Shallow Basin", M.S., September 2001.

38. Usha Vegesna, "Partitioning and Transport of *Cryptosporidium Parvum* Oocysts", M.S., September 2000.
39. Ravikumar Pragada, "Mechanisms Responsible for the Formation of Benthic Nepheloid Layers in Large Lakes", M.S., February 2000.
40. Wen Ku, "Sedimentation Characteristics of a Free Surface Discharge Into a Shallow Basin", M.S., February 2000.
41. Monica Barbat, "Numerical Study of Arrested Saline Wedge in a Rotating Estuary", M.S., September 1999.
42. Meinhard Roegner, "Evaluation of Plane Source Models for Risk Assessment", M.S., February 1999.
43. Arne Klawitter, "A Framework to Model the Migration of *Cryptosporidium Parvum* Oocysts in Shallow Overland Flow", M.S., September 1998.
44. Jean-Marie Thomas, "Database Development for Buffalo River Dissolved Oxygen Problem", M.Eng., September 1998.
45. Jeffrey Hall, "Dissolved Oxygen Modeling for the Buffalo River", M.Eng., September 1997.
46. Patrick Poehlmann, "Effect of Bottom Roughness on Surface Buoyant Jets", M.S., February 1997.
47. Mark Foreman, "Investigation of Buoyant Plumes from Submerged Discharges in Rotating Systems", M.S., September 1996.
48. John Honan, "Physical Characteristics of Surface Buoyant Jets in Rotating and Non-Rotating Systems", M.S., September 1996.
49. Sunil Gupta, "Numerical Dispersion and Scaling Effects in Finite Difference Water Quality Models", M.S., June 1996.
50. Chitra Krishnan, "Sediment Transport by Overland Flow on Beds with Large-Scale Roughness", M.S., June 1995.
51. Mark Wight, "A Numerical Model to Examine Dissolved Oxygen in the Buffalo River", M.Eng., February 1995.
52. Rakesh Gupta, "Coupled Groundwater and Stream Contaminant Transport Model Using a Visual Basic Interface", M.S., February 1995.
53. Patricia Bajak, "Comparison of Sediment and Contaminant Transport Models as Applied to the Buffalo River", M.S., September 1994.
54. David Hoyal, "Sediment Deposition in Turbulence: Comparison between Eulerian and Lagrangian Models", M.S., June 1994.
55. Maneesha Joshi, "A Lagrangian Model for a Surface Buoyant Jet", M.S., February 1994.
56. Stephen S. Marshall, "Combined Sewer Overflow Modeling for the Buffalo River Area of Concern", M.S., February 1994.
57. Raymond Miskines, "The Effects of Thermohaline Convection Induced by the Growth of Surface Ice, in the Presence of a Density Interface", M.S., February 1993.
58. Stephen H. Blair, "Dissolved Oxygen Modeling for the Buffalo River", M.S., September 1992.
59. Thomas R. Heins, "Modeling Advection and Dispersion in Natural Sand Aquifers", M.Eng., September 1989.
60. Scott B. Wolcott, "On the Relative Strength of Shear Flow and Grid-Induced Turbulence on Mixed Layer Deepening in a Two-Layer Salt Stratified System", M.S., September 1987.
61. Samar Dham, "Wave-Induced Forces on Horizontal Cylinders", M.S., September 1987.

Masters students in progress

(none)

Graduate Student Committee Assignments

1. Seyed Hamed Ghodsi, Ph.D., expected 2022 (committee member)
2. Soo Bin Chun, M.S., September 2020 (committee member)
3. Mark Bailey, M.S., June 2020 (committee member)
4. Michael Gallisdorfer, Ph.D., June 2019 (Geography Department, committee member).
5. Douglas Lambert, Ph.D., June 2018 (committee member).
6. Shaurya Sood, M.S., September 2015 (committee member).
7. Rasika Gawde, Ph.D., August 2015 (Michigan Tech. Univ., committee member).
8. Isaac Allen, M.S., September 2015 (committee member).
9. Jundong Qiao, M.S., April 2014 (committee member).
10. Colleen Bronner, Ph.D., February 2014 (committee member).
11. Donghua Cai, M.S., November 2013 (Geography Department, committee member).
12. Patricia Pernic, Ph.D., October 2013 (Univ. of Toronto, outside reader).
13. Vera Neroni, M.S., September 2013 (committee member).
14. Mohammad Ibrahim, Ph.D., September 2013 (committee member).
15. Weihua Cao, Ph.D., August 2013 (Ryerson Univ., outside reader).
16. Mao Li, M.S., September 2012 (committee member).
17. Ken Zheng, Ph.D., August 2012 (committee member).
18. Russell Weaver, Ph.D., July 2012 (Geography, outside reader).
19. Joseph Holler, Ph.D., June 2012 (Geography, committee member).
20. Jung Sun Oh, Ph.D., September 2011 (committee member).
21. Steve Warren, M.S., June 2010 (Geology, committee member).
22. Mary Jo Crance, M.S., June 2008 (Geography, Buffalo State College, committee member).
23. Richard Becker, Ph.D., June 2008 (Geology, Western Michigan University, committee member).
24. Craig McClaren, M.S., February 2008 (Geology, committee member).
25. Chuanjian (Kevin) Man, Ph.D., February 2008 (committee member).
26. Samuela Franceschini, Ph.D., September 2007 (committee member).
27. Samuela Franceschini, M.S., April 2004 (committee member).
28. Peng Gao, Ph.D. (Geography), February 2003 (committee member).
29. Wenzhi Li, M.S., February 2002 (co-advisor with J.V. DePinto).
30. Siyuan Liu, Ph.D., September 2001 (committee member).
31. Jieyuan Song, "Modeling the Transport and Fate of Hydrophobic Organic Chemicals in a Fluvial System During Resuspension Events", Ph.D., June 2001 (committee member).
32. Wadie Kavar, "Development of a Random Walk Model for Vertical Cycling of Contaminants in Large Lakes", M.S., December 1998 (co-advisor with J.V. DePinto).
33. Pascal Gaude, "Modeling of Groundwater Flow and contaminant transport at the West Valley Demonstration Project", M.S., October, 1998 (committee member).
34. Samar Dham (Hatoum), "A Computational Model for the Analysis of Multiphase Flow in Random Porous Media", Ph.D., August 1998 (committee member).

35. Rajagopal Narayanan, "Screening Analysis of the Potential Impact of Zebra Mussels (*Dreissena Polymorpha*) on PCB Cycling in Lake Erie", M.S., July 1998 (committee member).
36. Konstantin Aleyshin, "Modeling of Contaminated Sediment Transport in the St. Clair River", M.S., May 1998 (committee member).
37. Russell, Kevin T., "The Use of Decision Analysis for Groundwater Remediation Design", M.S., September, 1996 (committee member).
38. Putahena, Frederik, "Decision Support Model for the Niagara River Using a GIS Interface", Ph.D., September, 1996 (committee member).
39. Chang, Wei-Tse, "Analysis of Contaminant Loadings for the Niagara River", M.S., September, 1996 (committee member).
40. Stephen P. Buechi, "Groundwater Transport Modeling at a Contaminated Site", M.Eng., May, 1995 (co-advisor with A. Rabideau).
41. Joseph Zarasczak, "M.S., July, 1994 (co-advisor with J.V. DePinto).
42. Nabeel Said, "Modeling Transport of Toxics in the Niagara River", M.S., August, 1994 (co-advisor with J.V. DePinto).
43. Michael M. Morgante, "Application of Mass Balance Modeling to Assess Remediation Options for the Buffalo River", M.S., April, 1994 (committee member).
44. Chien-Ming Kuo, "A Review of Sediment Oxygen Demand Models as Applied to the Buffalo River", M.S., September, 1993 (co-advisor with J.V. DePinto)
45. Scott A. Underhill, "Development and Application of a Geographically-Based Groundwater Flow and Solute Transport Model", M.S., September, 1993 (committee member).
46. Robert Seyfried, "Evaluation and Development of a Brine Treatment Facility to Serve Oil/Gas Producers in New York State", M.S., May, 1992 (co-advisor with Mark Matsumoto).
47. Chiang Qiao, "Numerical Model of the Grass Island Pool", M.S., June, 1989 (co-advisor with Akio Wake).

Post-Doctoral Researchers Supported

1. Michael Priven (1993-1994).

Undergraduate Research Supervision

Valerie Bevan, Experimental study of effectiveness of floating woody debris to mitigate shoreline erosion in lakes, January – September 2020.

Alexandra Mazurewski, SWAT model development for Oak Orchard Creeek, June-Dec. 2018.

Stephen Stomber (LSAMP student), Dispersion estimates in natural and laboratory settings, June 2013 – May 2014.

Michael Conese, Evaluation of runoff management alternatives for Lorall Lake, 2011-2012.

David Farnham, Experimental study of flow circulation in a rotating model of Lake Ontario, 2011-2012.

Steven Beuchi, Modeling buoyant discharges in rotating systems, 1992.

Daniel Plesac, Refinement of solution procedure for hydrodynamic model, 1987-1988.

John Novotny, Saline convection generated by freezing, 1987-1988.

Steve Hall, Development of wind turbine power for Amherst Treatment Plant (University Honors Project), 1986-1987.

Chris Santulli, Development of simplified diffusion model, 1986-1987.

Paul Gareis, Evaluation of sensitivity of hydrodynamic model for temperature and salinity stratification, 1986-1987.

Elizabeth Flow, Demonstration of salt-fingering phenomenon, 1985-1986.

