

Curriculum Vita

G. Allen Burton, Jr.

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16 April 2018

Education

University of Texas at Dallas, M.S. 1980, Ph.D. 1984

Major: Environmental Science (Aquatic Toxicology)

Auburn University, M.S. 1978

Major: Microbiology

Ouachita Baptist University, B.S. 1976

Majors: Biology and Chemistry

Experience

University of Michigan, Ann Arbor.

Professor, School for Environment and Sustainability, 2008-present

Professor, Dept of Earth & Environmental Sciences, 2011-present ("dry" appointment)

Distinguished Faculty Fellow, Graham Sustainability Institute, University of Michigan. 2014-2016.

Director, University of Michigan Water Center, 2012-2014

Director, Cooperative Institute for Limnology & Ecosystems Research, 2008-2016.

Environmental Toxicology & Chemistry, International Journal. Editor-in-Chief, 2012-present

Concurrent Professor, School of the Environment, University of Nanjing, China. 2014-present.

Honorary Professor, State Key Laboratory of Environmental Criteria and Risk Assessment, Beijing China. 2014-present.

Ecological Risk Consultant for LimnoTech International, Ann Arbor MI. 2016-present.

Wright State University, Department of Earth & Environmental Sciences, 2006-2008.

Department of Biological Sciences, 1987- 2006, Dayton, Ohio

Visiting Professor, 2008-2012.

Professor of Environmental Sciences, 1996 - 2008.

Chair, Department of Earth & Environmental Sciences, 2006 - 2008.

Director, Institute for Environmental Quality, 1994 - 2006.

Interim Chair, Geological Sciences Department. 2005 - 2006.

Coordinator, Environmental Health Sciences B.S. Degree Program, 1985-2006.
Associate Director, Environmental Sciences Ph.D. Program. July 2003-2005.
Brage Golding Distinguished Professor of Research, 2000 - 2003.
Director, Environmental Sciences Ph.D. Program. 2002- 2003.
Associate Professor, 1990 - 1996.
Associate Director of the Toxicant Contamination Research Program, 1987 - 1990.
Assistant Professor, 1985 -1990.

Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder.
Visiting Fellow, 1984 - 1985.

U.S. Environmental Protection Agency, Dallas, Texas
Life Scientist, GS-11. 1980 - 1984.

University of Texas at Dallas, Richardson, Texas
Teaching and Research Assistant, 1979 - 1984.

U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi
1978 -1979
Graduate Research Microbiologist

Honors and Awards

Fellow, Society of Environmental Toxicology & Chemistry, 2016-present
Board of Advisors. University of North Texas, Inaugural Board of Advisors for the Advanced Environmental Research Institute. 2016-2019.
Expert Panel for Fragrance Safety. 2016-2025.
Doctor *Honoris Causa*, Natural Sciences, University of Roskilde, Denmark. 2013
Distinguished Faculty Fellow. Graham Sustainability Institute, University of Michigan. 2014-2016.
Editor-in-Chief. Environmental Toxicology & Chemistry. 2012-present
Science Advisory Board, U.S. Environmental Protection Agency, Committee on Review of the Ecological Assessment Action Plan. 2012.
Science Advisory Panel, U.S. EPA Office of Pesticides Programs. Review of Methods for Characterizing Effects of Pesticides and Other Chemical Stressors to Aquatic Organisms. 2012.
Co-Editor-in-Chief. Environmental Toxicology & Chemistry. 2011.
Science Advisory Board, U.S. Environmental Protection Agency, Committee on Oil Spill Research Strategic Panel. 2011- 2012.
Science Advisory Board, U.S. Environmental Protection Agency, Committee on Ballast Water Technology Panel. 2010-2011
Science Advisory Board, U.S. Environmental Protection Agency, Committee on Risk and Technology Review Assessments for Phase II Source Categories (RTR II) Panel. 2009-2010