Research Products

Grant Support

(67 grants as PI or co-PI, total funding to UB \$14,262,890; prorated total \$5,754,900)

1. 9/1/2018-8/31/2020, *National Science Foundation*, “MRI: Acquisition of a High-Speed 3D Velocimetry System to Study Complex Flows”. Co-PI with M. Ringuette (PI), Jihyung Yoo, Hui Meng, and Sean Bennett, \$413,082 to UB. (prorated \$82,616)
2. 6/1/2018-8/31/20, *US Geological Survey*, “Model development for nutrient dynamics in Lake Ontario”, PI, \$296,930. (prorated \$296,930)
3. 9/1/2017-4/30/2021, *New York State Energy Research and Development Authority*, “Coastal Resiliency and Morphodynamic Responses to Storm Surge and Seiche in Eastern Lake Erie”, co-PI, subcontract to SUNY Stony Brook (Ali Fahadzadeh), \$145,193 to UB. (prorated \$145,193)
4. 3/1/2017-2/29/2021, *National Science Foundation*, “Collaborative Research: Near-bed flow, turbulence, and emergent hydrodynamics of biologically-conditioned labile river channels”, co-PI with Sean Bennett (Geography Department), \$275,726. (prorated \$137,863)
5. 9/1/2015-8/31/2018, *US Army Corps of Engineers*, “Research and Design for Passage of the Emerald Shiner”, Project Director, co-PI with Sean Bennett, \$448,962, 75% to CSEE. (prorated \$336,722)
6. 12/1/2015-11/30/2017, *New York Sea Grant Institute*, “Coupling biophysical observations and economic impacts of harmful algal blooms in Sodus Bay, Lake Ontario”, co-principal investigator with Greg Boyer, SUNY-ESF, \$222,683 (\$89,545 to UB). (prorated \$89,545)
7. 5/1/2015-4/40/2017, *US Geological Survey*, “Nearshore ecosystem model development for Lake Ontario”, PI and Project Director, \$120,000, Cooperative research grant G15AC00186. (prorated \$120,000)
8. 2014-2015, *Great Lakes Protection Fund*, through New York Department of Environmental Conservation and Great Lakes Research Consortium, “Understanding the synergistic impact of aquatic invasive species, global climate change, and harmful algal bloom dynamics on Lake Erie”, co-principal investigator with Sarah Delavan (PI) and William Edwards (Niagara Univ.), \$14,000 (\$9,400 to UB). (prorated \$4,700)
9. 2014-2015, *SUNY Research Foundation*, “Integrating science, policy, and economic considerations in understanding and managing nearshore water quality in Lake Ontario”, SUNY 4E Fund, co-principal investigator with Kathryn Friedman (project director) and Himanshu Grover, \$138,000, 50% to CSEE. (prorated \$69,000)
10. 2013, *Great Lakes Research Consortium*, “Student Support”, \$3,000. (prorated \$3,000)
11. 2012-2014, *New York Sea Grant Institute*, “Contribution of Marina Activities to the Algal Growth of Sodus Bay, Lake Ontario”, co-principal investigator with Greg Boyer, SUNY-ESF, \$294,222 (\$147,555 to UB). (prorated \$147,555)

12. 2011-2016, *National Science Foundation*, “MRI: Development of a Shared Underwater Acoustic MIMO Networking Testbed”, co-principal investigator with Tommaso Melodia (project director), D. Pados, S. Battalama, and W. Su, \$600,000. (prorated \$120,000)
13. 2010-2013, *Intel Corporation*, “Situating Biosensing in Everyday Life”, co-principal investigator with Marc Bohlen (project director), \$180,000. (prorated \$90,000)
14. 2010-2011, *New York Department of Environmental Conservation*, “Hydrodynamic Model Development for LONNS – Phase 3”, principal investigator, \$58,633. (prorated \$58,633)
15. 2008-2010, *National Science Foundation*, “Acquisition of Fiber-Optic Distributed Temperature Sensing for Ecohydrology Education and Research”, co-principal investigator with Alan Rabideau (project director), Matt Becker, and Sean Bennett, \$130,599. (prorated \$32,650)
16. 2008-2009, Canadian Consulate, Connecting Channels Conference support, (project director), co-principal investigator with Barry Boyer and Lorrain Oak, \$8,000. (prorated \$2,666)
17. 2008-2009, *New York Department of Environmental Conservation*, “Model Support for Lake Ontario Nearshore Nutrient Study, Phase 2”, principal investigator, \$21,000. (prorated \$21,000)
18. 2007-2008, *Vice President for Research, Univ. at Buffalo*, “Glass Bottom Float”, co-principal investigator with Marc Bohlen (project director), \$30,000. (prorated \$15,000)
19. 2007-2009, *New York Sea Grant Institute*, “Great Lakes Resource Shed Delineation”, principal investigator, \$119,000. (prorated \$119,000)
20. 2006-2008, *National Science Foundation*, “Acquisition of a PIV System for Quantifying Geophysical Flows” (Instrumentation and Facilities Grant), co-principal investigator with Sean Bennett (project director), Christina Tsai and Marcus Bursik, \$238,900. (prorated \$59,750)
21. 2006-2007, *Environmental Protection Agency*, “TMDL Development for PCBs in Lake Ontario”, principal investigator, \$100,000. (prorated \$100,000)
22. 2005-2006, *Constellation Energy*, “Hydrodynamic Modeling in Lake Ontario”, principal investigator, \$50,000. (prorated \$50,000)
23. 2004-2006, *Environmental Protection Agency*, Great Lakes National Program Office, “Sediment Trend Analysis for the Buffalo River”, co-principal investigator with Jill Singer (project director, Buffalo State College), \$126,750 (\$16,000 to UB). (prorated \$16,000)
24. 2004-2006, *US Army Corps of Engineers*, “ETWG Management”, principal investigator, \$28,100. (prorated \$28,100)
25. 2003-2004, *US Army Corps of Engineers*, “Management of Environmental Technical Working Group”, principal investigator, \$40,000. (prorated \$40,000)
26. 2003-2008, *National Science Foundation*, “IGERT: Integrative Geographic Information Science Traineeship Project”, co-principal investigator with David Mark (project director) and others, \$3,779,000. (prorated \$755,800)
27. 2003-2004, *Vice President for Research, Univ. at Buffalo*, “Visible Near Infra-Red Portable Spectroradiometer; A key to Understanding and Calibrating Remote Sensing Data”, co-principal investigator with M. Sultan (project director) and Scott Mackay, \$46,640. (prorated \$15,460)
28. 2003-2004, *Malcolm-Pirnie, Inc.*, “Effect of CSOs on Dissolved Oxygen in the Buffalo River”, principal investigator, \$12,200. (prorated \$12,200)

29. 2003-2004, *Limno-Tech, Inc.*, “Dissolved Oxygen Model Development for the Black River”, principal investigator, \$20,000. (prorated \$20,000)
30. 2002-2007, *National Oceanic and Atmospheric Administration*, “Transport Modeling to Support Algal Bloom Tracking for Event Monitoring and Response Management”, (principal investigator), subcontract to SUNY-ESF (Greg Boyer, Project Director), “MERHAB 2002: Tier-Based Monitoring for Toxic Cyanobacteria in the Lower Great Lakes”, \$293,500. (prorated \$293,500)
31. 2002-2003, *Vice President for Research, Univ. at Buffalo*, “Real-time Monitoring of Land, Lakes, and Atmosphere from Space-Borne Observations”, co-principal investigator with M. Sultan (project director) and Chris Renschler, \$25,000. (prorated \$12,500)
32. 2002-2004, *Environmental Protection Agency*, “Implementing a Long Term Plan to Improve Modeling Capabilities for Toxic Chemicals in Lake Ontario: Refinements to LOTOX2 Atmospheric Deposition Processes and Mercury Submodel”, (project director), co-principal investigator with Joseph DePinto and James Jensen, \$69,000. (prorated \$23,000)
33. 2002-2004, *Environmental Protection Agency*, Great Lakes National Program Office, “Sediment Remediation in the Buffalo River”, (project director), co-principal investigator with Gordon Fraser, Buffalo State College, \$125,000. (prorated \$62,500)
34. 2002-2004, *US Army Corps of Engineers*, “Sediment Transport in the Buffalo River”, principal investigator, \$110,000. (prorated \$110,000)
35. 2002-2003, *US Army Corps of Engineers*, “Project Management, Data Coordination, and Administration of Environmental Technical Working Group”, principal investigator, \$71,860. (prorated \$71,860)
36. 2002, *Great Lakes Protection Fund* (through New York Great Lakes Research Consortium), “Great Lakes Summer Institute”, (project director), co-principle investigator with Gordon Fraser, Buffalo State College, \$25,000. (prorated \$12,500)
37. 2001-2003, *Environmental Protection Agency*, Great Lakes National Program Office, “Modeling Support for Load Reduction Strategies in Lake Ontario”, (project director), \$83,500. (prorated \$83,500)
38. 2001-2003, *Great Lakes Protection Fund* (through Great Lakes Research Consortium), “Great Lakes Facilities Planning and Outreach”, (project director), \$65,800. (prorated \$65,800)
39. 2001-2002, *Environment and Society Institute*, University at Buffalo, “Use of Holographic Imaging to Study Particle Aggregation as a Fractal Process”, (project director), co-principal investigator with J.E. Van Benschoten, \$8,500. (prorated \$4,250)
40. 1998-2003, *National Science Foundation*, “IGERT Formal Proposal: Integrated Graduate Education and Research Training in Geographic Information Science”, co-principal investigator with David Mark (project director) and others, \$2,350,000. (prorated \$487,500)
41. 1998, *Great Lakes Research Consortium*, “Upgrading Limnological Field Capabilities of the Great Lakes Research Consortium”, co-principal investigator with Joseph Makarewicz (principal investigator, SUNY Brockport) and Joseph DePinto, \$25,000. (prorated \$8,333)
42. 1998-2001, *National Science Foundation*, “Fundamental Fluid Dynamic Controls on Delta Cliniform Morphology”, co-principal investigator with Marcus Bursik (project director), \$172,034. (prorated \$86,017)

43. 1997-1998, *Environmental Protection Agency*, "Implementing a Long-Term Plan to Improve Modeling Capabilities for Toxic Chemicals in Lake Ontario: Year 1 - Atmospheric Interactions and Solids Dynamics", co-principal investigator with J.V. DePinto (project director) and K.C. Hornbuckle, \$149,500. (prorated \$49,830)
44. 1997-1999, *Environmental Protection Agency* (through New Jersey Hazardous Substance Research Center), "Experimental Study of Overland Transport of *Cryptosporidium Parvum* Oocysts", (project director), co-principal investigator with Athol Abrahams, \$174,906. (prorated \$87,453)
45. 1996-1999, *National Science Foundation*, "Dynamics of Buoyant Coastal Discharges", principal investigator, \$205,000. (prorated \$205,000)
46. 1996, *Office of the Provost, SUNY at Buffalo*, Equipment Challenge Grant Program, principal investigator, \$8,125. (prorated \$8,125)
47. 1996-1997, *NOAA National Undersea Research Center*, "Origin of Particulate Matter and Distribution of HOC in Benthic Nepheloid Layer of Large Lakes", (project director), co-principal investigator with J.V. DePinto and D. Swackhamer, \$101,057. (prorated \$33,686)
48. 1996-1998, *New York Sea Grant College Program*, "Development of Non-Equilibrium PCB Desorption Model for Evaluation of Contaminated Sediment Remediation", (project director), co-principal investigator with J.V. DePinto, \$212,429. (prorated \$106,215)
49. 1995-1996, *American Water Works Association Research Foundation*, "Particle Image Velocimetry: A New Tool for Water Treatment Studies", (project director), co-principal investigator with J. Van Benschoten, \$100,537. (prorated \$50,268)
50. 1994, American Sigma Company, "Hydraulic Testing for Acoustic Flow Meter", principal investigator, \$12,025. (prorated \$12,025)
51. 1993-1994, *Harrison Radiator Division, G.M.C.*, "Flow Visualization Testing of Radiator Models", principal investigator, \$11,933. (prorated \$11,933)
52. 1993-1995, *National Sea Grant College Program*, "Control of Zebra Mussel Veligers in Water Treatment Plants by Chemical Coagulants", co-principal investigator with J. Van Benschoten (project director), \$130,600. (prorated \$65,300)
53. 1993-1995, *Motorola Company, Inc.*, "Linked Groundwater/Stream Contaminant Transport Model for Machias Gravel Pit Site", (project director), co-principal investigator with A. Rabideau and A.S. Weber, \$149,515. (prorated \$49,839)
54. 1992-1993, *Environmental Protection Agency*, "Assessment of Remediation Alternatives for Buffalo River Contaminated Sediments Using Mass Balance Modeling", co-principal investigator with J. DePinto (project director), \$74,900. (prorated \$37,950)
55. 1992-1994, *National Science Foundation*, "Overland Sediment Transport Capacity on Irregular Hillslopes", co-principal investigator with A. Abrahams (project director), \$103,000. (prorated \$56,500)
56. 1992-1994, *New York Sea Grant Institute*, "Contaminant Transport Modeling in Large Rotating Systems", principal investigator, \$81,700. (prorated \$81,700)
57. 1991-1994, *Environmental Protection Agency*, "Development of a Geographically Based Ecological Modeling Framework for Exposure-Effects Analysis of Contaminants in the Lower Great Lakes", co-principal investigator with J. DePinto (project director) and others, \$1,203,700. (prorated \$300,925)
58. 1991-1992, *New York State Department of Environmental Conservation*, "Dissolved Oxygen Modeling in the Buffalo River", principal investigator, \$15,000. (prorated \$15,000)

59. 1990-1992, *New York Energy Research and Development Authority and Gas Research Institute*, "Disposal/Resource Recovery Options for Brine Waters from Oil and Gas Well Operations", co-principal investigator with M. Matsumoto (project director), \$162,100. (prorated \$81,050)
60. 1990, *Research Foundation of State University of New York*, "Videotape Development to Enhance Engineering Education", principal investigator, \$2,400. (prorated \$2,400)
61. 1990-1992, *Environmental Protection Agency*, "Field, Laboratory and Engineering Support, Buffalo River Mass Balance Project", co-principal investigator with S. Taylor and R. Rumer (project director), \$280,100. (prorated \$93,360)
62. 1990, *Harrison Radiator Division, G.M.C.*, "Flow Visualization Testing for Radiator Models", principal investigator, \$2,000. (prorated \$2,000)
63. 1988-1989, *Great Lakes Program, University at Buffalo*, "Effect of Suspended Sediment on Turbulent Velocity Profiles, principal investigator, \$6,000. (prorated \$6,000)
64. 1988-1989, *Lilly Teaching Endowment*, "Development of a Videotape Lab Supplement for Teaching Hydraulic Engineering", principal investigator, \$8,000. (prorated \$8,000)
65. 1987, U.S. Army Corps of Engineers, Buffalo District, "Flood Design Studies in Western Ohio", principal investigator, \$13,400. (prorated \$13,400)
66. 1986, *Associated Western Universities*, Summer Faculty Participation Award, Solar Energy Research Institute, principal investigator, \$6,300. (prorated \$6,300)
67. 1985-1987, *National Science Foundation*, Research Initiation Grant, "An Experimental Study of the Relative Strength of Entrainment Driven by Mean Shear and an Oscillating Grid", *principal investigator*, \$60,000. (prorated \$60,000)

Publications, Refereed

(underlined author indicates student for whom I was primary advisor)

1. Hui, Yuan, Farnham, David J., Atkinson, Joseph F., Zhu, Zhenduo, and Feng, Yanping (2021), "Circulation in Lake Ontario: A Numerical and Physical Model Analysis". *Journal of Hydraulic Engineering* (ASCE), accepted for publication.
2. Matinpour, Hadis, Atkinson, Joseph, and Bennett, Sean (2020), "Secondary circulation within a mixing box and its effect on turbulence". *Experiments in Fluids* 61:225, <https://doi.org/10.1007/s00348-020-03064-9>.
3. Sansom, B.J., Bennett, S.J., Atkinson, J.F., and Vaugn, C.C. (2020), "Emergent hydrodynamics and skimming flow over mussel covered beds in rivers". *Water Resources Research* 56(8), <https://doi.org/10.1029/2019WR026252>.
4. Chakraborti, Rajat K. and Atkinson, Joseph F. (2020), "Settling velocity analysis of natural suspended particles using fractal approach". *Journal of Environmental Engineering* (ASCE) 146(12): 04020138.
5. Snaiki, Reda, Wu, Teng, Whittaker, Andrew, and Atkinson, Joseph F. (2020), "Hurricane wind and storm surge effects on coastal bridges under a changing climate". *Transportation Research Record (J. Trans. Res. Board)*, 1-10, <https://doi.org/10.1177/0361198120917671>.
6. Karamigolbaghi, Maliheh, Feng, Yanping, Atkinson, Joseph F., Verhamme, Edward M., and Boyer, Greg L. (2019), "Circulation and mixing in Sodus Bay due to water exchange with Lake Ontario". *Journal of Great Lakes Research* 45(6):1090-1102.
7. Saharia, Angshuman M., Zhu, Zhenduo, Aich, Nirupam. Baalousha, Mohammad, and Atkinson, Joseph F. (2019), "Modeling the transport of titanium dioxide nanomaterials

- from combined sewer overflows in an urban river”. *Science of the Total Environment* 696:133904.
8. Blersch, Stacey Sloan, Blersch, David M., and Atkinson, Joseph F. (2019), “Metabolic variance: A metric to detect shifts in stream ecosystem function as a result of stream restoration”. *Journal of the American Water Resources Association* 1–14, <https://doi.org/10.1111/1752-1688.12753>.
 9. Matinpour, Hadis, Bennett, Sean, Atkinson, Joseph, and Guala, Michele (2019), “Modulation of time-mean and turbulent flow by suspended sediment”. *Physical Review of Fluids* 4(7), July 1, 2019.
 10. Hui, Y., Zhu, Z., and Atkinson, J.F. (2018), “Mass balance analysis and calculation of wind effects on heat fluxes and water temperature in large lakes”. *Journal of Great Lakes Research* 44:1293-1305.
 11. Sansom, Brandon, Bennett, Sean B., Atkinson, Joseph F., and Vaughn, Caren (2018), “Long-term persistence of freshwater mussel beds in labile river channels”. *Freshwater Biology* 63 (11):1469-1481 (November).
 12. Ghaneizad, Seyed Mohammad, Jovein, Ehsan Bahrami, Abrishami, Jalil, and Atkinson, Joseph F. (2018), “Redistribution of flow velocity in sharp bends using unsubmerged vanes”. *International Journal of River Basin Management*, doi.org/10.1080/15715124.2017.1411928, 14 pp.
 13. Karamigolbaghi, Maliheh, Ghaneizad, Seyed Mohammad, Atkinson, Joseph F., Bennett, Sean B., and Wells, Robert F. (2017), “Critical assessment of jet erosion test methodologies for cohesive soil and sediment”. *Geomorphology* 295:529-536.
 14. Sansom, Brandon J., Atkinson, Joseph F., and Bennett, Sean J. (2017), “Modulation of near-bed hydrodynamics by freshwater mussels in an experimental channel”. *Hydrobiologia*, DOI 10.1007/s10750-017-3172-9.
 15. Atkinson, Joseph F. and Domske, Helen M. (2015), “Great Lakes under Stress: Invasive Species as Agents of Ecosystem Change”, *Lessons in Conservation*, American Museum of Natural History 5:17-31; also online at http://ncep.amnh.org/index.php?globalnav=resources§ionnav=modules§ionsnav=module_files&module_id=504
 16. Maghrebi, M., Nalley, D., Laurent, K.L., Atkinson, J.F. (2015), “Water quantity as a driver of change in the Great Lakes-St. Lawrence River Basin”, *Journal of Great Lakes Research* 41, Supplement 1:84-95.
 17. Goettel, Michael T., Atkinson, Joseph F., and Bennett, Sean J. (2015), “Behavior of western blacknose dace in a turbulence modified flow field”, *Ecological Engineering* 74:230-240.
 18. Bennett, Sean J., Ghaneizad, S. Mohammad, Gallisdorfer, Michael S., Cai, Donghua, Atkinson, Joseph F., Simon, Andrew, and Langendoen, Eddy J. (2015), “Flow, turbulence, and drag associated with engineered log jams in a fixed-bed experimental channel”. *Geomorphology* 248:172-184.
 19. Ghaneizad, Seyed Mohammad, Atkinson, Joseph F., and Bennett, Sean J. (2015), “Effect of flow confinement on the hydrodynamics of circular impinging jets: Implications for soil erosion assessment”, *Environmental Fluid Mechanics* 15(1):1-25. doi: 10.1007/s10652-014-9354-3.
 20. Dayton, Aaron I., Auer, Martin T., and Atkinson, Joseph F. (2014), “*Cladophora*, Mass Transport and the Nearshore Phosphorus Shunt”, *Journal of Great Lakes Research* 40 (3): 790-799.