Science Advisory Board, U.S. Environmental Protection Agency, Ecological Processes and Effects Committee. 2005-2011
Editor, Environmental Toxicology & Chemistry. 2009-2011.
University of Michigan Road Scholar. 2009.
Science Advisory Board, U.S. Environmental Protection Agency, Scientific and Technological Achievement Awards (STAA) Panel. 2006-2008.
National Research Council Committee on Sediment Dredging at Superfund Mega-sites. 2006-2007
Immediate Past-President, Society of Environmental Toxicology and Chemistry, 2008
President, Society of Environmental Toxicology and Chemistry, 2007
Vice-President, Society of Environmental Toxicology and Chemistry, 2006
World Council, Society of Environmental Toxicology and Chemistry, 2003-2008.
Brage Golding Distinguished Professor of Research, 2000-2003.
Editorial Board, J. Brazilian Society of Ecotoxicology. 2006-present.
Editorial Advisory Board, Aquatic Ecosystem Health & Management, 2001-2006.
Editorial Board, Chemosphere, 2003-2005.
Co-Editor, Ecotoxicology and Environmental Restoration, 1995-2003.
Editorial Board. Environmental Toxicology and Chemistry. 1990-1993.
Phi Kappa Phi National Honorary Society. 2000-present.
Phi Beta Delta International Honor Society. 2004-present.
Pi Epsilon National Honorary Society. 2004-present
Expert Panel, Environmental Toxicology Assessment Panel, Non-Ferrous Metals Research Associations. 1999-present
Board of Directors, Society of Environmental Toxicology and Chemistry, 1993-1996.
Advisory Council, The Nature Conservancy of Ohio, 1994 - 1999.
NATO Senior Research Fellow, 1994, 1995, 1996.
Visiting Senior Scientist, Italian Institute for Hydrobiology. 1994, 2001, 2005.
Visiting Senior Scientist, New Zealand Institute of Water and Atmospheric Research. 1996.
Visiting Senior Scientist, University of Roskilde, Denmark, 2016.
Sigma Xi, Chapter President, 1991-1992, 2000.
First place award for oral presentation, 3rd International Symposium Toxicity Testing Using Microbial Systems, Valencia, Spain. 1987.
CIRES Visiting Fellow. 1984-1985.

Professional Service (*Chronological order from 2001; Academic service not included*):

Editorial Board, Aquatic Ecosystem Health & Management, 2001-2004.
Chair, Sediment- Water Interactions Group. Metals Industry. 2001-2002.
World Council, Society of Environmental Toxicology and Chemistry, 2003-2006
Editorial Board, Chemosphere, 2003-2005.
Steering Committee. Pellston Workshop on Use of Sediment Quality Guidelines and Related Tools for the Assessment of Contaminated Sediments. Aug. 2002.

Council of Environmental Deans and Directors. National Council for Science and the Environment. 2001-2005.

Steering Committee and Session Chair. Approaches to Assessing and Managing Ecological Risks at Contaminated Sediment Sites Meeting. U.S. Environmental Protection Agency and American Chemical Council. April 2002.

Peer Review Panel. U.S. Environmental Protection Agency Region 2. Bioaccumulation Testing Evaluation Framework for Dredged Materials. 2002.

IAPSO-IAHS Joint Commission on Groundwater-Seawater Interactions. 2003.

Scientific Committee, 6th International Symposium on Sediment Quality Assessment. 2004. Antwerp, Belgium.

Contaminated Sediments Committee, American Society of Civil Engineering. August 2003-2005.

Review Panel. U.S. Environmental Protection Agency. Office of Research and Development. STAR Research Grants. Entomology. Feb. 2004.

Review Panel. U.S. Environmental Protection Agency. Office of Research and Development. STAR Research Grants. Ecological Risk Assessment. Feb. 2004.

Review Panel. U.S. Environmental Protection Agency Federal Insecticide, Fungicide and Rodenticide Act Scientific Advisory Panel (SAP). Aquatic Modeling. Feb. 2004.

Peer Review Coordinator. Pellston Workshop Book "Toxicity of Dietary Metals to Aquatic Organisms". Society of Environmental Toxicology and Chemistry Press. May 2004.

Chair, Science Committee, World Council of the Society of Environmental Toxicology & Chemistry. 2003-2004.

Chair, International Programs Committee, World Council of the SETAC. 2004-2005.