21. Bennett, Sean, Hou, Yinting, Atkinson, Joseph F. (2014), “Turbulence suppression by suspended sediment within a geophysical flow”, *Environmental Fluid Mechanics* 14:771-794.
22. Habberfield, Michael, Blersch, Stacey, Bennett, Sean, and Atkinson, Joseph (2014), “Rapid stream assessment techniques inform restoration planning differently when applied across a gradient of disturbance”, *Journal of the American Water Resources Association* 50(4):1051-1062.
23. Gallisdorfer, Michael S., Bennett, Sean J., Atkinson, Joseph F., Ghaneezad, S. Mohammad, Brooks, Andrew P., Simon, Andrew, and Langendoen, Eddy J. (2014), “Physical-scale model designs for engineered log jams in rivers”, *Journal of Hydro-Environment Research* 8:115-128.
24. Kaur, Jagjit, DePinto, Joseph V., Atkinson, Joseph F., Verhamme, Edward, and Young, Thomas C. (2012), “Development of a spatially resolved linked hydrodynamic and exposure model (LOTOX2) for PCBs in Lake Ontario”, *Journal of Great Lakes Research* 38(3):490-503.
25. Atkinson, Joseph F., Edwards, William J., and Feng, Yanping (2012), “Physical measurements and nearshore nested hydrodynamic modeling for Lake Ontario Nearshore Nutrient Study”, *Journal of Great Lakes Research* 38:184–193.
26. Ethier, Adrienne, Atkinson, Joseph F., DePinto, Joseph V., and Lean, David R.S. (2012), “Estimating mercury concentrations and fluxes in the water column and sediment of Lake Ontario with HERMES model”, *Environmental Pollution* 161:335-342.
27. Makarewicz, J.C., Lewis, T.W., Pennuto, C., Atkinson, J., Edwards, W.J., Boyer, G. L., Howell, T., and Tho, G. (2012), “Physical and chemical characteristics of the nearshore zone of Lake Ontario”, *Journal of Great Lakes Research* 38:21–31 (IAGLR highly cited paper award for 2012).
28. Sharif, Ali Reza and Atkinson, Joseph F. (2012), “A Turbulent Burst Model for Surface Erosion of Cohesive Soils”, *Journal of Hydraulic Engineering* 138(7):581–590. doi: 10.1061/(ASCE)HY.1943-7900.0000551.
29. Raikow, David F., Atkinson, Joseph F, and Croley, Thomas E. II (2010), “Development of Resource Shed Delineation in Aquatic Ecosystems”, *Environmental Science and Technology* 44(1):329-334.
30. Atkinson, Joseph F. (2009), Pressure. Chapter in Encyclopedia of Inland Waters, ed. Gene Likens, pp. 255-265, Academic Press, <https://doi.org/10.1016/B978-012370626-3.00009-0>.
31. Makarewicz, Joseph C., Boyer, Gregory L., Lewis, Theodore W., Guenther, William, Atkinson, Joseph, and Arnold, Mary (2009), “Spatial and Temporal Distribution of the Cyanotoxin Microcystin-LR in the Lake Ontario ecosystem: Coastal Embayments, Rivers, Nearshore and Offshore, and Upland Lakes”, *Journal of Great Lakes Research* 35:83-89.
32. Chakraborti, Rajat Kanti, Atkinson, Joseph F., and Kaur, Jagjit (2009), “Effect of Mixing on Suspended Particle Size Distribution”, *Journal of Environmental Engineering* 135(5):306-316. doi: 10.1061/(ASCE)0733-9372(2009)135:5(306).
33. Croley, Thomas E., Raikow, David F., He, Chansheng, and Atkinson, Joseph F. (2008), “Hydrological Resource Sheds”, *Journal of Hydrologic Engineering* 13(9):873-885.
34. Singer, Jill, Atkinson, Joseph, Manley, Patricia and McLaren, Patrick (2008), “Understanding Sediment Dynamics using Geological and Engineering Approaches: A Case Study of the Buffalo River Area of Concern, Buffalo, New York”, *International Journal of River Basin Management* 6(1):31-40.

35. Prakash, Shwet, Atkinson, Joseph F. and Green, Mark L. (2007), “A Semi-Lagrangian Study of Circulation and Transport in Lake Ontario”, *Journal of Great Lakes Research* 33(4):774-790.
36. Chakraborti, Rajat K., Gardner, Kevin H., Kaur, Jagjit and Atkinson, Joseph F. (2007), “In Situ Analysis of Flocs”, *Journal of Water Supply: Research and Technology-AQUA* 56(1):1-12.
37. Kaur, Jagjit, Jaligama, Gopi, Atkinson, Joseph F., DePinto, Joseph V. and Nemura, Adrienne D. (2007), “Modeling Dissolved Oxygen in a Dredged Lake Erie Tributary”, *Journal of Great Lakes Research* 33(1):62-82.
38. Bras, R., Chagnon, F., Adams, E., Atkinson, J., Madsen, O., Murcott, S., Shamir, U., Shanahan, P., and Thatcher, L. (2007), “Donald R. F. Harleman: A Life of Excellence and an Excellent Life.” *Journal of Hydraulic Engineering* 133(11):1187–1191.
39. Chakraborti, Rajat K. and Atkinson, Joseph F. (2006), “Dependence of Perceived Aggregate Size on Pixel Resolution using an Imaging Method”, *Journal of Water Supply: Research and Technology-AQUA* 55 (7-8):439–451.
40. Gomez, D., Atkinson, J.F., Rubin, H., and Bennett, S. (2006), “Velocity Distribution in Open Channel Flow”, *Water and Environment* 70:7, 51-69 (in Hebrew).
41. Belinsky, Michael, Rubin, Hillel, Agnon, Yehuda, Kit, Eliezer and Atkinson, Joseph F. (2005), “Characteristics of Resuspension, Settling and Diffusion of Particulate Matter in Water Column”, *Environmental Fluid Mechanics* 5(5):415-441.
42. Atkinson, Joseph F., Chakraborti, Rajat K. and Van Benschoten, John E. (2005), “Effects of Floc Size and Shape in Particle Aggregation”, in Flocculation in Natural and Engineered Environmental Systems, ed. I.G. Droppo, G.G. Leppard, T.M. Milligan and S.N. Liss, CRC Publications.
43. Chakraborti, R.K., Gardner, K.H., Atkinson, J.F. and Van Benschoten, J.E. (2003), “Changes in Fractal Dimensions During Aggregation”, *Water Research* 37(4):873-883.
44. Irvine, K.N., Frothingham, K.M., Rossi, M.C., Pickard, S., Atkinson, J. and Bajak, T. (2003), “Contaminated Sediment in the Buffalo River Area of Concern – Historical Trends and Current Conditions”, in Sediment Quality Assessment and Management: Insight and Progress, ed. M. Munawar, Ecovision World Monograph Series, Aquatic Ecosystem Health and Management Society.
45. Atkinson, Joseph F. (2002), “Water Resources Issues of the Laurentian Great Lakes”, in Water Resources Quality, ed. H. Rubin, P. Nachtnebel, J. Furst, and U. Shamir, Springer, Berlin.
46. Abrahams, A.D., Li, Gary, Krishnan, Chitra and Atkinson, J.F. (2001), “A Sediment Transport Equation for Interrill Overland Flow on Rough Surfaces”, *Earth Surface Processes and Landforms* 26:1443-1459.
47. Hosoyamada, Tokuzo and Atkinson, J.F. (2001), “Numerical Simulation of Density Driven Currents and Suspended Sediment at a River Estuary”, *Japan Society of Civil Engineers* 45: 955-960 (in Japanese).
48. Chakraborti, R.K., Atkinson, J.F. and Van Benschoten, J.E. (2000), “Characterization of Alum Floc by Image Processing”, *Environmental Science and Technology* 34(18):3969-3976.
49. Atkinson, J.F., Abrahams, A.D., Krishnan, C. and Li, G. (2000), “Shear Stress Partitioning and Sediment Transport by Overland Flow”, *Journal of Hydraulic Research* 38(1):37-40.

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51. Hayashida, T., Atkinson, J.F., DePinto, J.V. and Rumer, R.R. (2000), "A Numerical Study of the Niagara River Discharge Near-Shore Flow Field in Lake Ontario", *Journal of Great Lakes Research* 25(4):897-909.
52. Lin, G. and Atkinson, J.F. (2000), "A Mechanism for Offshore Transport Across the Gulf Stream", *Journal of Physical Oceanography* 30(1):225-232.
53. Lin, G. and Atkinson, J.F. (2000), "Coriolis Effects on Turbulence Structures in Free Surface Jets", *Dynamics of Atmospheres and Oceans* 31:247-269.
54. Chakraborti, R.K. and Atkinson, J.F. (1999), "Measurement of settling velocity of contaminants using stroboscope, CCD camera and image processing", technical note, *Association of Water Resources and Land Improvement (DVWK)* 128 (May):380-382 (in German).
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57. Hoyal, D., Bursik, M.I. and Atkinson, J.F. (1999), "Settling Driven Convection: An Important Mechanism of Sedimentation from Stratified Fluids", *Journal of Geophysical Research* 104 (C4):7953-7966.
58. Abrahams, A.D., Li, G., Krishnan, C. and Atkinson, J.F. (1998), "Predicting Sediment Transport by Interrill Overland Flow on Rough Surfaces", *Earth Surface Processes and Land Forms* 23:1087-1099.
59. Atkinson, J.F., Gupta, S.K., DePinto, J.V. and Rumer, R.R. (1998), "Linking Hydrodynamic and Water Quality Models with Different Scales", *Journal of Environmental Engineering* 124:399-408.
60. Hoyal, D., Bursik, M.I., Atkinson, J.F. and DePinto, J.V. (1997), "Filtration Enhances Suspended Sediment Deposition from Surface Water to Granular Permeable Beds", *Water, Air and Soil Pollution* 99:157-171.
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62. Li, Gang, Abrahams, A.D. and Atkinson, J.F. (1996), "Correction Factors in the Determination of Mean Velocity of Overland Flow", *Earth Surface Processes and Landforms* 21:509-515.
63. Abrahams, A.D., Li, G. and Atkinson, J.F. (1995), "Step-Pool Streams: Adjustment to Maximum Flow Resistance", *Water Resources Research* 31:2593-2602.
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Discussions and Replies

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3. Irvine, K.N., Pettibone, G.W., Droppo I.G., and Atkinson, J.F. (1995), discussion of "Linked Sediment/Contaminant Transport Model for Rivers with Application to the Buffalo River, New York", by Jiangang Wen, Gerhard H. Jirka and Gabriel Raggio, *Journal of Great Lakes Research* 21(3).
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Books and Book Chapters

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5. Hui, Yuan, Atkinson, J.F., Zhenduo, Z. (2018). Modeling nutrient dynamics in nearshore Lake Ontario. Fall AGU Meeting, Washington, DC, December.
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64. *Williams, J.S., Atkinson, J.F., and Gargeya, D. (2004), "Sediment Transport Model for the Buffalo River", Intl. Assoc. Great Lakes Res. 47th Annual Conf., Waterloo, Ontario, May 24 – 28.*
65. *Prakash, S., Atkinson, J.F., and Green, M.L. (2004), "A Semi-Lagrangian Study of Mean Circulation in Lake Ontario", Intl. Assoc. Great Lakes Res. 47th Annual Conf., Waterloo, Ontario, May 24 – 28.*
66. *Kaur, J., DePinto, J.V., Jaligama, G.K., Atkinson, J.F., and Nemura, A.D. (2004), "Effects of Physical Factors on Oxygen Resources in the Lower Black River, OH", Intl. Assoc. Great Lakes Res. 47th Annual Conf., Waterloo, Ontario, May 24 – 28.*
67. *Jaligama, G.K., Atkinson, J.F., and Irvine, K.N. (2004), "Impact of Combined Sewer Overflows on Dissolved Oxygen in the Buffalo River", Intl. Assoc. Great Lakes Res. 47th Annual Conf., Waterloo, Ontario, May 24 – 28.*
68. *Chakraborti, R.K., Atkinson, J.F., Van Benschoten, J.E., and DePinto, J.V. (2004), "The Role of Aggregate Structure on Suspended Particle Characteristics", Intl. Assoc. Great Lakes Res. 47th Annual Conf., Waterloo, Ontario, May 24 – 28.*
69. *Aga, D.S., Atkinson, J.F., Fraser, G.S., Noll, M.R., and Wehn, K.S. (2004), "Chemical Contaminants in the Bed Sediments of the Buffalo River AOC", Intl. Assoc. Great Lakes Res. 47th Annual Conf., Waterloo, Ontario, May 24 – 28.*
70. *Atkinson, Joseph F. (2004), "IJC Study of Environmental Effects of Water level Regulation in Lake Ontario and the St. Lawrence River" (invited speaker), Great Lakes Fisheries Commission meeting, Grand Island, NY, March 30.*
71. *Atkinson, Joseph F. (2003), "Effects of Floc Size and Shape in Suspended Particulate Aggregation Processes" (invited speaker), International Flocculation Workshop, Burlington, Ontario, Sept. 4 – 5.*
72. *Atkinson, Joseph F., Depinto, Joseph V., and Kellick, Howard B. (2002), "Linking Hydrodynamic and Water Quality Models for Applications in Large Lakes", Intl. Assoc. Great Lakes Res. 45th Annual Conf., Winnipeg, Canada.*
73. *Bursik, M.I., Atkinson, J.F. and Balasubramanian, M. (2002), "Experimental Study of Sedimentation Characteristics for Jet Discharge into Shallow Basins 2", 9th Intl. Symposium on the Interactions between Sediments and Water, International Association for Sediment Water Science, Banff, Alberta.*

74. *Atkinson, J.F.*, Bursik, M.I. and *Ku, W.* (2002), “Experimental Study of Sedimentation Characteristics for Jet Discharge into Shallow Basins 1”, 9th Intl. Symposium on the Interactions between Sediments and Water, International Association for Sediment Water Science, Banff, Alberta, Canada.
75. *Sharif, A.* and *Atkinson, J.* (2002), “The Critical Shear Stress of Mixed Cohesive/Non-Cohesive Sediments with Low Clay Content”, 9th Intl. Symposium on the Interactions between Sediments and Water, International Association for Sediment Water Science, Banff, Alberta.
76. *Chakraborti, Rajat* and *Atkinson, Joseph F.* (2002), “Effect of Particle Structure on Suspended Sediment Transport Processes”, 9th Intl. Symposium on the Interactions between Sediments and Water, International Association for Sediment Water Science, Banff, Alberta.
77. *Atkinson, Joseph F.* (2001), “Water Quality Issues of the Laurentian Great Lakes”, Preserving the Quality of our Water Resources, biennial meeting of the Austrian Technion Society, Vienna.
78. *Chakraborti, R.*, *Atkinson, J.F.* and *VanBenschoten, J.E.* (2000), “Non-Intrusive Characterization of Fractal Aggregates Formed by Alum” AWWA Annual Meeting, Universities Forum, Denver, June.
79. *Hosoyamada, T.*, *Atkinson, J.F.*, *Hayakawa, N.* and *Aoyama, S.* (2000), “Direct Numerical Simulation of Suspended Sediment and Salt Wedge around a River Mouth”, Proc. 4th Intl. Conf. Hydrodynamics, Yokohama, Japan, Sept.
80. *Chakraborti, R.K.*, *Atkinson, J.F.*, *DePinto, J.V.* and *Van Benschoten, J.* (1999), “Particle Aggregate Characterization using Image Processing Technique”, Int. Assoc. Great Lakes Res. Annual Conference, Cleveland, OH, May.
81. *Chakraborti, R.K.*, *Atkinson, J.F.*, *DePinto, J.V.* and *Van Benschoten, J.* (1999), “Development of a Digital Image Analysis Technique for Water Quality Assessments”, Int. Assoc. Great Lakes Res. Annual Conference, Cleveland, OH, May.
82. *Song, J.*, *DePinto, J.V.* and *Atkinson, J.F.* (1998), “The Role of Sorption Kinetics in the Phase Distribution and Export of PCBs from a Fluvial System during a Sediment Resuspension Event”, Int. Assoc. Great Lakes Res. Ann. Conf., Hamilton, Ont., May.
83. *Rubin, H.* and *Atkinson, J.F.* (1998), “Theoretical Considerations for Modeling Particulate Distribution in Lakes”, Int. Assoc. Great Lakes Res. Annual Conference, Hamilton, Ontario, May.
84. *Pragada, R.*, *Atkinson, J.F.* and *DePinto, J.V.* (1998), “Mechanisms Responsible for the Formation of Benthic Nepheloid Layer in Large Lakes”, Int. Assoc. Great Lakes Res. Annual Conference, Hamilton, Ontario, May.
85. *Atkinson, J. F.*, *Chen, Z.*, *Lin, G.* and *Barbat, M.* (1998), “Observations of Rotating Stratified Open Channel Flow”, AGU Ocean Sciences Meeting, San Diego, February.
86. *Lin, G.* and *Atkinson, J. F.* (1998), “Physical Modeling of Surface Turbulent Jet Discharges Under Coriolis Effects”, AGU Ocean Sciences Meeting, San Diego, February.
87. *Hayashida, T.*, *Atkinson, J.F.*, *DePinto, J.V.* and *Rumer, R.R.* (1997), “GEO-HYMS: Lake Hydrodynamic/Mass Transport Modeling in a GIS-Based Window Environment”, ASCE Water Resources Engineering Division Annual Congress, Water for a Changing Global Community, San Francisco, August.

88. *Atkinson, J.F.* and *DePinto, J.V.* (1997), “Effects of Climate Change on Water Quality of Large Lakes”, ASCE Water Resources Engineering Division Annual Congress, Water for a Changing Global Community, San Francisco, August.
89. *Song, J.*, *DePinto, J.V.* and *Atkinson, J.F.* (1997), “Interpretation of PCB Sorption Kinetics with Two-Compartment Model”, Int. Assoc. Great Lakes Res. Annual Conference, Buffalo, NY, June.
90. *Hayashida, T.* and *Atkinson, J. F.* (1997), “Numerical Study of the Near-Shore Trajectory of the Niagara River in Lake Ontario”, Int. Assoc. Great Lakes Res. Annual Conference, Buffalo, NY, June.
91. *Atkinson, J.F.* and *DePinto, J.V.* (1997), “Dissolved Oxygen Dynamics in the Buffalo River”, Int. Assoc. Great Lakes Res. Annual Conference, Buffalo, NY, June.
92. *Hoyal, D.*, *Bursik, M.I.* and *Atkinson, J.F.* (1997), “Sedimentation in Stratified Fluids with Applications to Fluvial Plumes”, AGU spring meeting, March.
93. *Lin, G.*, *Foreman, M.H.* and *Atkinson, J.F.* (1996), “The Formation and Behavior of Buoyant Plumes from Submerged Discharges in Rotating Systems”, AGU Fall Meeting, San Francisco, December.
94. *Hoyal, D.*, *Bursik, M.I.*, *Atkinson, J.F.* and *DePinto, J.V.* (1996), “Experimental Study of Suspended Particle Deposition from Surface Water to Equi-Granular Permeable Beds”, International Association for Sediment and Water Science 7th Symposium, Milano, Italy, September.
95. *Cheng, C-Y.*, *Atkinson, J.F.*, *Bursik, M.I.* and *DePinto, J.V.* (1996), “An Image Based Study of Interaction Between Turbulence and Particle Aggregation”, International Association for Sediment and Water Science 7th Symposium, Milano, Italy, September.
96. *DePinto, J.V.*, *Gong, Y.*, *Song, J.* and *Atkinson, J.F.* (1996), “Incorporation of Hydrophobic Organic Chemical Phase Partitioning Kinetics into Transport and Fate Models”, International Association for Sediment and Water Science 7th Symposium, Milano, Italy, September.
97. *Abrahams, A.D.*, *Li, G.* *Krishnan, C.* and *Atkinson, J.F.* (1996), Predicting Sediment Transport Capacity of Interrill Overland Flow on Rough Surfaces, British Geomorphological Research Group Annual Conference, Bristol, Sept 20-22.
98. *Atkinson, J. F.*, *Cheng, C-Y.* and *Van Benschoten, J. E.* (1996), “Application of Particle Image Velocimetry for Coagulation Studies”, American Water Works Association Annual Meeting, Toronto, June.
99. *DePinto, J.V.*, *Atkinson, J.F.*, *Slawewski, T.* and *Rodgers, P.W.* (1996), “Development and Application of a Coupled GIS-Modeling System for Watershed Analysis”, Watershed ‘96, Baltimore, June 8-12.
100. *Lin, G.*, *Honan, J.* and *Atkinson, J.F.* (1996), “Observations of Surface Buoyant Jet Spreading in Rotating Systems”, AGU 1996 Spring Meeting, Baltimore.
101. *Putahena, F.*, *Chang, W.*, *Rabideau, A.J.*, *DePinto, J.V.* and *Atkinson J.F.* (1996), “Development of a Decision Support Model for the Niagara River”, Northeast Section Geological Society of America Annual Meeting, Buffalo, March.
102. *Cheng, C-Y.*, *Hoyal, D.*, *DePinto, J.V.*, *Atkinson, J.F.* and *Bursik, M.I.* (1996), “Interaction between Hydrophobic Pollutant Transport and Particle Dynamics During Sediment Resuspension Events in the Great Lakes”, Northeast Section Geological Society of America Annual Meeting, Buffalo, March.