Co-Chair, Technical Workshop on In Situ Effects Measures: Linking Responses to Ecological Consequences. Society of Environmental Toxicology and Chemistry. Troutdale, Oregon. November 2004.

Wolf Creek Focus Group. Watershed Enhancement Program. Dayton, OH. November 2004-2006.

Review Panel. European Union Metal Ecological Risk Assessment Guidance. Non-Ferrous Metals Industry. 2004-2005.

Great Miami River Watershed Enhancement Program Steering Committee. 2001-2005.

Advisory Board. Greene County Career Center and Bellbrook High School Environmental Program. 2004-2005.

Chair, Session on Environmental Education. Council of Environmental Deans & Directors, Washington DC, March 2005.

International Organizing Committee. SETAC Asia/Pacific meeting. Beijing, China. September 2006.

Peer Review Panel - Private Arbitration Appellate Proceedings. Houston, TX. 2005.

Science Advisory Board, U.S. Environmental Protection Agency. Ecosystem Processes and Ecology Committee (EPEC) 2005-2011.

Science Advisory Board. Scientific and Technological Achievement Awards Committee (STAA). 2005-2008

Vice-President, Society of Environmental Toxicology and Chemistry, 2006

World Council, Society of Environmental Toxicology and Chemistry, 2003-2008.
President, Society of Environmental Toxicology and Chemistry, 2007
Immediate Past-President. SETAC. 2008.
National Research Council, Committee on Evaluation of the Effectiveness of Dredging at Contaminated Sediment Sites. 2006-2007.
Chair, NIEHS Special Emphasis Panel, Innovative approaches to remediation of recalcitrant hazardous substances in sediments (R01). 2007.
Yellow Springs Instruments Foundation. Review Panel. 2007.
Chair. Metals Assessment Session. SETAC Europe Annual Meeting. Porto Portugal. May 2007.
Co-Chair. Metals Risk Assessment Session. SETAC North America Annual Meeting. Milwaukee, WI. Nov. 2007.
Co-Chair. Sediment Dredging Effectiveness Session. SETAC North America Annual Meeting. Milwaukee, WI. 2007.
Chair, Program Review Panel. Montclair University Dept. of Earth and Environmental Studies, New Jersey. 2008.
Review Panel. NIEHS Basic Superfund Research Program. 2008, 2009
Science Advisory Board, U.S. Environmental Protection Agency, Risk and Technology Review Assessments for Phase II Source Categories (RTR II) Panel. 2009-2010
Expert Panel: ASTM E1924 as a Whole Effluent Toxicity Method. ReGenesis. Nov. 2010.
Editor, Environmental Toxicology & Chemistry. 2009-2011.
Co-Editor-in-Chief. Environmental Toxicology & Chemistry. 2011.
Great Lakes Threat Mapping Project Workgroup. The Joyce Foundation. 2009-2011.
State of Washington Department of Ecology. Freshwater Sediment Guidelines Proposed Regulation Review. 2010.
Risk Science Center Internal Advisory Panel. University of Michigan School of Public Health. 2010-2012.
Upper Midwest and Great Lakes Landscape Conservation (UMGL LCC) Technical Committee. 2010-2011.
Science Advisory Board, U.S. Environmental Protection Agency, Ballast Water Technology Panel. 2010-2011.
External Board of Reviewers. State of Washington Department of Ecology. Technology Assessment Protocol - Ecology (TAPE) for Stormwater. 2010-2012.
External Review Panel. Canadian Foundation of Innovation. University of Windsor. 2011.
Science Advisory Board, U.S. Environmental Protection Agency, Oil Spill Research Strategy Panel. 2011-2012.
Editor-in-Chief. Environmental Toxicology & Chemistry. 2012-present
Advisory Board, University of Michigan Biological Station. 2011-present.
Use of Oil Spill Dispersants Research Strategy. NOAA. Mobile, AL 2011.
Trans-boundary Research University Network. UM representative. 2011-2012.
Science Advisory Board, U.S. Environmental Protection Agency, Review of the Ecological Assessment Action Plan. 2012.
Science Advisory Panel, U.S. EPA Office of Pesticides Programs. Review of Methods for Characterizing Effects of Pesticides and Other Chemical Stressors to Aquatic Organisms. 2012.