103. *Abrahams, A.D., Li, G., Krishnan, C., and Atkinson, J.F. (1995), "A Sediment Transport Capacity Equation for Interrill Overland Flow on Rough Surfaces", American Geophysical Union Fall Meeting, San Francisco.*
104. *Cheng, C-Y. and Atkinson, J. F (1995), "Effects of Turbulence on the Transport of Pollutant in an Aquatic System: Aspects of Aggregation and Desorption", annual conference, International Association of Great Lakes Research, June.*
105. *Abrahams, A.D., Atkinson, J.F., Krishnan, C., and Li, G. (1995), "A Sediment Transport Equation for Overland Flow on Irregular Surfaces", Annual Meeting of the Association of American Geographers, Chicago, March 14-18.*
106. *Kirisits, M.J., Van Benschoten, J.E. and Atkinson, J.F. (1995), "Control of Zebra Mussel Velogers in Water Treatment Plants", Great Lakes Research Consortium Student/Faculty Conference, Syracuse, NY, January 13.*
107. *DePinto, J.V., Atkinson, J.F., Calkins, H.W., Guan, W., Xia, F., Rodgers, P.W. and Slawewski, T. (1994), "GEO-WAMS: A Modeling Support System that Couples GIS with Watershed Analysis Models", 37th Annual Conference, International Association for Great Lakes Research, Windsor, Ontario.*
108. *Cheng, C-Y., Atkinson, J.F. and DePinto, J.V. (1994), "A Coupled GIS-Water Quality Modeling System", Hydraulic Engineering '94, ASCE 1994 National Conference on Hydraulic Engineering, Buffalo, August.*
109. *Joshi, M. and Atkinson, J.F. (1994), "A Lagrangian Model for Surface Buoyant Jets", Hydraulic Engineering '94, ASCE 1994 National Conference on Hydraulic Engineering, Buffalo, August.*
110. *Abrahams, A.D., Li G. and Atkinson, J.F. (1994), "Step-Pool Streams: An Adjustment to Maximum Flow Resistance", ASCE 1994 National Conference on Hydraulic Engineering, Buffalo, August.*
111. *Atkinson, J.F. and Lin, G. (1994), "Experimental Study of Buoyant Jet Discharge in a Rotating System", Fourth International Symposium on Stratified Flows, Grenoble, France, June.*
112. *Priven, M., Atkinson, J.F., Bemporad, G.A. and Rubin, H. (1994), "Experimental and Numerical Investigation of Laminar Multilayer Injection in and Withdrawal from Stratified Environment", 4th International Symposium on Stratified Flows, Grenoble, France, June.*
113. *Atkinson, J.F., Hayashida, T. and DePinto, J.V. (1994), "Coupling GIS with Supercomputer: Hydrodynamic Model for Lake Ontario", EPA Workshop on Watershed, Estuarine and Large Lakes Modeling (WELLM), Bay City, MI, April 18-20.*
114. *Abrahams, A.D. and Atkinson, J.F. (1994), "Laboratory Experiments on Sediment Transport by Overland Flow on Irregular Beds", annual meeting of the Association of Americal Geographers, San Francisco, March.*
115. *Hoyal, D.C., Atkinson, J.F. and DePinto, J.V. (1993), "Developing a Theoretically Based Lagrangian Model of Suspended Sediment Deposition", The Interactions Between Sediment and Water, Sixth International Symposium, International Association for Sediment Water Science, Santa Barbara, CA, December.*
116. *Atkinson, J.F., DePinto, J.V. and Cheng, C-Y. (1993), "Kinetic vs. Equilibrium Model of Desorption for Hydrophobic Organic Compounds from Resuspended Solids", The Interactions Between Sediment and Water, Sixth International Symposium, International Association for Sediment Water Science, Santa Barbara, CA, December.*

117. *Morgante, M., DePinto, J. and Atkinson, J. (1993), "Assessment of Remediation Alternatives for Buffalo River Contaminated Sediments using Mass Balance Modeling", The Interactions Between Sediment and Water, Sixth International Symposium, International Association for Sediment Water Science, Santa Barbara, CA, December.*
118. *DePinto, J.V., Atkinson, J.F., Calkins, H.W., Densham, P.J., Guan, W., Lin, H., Xia, F., Rodgers, P.W., Slawicki, T. and Richardson, W.L. (1993), "Development of GEO-WAMS: A Modeling Support System for Integrating GIS with Watershed Analysis Models", Proceedings of the Second International Conference on Integrating GIS and Environmental Modeling, National Center for Geographic Information Analysis, Breckenridge, Colorado, September.*
119. *Atkinson, J., DePinto, J., Bajak, T., Morgante, M., Marshall, S., Taylor, S. and Irvine, K. (1993), "Loading Estimates for Buffalo River Mass Balance Project (ARCS)", annual conference, International Association of Great Lakes Research, Green Bay, June.*
120. *Priven, M., Atkinson, J., Bemporad, G.A. and Rubin, H. (1993), "Laboratory Experiments Related to the Injection of Buoyant Fluid Layers in Stratified Flows", 2nd International Conference on Water Pollution (Modeling, Measuring and Prediction), Milan, Italy, June.*
121. *Atkinson, J. F., Priven, M., Rubin, H. and Bemporad, G. (1993), "Examination of Flow Patterns in the Advanced Solar Pond", Third International Conference, Progress in Solar Ponds, University of Texas at El Paso, May.*
122. *Abrahams, A.D., Atkinson, J.F., Liou, C-J. and Mackun, P.J. (1992), "Grain Velocity, Flow Velocity and Sediment Concentration in Overland Flow", Taiyuan Conference on the Application of Geographic Information Systems to Soil Erosion Management.*
123. *Atkinson, J.F. and Masse, A.K (1990), "Physical Modeling Studies of the Niagara River Plume", Hydraulics Specialty Conference, American Society of Civil Engineers, San Diego, CA.*
124. *Atkinson, J.F. (1990), "Fetch Effects in Laboratory Wind-Mixing Experiments", International Conference on Physical Modeling of Transport and Dispersion, Massachusetts Institute of Technology, Cambridge, MA.*
125. *Atkinson, J.F. and Miskines, R. (1989), "Effect of Surface Ice-Driven Haline Convection on Underlying Stratification", Fall meeting of the American Geophysical Union, San Francisco.*
126. *Sargent, S.L. and Atkinson, J.F. (1989), "Solar Ponds Today", presented at the Biennial Congress of the International Solar Energy Society, Kobe, Japan.*
127. *Atkinson, J.F. (1988), "Surface Ice Modeling in Solar Ponds", American Solar Energy Society Annual Conference, Cambridge, MA.*
128. *Atkinson, J.F., Adams, E. and Harleman, D.R.F. (1987), "On the Influence of Diffusivity on Mixing Across a Density Interface", 3rd International Symposium on Stratified Flow, International Association of Hydraulic Research, Pasadena, CA.*
129. *Atkinson, J.F. and Harleman, D.R.F. (1985), "A Laboratory Test of Wind-Mixing in a Salt Gradient Solar Pond", INTERSOL 85, proceedings of the Biennial Congress of the International Solar Energy Society, Montreal, 264.*
130. *Atkinson, J.F. and Harleman, D.R.F. (1983), "Entrainment in a Thermohaline Double-Diffusive System", from Frontiers in Hydraulic Engineering, ed. Hung Tao Shen, proceedings of the American Society of Civil Engineers Hydraulics Division Specialty Conference, Cambridge, MA, 8-14.*

131. *Atkinson, J.F.* and Harleman, D.R.F. (1983), "Wind-Mixing in Solar Ponds", from *Progress in Solar Energy*, v. 6, proc. of the American Solar Energy Society Annual Conference, Minneapolis, MN, 393-398.

Presentations, Invited Seminars

1. "Coastal Resiliency and Morphodynamic Responses to Storm Surge and Seiche in Eastern Lake Erie", invited speaker, with Ali Farhadzadeh (SUNY Stony Brook), Great Lakes Action Agenda Webinar, New York Department of Environmental Conservation (via Zoom, 9/30/2020).
2. "Model Development for Nutrient Dynamics in Lake Ontario", invited speaker, Annual Meeting of Annex 4 Work Group for Great Lakes Water Quality Agreement (via Zoom, 4/22/20).
3. "Hydrodynamic and Ecological Modeling for Decision Support in Lake Ontario", invited speaker, Clarkson University, Potsdam, NY (3/22/19).
4. "Use of Models to Support Great Lakes Management", invited speaker, Water at Wayne, Wayne St. University, Detroit, MI (11/2/17).
5. "Mathematical Modeling to Support Lake Management Decisions: Application in Sodus Bay, Lake Ontario", 23rd Annual Meeting of New York State Federation of Lake Associations, Silver Lake, NY (10/21/17).
6. "Mathematical Modeling to Support Management Decision Making in the Great Lakes", University of Rochester, Rochester, NY (10/18/17).
7. "Physical and Numerical Modeling of Large Rotating Systems", invited speaker, 46th Binghamton Geomorphology Symposium, University at Buffalo (9/20/15).
8. "UB Engineering Involvement in Great Lakes Management: Modeling Applications", invited speaker, *Reconsidering the Littoral Great Lakes*, org. by Dept. of Urban Planning, University at Buffalo (11/5/14).
9. "Uses of Hydrodynamic and Particle Tracking Models for Management Decision Support in the Lower Great Lakes", invited speaker, Geography Colloquium, UB Department of Geography, Buffalo, NY (2/28/14).
10. "Uses of Hydrodynamic and Particle Tracking Models for Management Decision Support in the Lower Great Lakes", invited keynote speaker, Onondaga Lake Scientific Forum, Upstate Freshwater Institute, Syracuse, NY (11/19/10).
11. "Water Resources Issues Around the World: Some Examples", Department of Civil, Structural and Environmental Engineering, University at Buffalo, Buffalo, NY (9/11/09).
12. "Ecosystem Restoration: Some International Examples", Keynote speaker, ERIE IGERT orientation meeting (8/28/09).
13. "Ecosystem Restoration, Modeling and Management in the Great Lakes", Israel Geological Survey, Jerusalem, Israel (5/25/09).
14. "Applications of Particle Tracking for Environmental Applications", Department of Civil and Environmental Engineering, Technion-Israel Institute of Technology, Haifa, Israel (5/11/09).
15. "Particle Based Sediment Transport Modeling", Hong Kong IAHR annual meeting, Department of Civil and Structural Engineering, Hong Kong Polytechnic University, Hong Kong (4/3/09).

16. “Particle Based Sediment Transport Modeling – A Tool for Contaminated Stream Remediation”, Department of Civil Engineering, National Taiwan University, Taipei (3/25/09).
17. “Ecosystem Restoration, Modeling and Management in the Great Lakes”, Graduate Environmental Institute, National Taiwan University, Taipei (3/24/09).
18. “Ecosystem (Stream) Restoration in Western New York”, Stream Naturalization Workshop, Department of Civil and Structural Engineering, Hong Kong Polytechnic University, Hong Kong (2/27/09).
19. “The Role of Engineering in Ecosystem Restoration”, Department of Civil and Environmental Engineering, University of Wisconsin – Madison (10/16/08).
20. “Ecological Forecasting for the Great Lakes”, Regional Data Exchange Workshop, Buffalo, New York (5/5/08).
21. “Physical, Chemical and Biological Modeling in the Lower Great Lakes”, joint meeting of National Professional Engineers Society and ASCE, Buffalo, New York (10/30/07).
22. “Particle Based Sediment Transport Modeling”, Limno-Tech, Inc., Ann Arbor, MI (7/11/07).
23. “Development and Application of LOTOX3 –A Mass Balance and Bioaccumulation Model for Lake Ontario”, Lake Ontario Contaminant Monitoring and Research Workshop, Grand Island, NY (3/27/07).
24. “Toward a New Breed of Ecological Engineer”, Department of Civil Engineering, Texas A&M University, College Station, TX (2/26/07).
25. “Modeling to Support Great Lakes Decision Making”, invited speaker, US-Canadian Shared Waters Symposium, University of Western Michigan, Kalamazoo, MI (9/15/06).
26. “Modeling for Sediment Remediation in the Buffalo River”, Great Lakes Research Consortium speaker, Buffalo State College, Buffalo (11/4/05).
27. “Circulation and Particle Tracking in Lake Ontario”, Department of Physical Oceanography, University of Delaware (3/4/05).
28. “Thermal Bar in Lake Ontario”, Department of Civil and Environmental Engineering, Cornell University (11/18/04).
29. “Sediment Transport Modeling in the Buffalo River”, Buffalo Area Professional Geologists meeting, Buffalo (11/19/03).
30. “Linking Hydrodynamic and Water Quality Models for Applications in Large Lakes”, Pegrum Seminar Series, Geology Department, University at Buffalo (9/12/03).
31. “Model Linkages (within GIS-Based Modeling Support System)”, Workshop on Modeling “Evaluation of Environmental Effects of Water Level Regulation in Lake Ontario”, Lake Ontario Research Workshop, SUNY-ESF, Syracuse NY (3/13/03).
32. “Environmental Effects of Water Level Regulation in Lake Ontario”, Department of Civil, Structural and Environmental Engineering, University at Buffalo (1/31/03).
33. “Environmental Effects of Water Level Regulation in Lake Ontario”, Clarkson University (Great Lakes Research Consortium invited speaker), Potsdam, NY (12/6/02).
34. “Thermal Bars in the Great Lakes”, Remote Sensing Center, Rochester Institute of Technology, Rochester, NY (5/1/02).
35. “Thermal Bars in the Great Lakes”, Department of Civil and Environmental Engineering, Penn. State University, College Station, PA (2/25/02).
36. “Sediment and Contaminant Transport Modeling in Large Lakes”, Israel Limnologic and Oceanographic Laboratory, Tiberias, Israel (7/17/01).

37. "Modeling the Great Lakes", UB Alumni Association Reunion Meeting, Buffalo, NY (6/15/01).
38. "Particle Modeling and Measurements for Deep Lakes", Department of Fluid Mechanics and Heat Transfer, Tel Aviv University, Tel Aviv, Israel (12/15/99).
39. "Experimental Study of Overland Transport of *Cryptosporidium Parvum* Oocysts", Science Advisory Panel, New Jersey Hazardous Substance Management Research Center (presentation at M.I.T., Cambridge, MA) (11/20/98).
40. "The Formation of Benthic Nepheloid Layers in the Great Lakes", Great Lakes research Consortium Seminar Series, SUNY Brockport, NY (11/5/98).
41. "Digital Image Analysis for Water Treatment Studies", Department of Civil and Environmental Engineering, Case Western Reserve University, OH (10/23/98).
42. "Development and Application of a Niagara River Plume Model", Lake Ontario Research and Management Workshop, Great Lakes Program, University at Buffalo, NY (9/10/98).
43. "HOC Cycling in the Benthic Nepheloid Layer (BNL) in Lake Michigan", Great Lakes Discussion Group, Great Lakes Center, State University College at Buffalo, NY (5/7/97).
44. "Support Systems", EPA Large Lakes Research Station, Grosse Ile, MI (6/13/95).
45. "Linkage of Water Quality Modeling System with GIS", Department of Water Engineering, Bari Polytechnic University, Bari, Italy (3/24/95).
46. "Development of Water Quality Modeling System Linked with GIS", Great Lakes Research Consortium Seminar Series, SUNY College of Environmental Science and Forestry, Syracuse, NY (3/7/95).
47. "Linking GIS with Water Quality and Hydrodynamic Models", Great Lakes Research Consortium Seminar Series, Clarkson University, Potsdam, NY (11/2/94).
48. "Water Quality Modeling in the Buffalo River", Special Seminar for NSF high school scholars summer program, Department of Geography, Buffalo State College, Buffalo, NY (7/25/94).
49. "Modeling Buoyant Discharges in Rotating Systems", ISMES Spa., Bergamo, Italy (7/5/94).
50. "Entrainment and Buoyancy Flux at a Grid-Stirred Diffusive Interface", Department of Fluid Mechanics and Heat Transfer, Tel Aviv University, Tel Aviv (6/6/92).
51. "Experimental Study of Mixing Generated by Mean Shear and an Oscillating Grid", Department of Civil Engineering, University of California, Berkeley, CA (4/30/90).
52. "Interfacial Mixing in Stratified Fluids", Department of Mechanical Engineering, University at Buffalo, Buffalo, NY (10/26/89).
53. "Hydraulic Considerations for Development of the Walden Galleria Mall in Cheektowaga, NY", ASCE Student Chapter Meeting, University at Buffalo, Buffalo, NY (11/17/88).
54. "Hydrodynamic Modeling of Salt Gradient Solar Ponds", Department of Civil Engineering, Syracuse University, Syracuse, NY (11/20/87).
55. "Modeling of Wind-Driven Mixing in Solar Ponds", Solar Energy Research Institute, Golden, CO (8/14/86).
56. "Recent Solar Pond Developments", Department of Civil and Environmental Engineering, Cornell University, Ithaca, NY (2/10/86).
57. "Wind Mixing of Surface Waters with Application to Solar Ponds", Physics Department, The Ohio State University, Columbus, OH (11/14/85).
58. "Feasibility Study for Solar Pond Potential in the Great Lakes Area", ASCE conference on Computer Applications in Water Resources, Buffalo, NY (6/11/85).

59. "Solar Pond Modeling for SUNYAB", Department of Civil Engineering, University at Buffalo, Buffalo, NY (3/15/85).
60. "Surface Processes in Solar Ponds", Argonne National Laboratory, Argonne, IL (4/13/84).
61. "Numerical Modeling of Solar Ponds for Power Production", Department of Civil Engineering, University of Massachusetts, Amherst, MA (4/6/84).

Private Consulting

- 10/12-10/17 *LimnoTech*, Ann Arbor, Michigan
Reviewed sediment trend analysis, sediment disposal options in open water, developing particle-based sediment transport model, evaluating coastal erosion models.
- 3/11-7/17 *Unicorn Management, Consultants, LLC*, Danbury, Connecticut
Reviewed Remedial Investigation and Feasibility Plan for cleanup of superfund spill site.
- 1/13-6/14 *Blank-Rome, LLC*, New York, New York
Sediment transport modeling for the Buffalo River, Buffalo, NY.
- 3/07-12/09 *Limno-Tech, Inc.*, Ann Arbor, Michigan;
Developed particle-based sediment transport model; evaluate water quality implications of CSO remediation options.
- 1/06-6/06 *Rupp, Baase, Pfalzgraf, Cunningham and Coppola LLC*, Buffalo, New York;
Evaluated pressure distributions in a wave generation system.
- 12/05 *Pyramid Company of Buffalo*, Buffalo, New York;
Evaluated potential hydraulic impact of mall modifications.
- 11/05-11/09 *Onondaga Environmental Institute*, Syracuse, New York;
Technical Review Coordinator for Onondaga Lake water quality model development.
- 12/04-6/05 *Buffalo Olmstead Parks Conservatory*, Buffalo, New York;
Reviewed analysis of New York Power Authority ice boom operations.
- 10/03-12/03 *Malcolm-Pirnie, Inc.*, Orchard Park, New York;
Applied dissolved oxygen model to Buffalo River, NY, to evaluate CSO impact.
- 6/03-10/03 *Limno-Tech, Inc.*, Ann Arbor, Michigan;
Helped develop and apply model for dissolved oxygen in Black River, Ohio.
- 6/02-1/03 *URS Consultants, Inc.*, Buffalo, New York;
Developed model for transport of algae and dissolved oxygen in Lake Ontario/Genessee River.
- 7/01-9/02 *Cuyler Burk, LLP*, Parsippany, New Jersey;
Developed model for flushing of organic contaminants from industrial basement during a flooding event; provided expert testimony concerning PCB transport modeling.
- 11/00-2/01 *Limno-Tech, Inc.*, Ann Arbor, Michigan;
Helped develop and apply dissolved oxygen model for Black River, Ohio.
- 2/99-9/99 *Ecology and Environment, Inc.*, Lancaster, New York;
Developed hydraulic and water quality model, with graphical (animated) output, for Huangpu River, Shanghai, China.

- 10/97-2/98 *Limno-Tech, Inc.*, Ann Arbor, Michigan;
Evaluated plan to test model applications to simulate sediment transport in Fox River, Michigan.
- 7/97 *American Sigma, Inc.*, Medina, New York;
Helped design hydraulic testing laboratory for development and testing of acoustic current meters.
- 8/89-9/89 *Bouvier, O'Connor*, Buffalo, New York;
Provided expert testimony for culvert discharge calculations and drag forces.
- 6/89 *URS Consultants, Inc.*, Buffalo, New York;
Reviewed groundwater transport model to evaluate pollution due to landfill.
- 12/87-9/88 *Bouvier, O'Connor*, Buffalo, New York;
Provided advice on possible causes for an ice jam and flooding event along Buffalo Creek, West Seneca, New York.
- 11/87-12/89 *Pyramid Company of Buffalo*, Buffalo, New York;
Helped design and evaluate flood control measures for a large shopping mall development.
- 11/85 *The Ohio State University*, Columbus, Ohio, Physics Department;
Assisted in development of experimental program to evaluate wind effects in an operating solar pond.
- 9/84-2/85 *DiDonato Associates*, Buffalo, New York;
Designed stormwater drainage system, Greater Buffalo International Airport.