Scientific Committee. XII Congresso Brasileiro de Ecotoxicologia. Recife, Brazil. Sept. 2012.
Chair, Program Review Panel. School of Biological Sciences, University of Nebraska - Lincoln.
Mar 2012.

Chair, External Scientific Advisory Committee, Center for Environmental and Marine Sciences,
(CESAM), University of Aveiro, Portugal.

U.S. EPA Technical Qualifications Board. Promotion review to GS-15. National Exposure
Research Laboratory. 2013.

Chair, Global Partners Committee, Society of Environmental Toxicology & Chemistry. 2014-
2015.

Program Review Panel. University of North Texas Department of Biological Sciences. 2015.

Advisory Panel. Ecological Toxicity Advisory Panel. Non-Ferrous Metals Research Associations.
2000-present.

Expert Panel Research Institute for Fragrance Materials. 2016-2019.

Board of Advisors. University of North Texas, Inaugural Board of Advisors for the Advanced
Environmental Research Institute. 2016-2019.

Research Awards (*chronological since 2013, previous grants 1985-2010 not listed;
however, funding 1985-2010 ~\$10,000,00*)

Water Environment Research Foundations. Secondary Data and Modeling to Support the
Application of Site Screening Tools Developed in Phase I to Evaluate Ecological Effects from
Trace Organics in the Aquatic Environment. AB Co-PI to LimnoTech 2013-2015. WERF Project
CEC6R12

University of Michigan. MCubed. 2013-2014. Tracking water and biodiversity resources in the
Great Lakes. Co-PI.

SERDP. Assessment and Management of Stormwater Impacts on Sediment Recontamination. AB
Co-PI to University of Texas. 2014-2016.

NiPERA. Validating Ecological Indicators of Metal Availability: A Study of the Thompson and
Birchtree

Mines, Thompson, Manitoba. 2013-2015.

University of Michigan Third Century Initiative: Global Challenges. Develop the Ethiopia-
Michigan Platform or Advancing Collaborative Engagement. 2013-2015.

2013 New Funding: ~\$457,000

SERDP. Remedy and Recontamination Assessment Array. AB Co-PI to Bart Chadwick, SPAWAR.
2014- 2016.

University of Michigan Water Center. 2013-2015. Microplastics in the Great Lakes: Towards
establishing a long-term multidisciplinary research platform to assess the impact of
microplastics on Laurentian Great Lakes ecosystem health. AB Co-PI.

University of Michigan Water Center. 2013-2015. Improving water quality and well-being in Great Lakes post-industrial cities: A multidisciplinary partnership to assess Detroit's green infrastructure. AB Co-PI.

2014 New Funding: ~\$77,000

CH2M Hill. Assessment of Potential Toxicity in Lake Catherine, Hot Springs, Arkansas. 2015-2017.

NiPERA. Metal partitioning to oxic natural sediments and removal from water. 2015-2017.

2015 New Funding: ~\$242,390

Copper Alliance. Copper removal from water. 2016-2018

CH2M Hill. Amendment to Assessment of Potential Toxicity in Lake Catherine, Hot Springs, Arkansas. 2016-2017.

2016 New Funding: \$275,000

CH2M. Ecotoxicological evaluation of sediment-associated metals in East Wilson Pond. Amendment of \$36,694.

SERDP. 2017-2018. Proof-of-Concept for the in situ Toxicity Identification Evaluation (ITIE) Technology for Assessing Contaminated Sediments, Remediation Success, Recontamination and Source Identification. \$200,000.

University of Michigan. 2017. Environmental Dredging: Evaluation of Human Health Benefits and Risks. \$20,000

NiPERA. Metal partitioning to oxic natural sediments and removal from water. 2017-2018. \$102,046.