Service Activities

Professional Memberships

- 1983-1993 International and American Solar Energy Societies
- 1985-2005 American Society of Civil Engineers (# 235797)
- 1988-1991 American Society for Engineering Education
- 1989-2005 American Geophysical Union (# 10140664)
- 1991-present International Association for Great Lakes Research (# R1727)
- 1993-2005 International Association for Sediment and Water Science
- 1995-2005 International Association for Hydraulic Research
- 1996-present National Society of Professional Engineers

Professional Service Activities

- 2020-present Member, Lake Ontario Objectives and Targets Task Team, Annex 4 to Great Lakes Water Quality Agreement Subcommittee for Lake Ontario Management, International Joint Commission.
- 2016 Member, International Joint Commission Lake Ontario Nearshore Nutrient Task Team.
- 2015-2018 Member, IAGLR Lifetime Achievement Award Committee
- 2012-2013 Steering Committee member, Conferences in the Disciplines (SUNY) Workshop on Resiliency of the Great Lakes to Climate Change.
- 2011-2016 Council of Fellows, Cooperative Institute for Limnological and Ecological Research, University of Michigan (NOAA program)

- 2011-2015 Advisory Council, NSF-funded study to develop 3D visualization tools for limnology education, Tahoe Environmental Research, UC Davis.
- 2009-2010 Member, Search Committee for New York Sea Grant Associate Director and Assistant Director for Extension
- 2009 Invited participant, Conference on Assessing the Need for a Comprehensive Water Policy in New York State, Pace University, Pace Academy for Applied Environmental Studies (9/13/09).
- 2009 Panel review member, National Science Foundation, Chemical, Biochemical and Environmental Transport Program (May 28-29).
- 2008-2009 Chair, Conference Planning Committee, Great Lakes Connecting Channels, in conjunction with the 100th anniversary of the Boundary Waters Treaty.
- 2007, 2008 Panel review member, Ministry of Research and Innovation, Ontario, Canada.
- 2007-2008 Member, Science Advisory Group, New York Ocean and Great Lakes Ecosystem Conservation Council.
- 2005-2011 Technical Review Coordinator, Onondaga Lake Water Quality Model Review Panel, Onondaga Environmental Institute.
- 2005, 2006 Chair, Awards Committee, Great Lakes Research Consortium Annual Conference.
- 2004-2005 Member, Great Lakes Research Consortium Executive Director Transition Committee.
- 2004 Head Judge, regional concrete canoe competition, Buffalo, NY
- 2003 Co-organized Lake Ontario Research Workshop, held at SUNY-ESF, Syracuse, New York, March 13
- 2002-2006 US lead, Environmental Technical Working Group, International Joint Commission Study of Water Regulation in Lake Ontario and the St. Lawrence River
- 2002 Developed *Great Lakes Summer Institute* for Great Lakes Research Consortium.
- 2000-2013 Member, Buffalo River Remedial Action Advisory Committee
- 1998-1999, 2001-2006 Session Moderator, Great Lakes Research Consortium Annual Student/Faculty Conference
- 1997-1999, 2001-2005, 2018, 2019 Session Co-Chair, IAGLR Annual Conference
- 1995-1997 Member, Technical Subcommittee for Niagara River Remedial Action Plan, New York State Department of Environmental Conservation
- 1995-1996 Member, Buffalo ASCE Hydraulics and Hydrology Committee
- 1995-1996 Member, IAGLR Technical Advisory Committee
- 1994-1996 Member, ASCE Task Committee on Climatic Effects on Lake Hydrodynamics
- 1993-1994 Member, Technical Committee, ASCE Hydraulics Specialty Conference, Buffalo
- 1990 Organized and hosted ASCE National Concrete Canoe Competition
- 1990 Session chair, IAHR International Conference on Physical Modeling of Transport and Dispersion, M.I.T., Cambridge, MA
- 1989-1991 Member, Board of Directors, Buffalo Section of ASCE
- 1986-1993 Editor, "International Solar Pond Letters", American Solar Energy Society
- 1986-1989 Taught review course in hydraulics and hydrology for Professional Engineering Exam, P.E. Society, Buffalo, NY

- 1985-1991 Faculty Advisor, ASCE Student Chapter, University at Buffalo
 1985 Taught short course, "Applied Mathematics in Civil Engineering", for D.O.T. engineering technicians

Reviewer:

(journals) *Australian Journal of Marine and Freshwater Science, Dynamics of Atmospheres and Oceans, Earth Surface Processes and Land Forms, Ecological Modeling, Energy Sources, Environmental Fluid Mechanics, Environmental Science and Technology, Hydrologic Processes, International Journal of Heat and Fluid Flow, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, Journal of Engineering Mechanics, Journal of Environmental Engineering, Journal of Fluids Engineering, Journal of Great Lakes Research, Journal of Environmental Engineering, Journal of Hydraulic Engineering, Journal of Solar Energy Engineering, Limnology and Oceanography, Physics of Fluids, Solar Energy, Surface Review and Letters, Water Research, Water Resources Research.*

(proposals) *Canadian Ministry of Research and Innovation, Environmental Protection Agency, Great Lakes Research Consortium, Hudson River Foundation, Israel Science Foundation, NOAA, Maryland Sea Grant, Massachusetts Sea Grant, Minnesota Sea Grant, National Oceanographic and Atmospheric Administration, National Science Foundation, New York Center for Hazardous Waste Management, U.S. Department of Energy, US-Israel Binational Science Foundation, Univ. of Mich. Water Center, Virginia Sea Grant, Wisconsin Sea Grant.*

University Service

University

- 2017-present Member, Office of the Vice Provost for Faculty Affairs Department Chair Advisory Group
 2017 Roundtable discussion leader for climate change impacts on aquatic ecosystems (RENEW)
 2016 Chair, Search Committee for Freshwater Focus Area in RENEW (faculty)
 2016 Chair, Search Committee for RENEW staff economist
 2016 Member, Search Committee for RENEW staff data manager
 2015-2019 Lead, Freshwater Coastal Ecosystems and the Blue Economy focus area, and Assistant Director in RENEW institute
 2010-2014 Member, Faculty Advisory Committee, Civic Engagement and Public Policy Strategic Strength
 2010 Member, Search Committee for Vice Provost for Undergraduate Education
 2008-2009 Member, Research, Teaching and Public Service Subcommittee for UB Environmental Stewardship Committee
 2006-2010 Member, Undergraduate Education Advisory Council
 2006 Organized annual Environment and Society research colloquium, with focus on Great Lakes studies
 2005-2006 Member, Search Committee for SEAS Dean
 2002-2010 Member, Faculty Senate Committee on Academic Freedom and Responsibility
 2001-2005 Member, University Budget Priorities Committee
 2000-present Campus Representative, New York Great Lakes Research Consortium

- 2000-present Director, Great Lakes Program
 1998-2005 Member, Steering Committee, UB Environment and Society Institute
 1998-2004 Member, Steering Committee, NSF – IGERT project (Acting Director, 2001-2002)
 1998-1999 Acting Director, Great Lakes Program
 1996-1999 Faculty Consultant for Video Consultation Project, to mentor other faculty in teaching techniques (coordinated through Office of the Provost, Vice Provost for Faculty Development)
 1995-1999 Member, Undergraduate Curriculum Committee
 1995-1999 Member, Faculty Senate Committee on Faculty Rights and Responsibilities.
 1994-1996 Member, University Committee on Degree Requirements
 1994 Member, internal review committee for proposals to be submitted to National Science Foundation Graduate Traineeship Program
 1991 Member, Environmental Task Force
 1991 Treasurer, University at Buffalo Alternative Energy Interest Group
 1990-1991, 1993-1996 Member, Faculty Senate
 1988-1989 Member, inter-departmental committee to choose new calculus textbook for engineering majors

School

- 2020-present Co-chair, SEAS Task Force on Diversity, subcommittee on Graduate Student Recruitment and Retention
 2010 Alternate Member, SEAS Research Advisory Committee
 2009-2012 Member, Landscaping Committee for new engineering building
 2002 Chair, ad-hoc grievance Committee
 1996, 1998 Member, Holiday Planning Committee
 1995-1999, 2001-2008, 2010-2019 Marshall for Engineering Commencement
 1995-1999 Member, Faculty Personnel Committee
 1985 Judged for Engineering Student Association competition

Department

- 2016-present Department Chair
 2014-2016 Director, Graduate Studies, and Associate Chair
 2014-2015 Member, Faculty Search Committee (transportation)
 2014 Chair, Ad-hoc student grievance committee
 2013-2016 Associate Chair for Academic Affairs
 2013-2014 Chair, Faculty Search Committee (environmental)
 2012-2013 Member, Faculty Search Committee (geotechnical engineering)
 2012-2013 Member, Faculty Search Committee (transportation engineering)
 2011-2016 Head, Environmental and Water Resources Engineering group
 2011-2014 Member, Undergraduate Studies Committee
 2011-2012 Chair, Faculty Search Committee (environmental)
 2009-2013 Coordinator, Environmental Engineering Seminar Series

2008-2009	Member, Ad hoc committee for Student Academic Integrity
2007-2008	Chair, Faculty Search Committee (transportation)
2005-2010	Developed, organized, and taught in summer workshop series on stream ecosystem restoration.
2005-2006	Chair, Faculty Search Committee (intelligent transportation systems)
2005-2006	Chair, Strategic Planning Committee
2004-2005	Chair, Grievance Committee
2001-2003	Chair, Publications Committee
2000-2001	Chair, Faculty Search Committee (environmental)
1998, 1999	Member, Faculty Search Committees
1996-1999	Director of Graduate Studies and Chair, Graduate Studies Committee
1995-1999	Director of Graduate Admissions
1993-1995	Member, Undergraduate Curriculum Committee
1993-1994	Member, committee to evaluate teaching for tenure and promotion cases
1992-1993	Member, Chair Search Committee
1992-1993	Member, Computer Committee
1991	Supervised student ASCE concrete canoe team (3 rd place finish in national competition)
1988-1989	Developed brochure to describe and advertise Environmental Fluid Mechanics Laboratory and organized mailing list for distribution
1988-1989	Member, Faculty Search Committee (geotechnical engineering)
1987-1988	Member, Faculty Search Committee (earthquake engineering)
1987-1988	Member, Chair Search Committee
1987,	Mentor for incoming engineering freshmen
2001-2006	
1986-1991	Faculty Advisor, Student ASCE Chapter
1986-present	Director of Environmental Fluid Mechanics Laboratory
1985-1986	Participated as a mentor in the University Honors Program
1985	Coordinated graduate student recruitment effort

Community Service

2016	Judged for CSTEP poster competition, (7/27/16)
2013	Judged for St. Peters School annual science fair (Lewiston, NY) (spring)
2007-2010	Member, West Valley Citizens Task Force
1997	Taught classes in “Great Lakes Water Management” for local elementary school
1997-1999	Member of Ritual Committee, Temple Beth El of Greater Buffalo
1996-2000	Member, Planning Committee, community Israel Independence Day celebration
1995-1999	Member of Nominating Committee, Temple Beth El of Greater Buffalo
1995-1999	Member of Youth Commission, Temple Beth El of Greater Buffalo
1993-2000	Volunteer community teacher for Israeli folk dancing
1986-present	Presenter at annual “Science Exploration Day”, University at Buffalo
1984-1985	Judged at Sweet Home Junior High Science Fair

Professional Development

2016-present	Chairs Development Workshop series, Vice Provost for Academic Affairs, University at Buffalo
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