2017 New Funding: \$358,740.

International Lead Zinc Organization. Identifying Sediments for Rapid Removal - Reasonable Worst-Case. \$115,507

2018 New Funding: \$115,507

University Courses Taught

Water Quality and Treatment

Environmental Toxicology

Hazardous Waste Management

Introduction to Environmental Health Sciences

Limnology

Risk Assessment I and II

Assessment of Sediment Contamination

Ecotoxicology

Problems in Environmental Health Sciences

Watershed Processes

Environmental Stressor Identification
Stream Hydrology and Ecological Interactions
Environmental Problem Solving
Sediment Quality Assessment
Aquatic Ecosystems
Aquatic Ecosystem Quality Assessment
Water and Sediment Quality Assessment
Ecological Risk Assessment
Great Lakes Stressors
Stressor Dynamics in Aquatic Ecosystems
Urban Stormwater Science and Management
Aquatic Ecosystem Stressors

Publications

1. Burton, G.A., Jr. 1978. Isolation, Frequency of Occurrence, and Survival of *Yersinia enterocolitica* in Aqueous Environments. Thesis. 88 pp. Auburn University, Auburn, Alabama.
2. Gunnison, D., J.M. Brannon, I. Smith, Jr., and G.A. Burton, Jr. 1980. Changes in respiration and anaerobic nutrient regeneration during the transition phase of reservoir development. Proceedings of the Workshop on Hypereutrophic Ecosystems, Vaxjo, Sweden, 10-14 September, 1979.
3. Gunnison, D., J.M. Brannon, I. Smith, Jr., G.A. Burton, Jr. and K.M. Preston. 1980. A reaction chamber for study of interactions between sediments and water under conditions of static or continuous flow Water Res. 14: 1520-1532.
4. Burton, G.A., Jr. and J.M. Lazorchak. 1982. Substrate associated microfauna. (Review article). J. Water Pollut. Contr. Fed. 54: 922-931.
5. Burton, G.A., Jr. and J.M. Lazorchak. 1983. Substrate associated microfauna. (Review article). J. Water Pollut. Contr. Fed. 55: 863-869.
6. Lazorchak, J.M. and G.A. Burton, Jr. 1984. Substrate associated microfauna. (Review article). J. Water Pollut. Contr. Fed. 56: 787-791.
7. Burton, G.A., Jr. 1984. Microbial Activity Tests: Factors Affecting Their Potential Use in Sediments. Ph.D. dissertation, 304 pp. University of Texas at Dallas, Richardson.
8. Lazorchak, J.M. and G.A. Burton, Jr. 1985. Substrate associated microfauna. (Review article). J. Water Pollut. Contr. Fed. 57: 724-728.
9. Burton, G.A., Jr. 1985. Microbiological water quality, In: Microbial Processes in Reservoirs. D. Gunnison (ed.), Junk Publishers, pp. 79-97.
10. Burton, G.A., Jr. and G.R. Lanza. 1985. Microbial enzyme activity tests: factors affecting their use to detect toxicant impacts on sediment microbiota, pp. 214-228, In: R.D. Cardwell, R. Purdy, and R.C. Bahner (eds.), Aquatic Toxicology and Hazard Assessment, STP 854. American Society for Testing and Materials, Philadelphia, PA.
11. Lazorchak, J. and G.A. Burton, Jr. 1986. Substrate associated microfauna. J. Water Pollut. Contr. Fed. 58: 699-703.

12. Burton, G.A., Jr. and G.R. Lanza. 1986. Variables affecting two electron transport system assays. *Appl. Environ. Microbiol.* 51: 931-937.
13. Burton, G.A., Jr., T. Giddings, P. DeBrine, and R. Fall. 1987. A high incidence of selenite-resistant bacteria from a site polluted with selenium. *Appl. Environ. Microbiol.* 53: 185-188.
14. Burton, G.A., Jr., J. Lazorchak, W. Waller and G. Lanza. 1987. Arsenic toxicity changes in the presence of sediments. *Bull. Environ. Contam. Toxicol.* 38: 491-499.
15. Burton, G.A., Jr., D. Gunnison and G.R. Lanza. 1987. Survival of enteric pathogens in freshwater sediments. *Appl. Environ. Microbiol.* 53: 633-638.
16. Burton, G.A., Jr. and G.R. Lanza. 1987. *Aeromonas hydrophila* densities in thermally-altered reservoir water and sediments. *Water, Air, Soil Pollut.* 34: 199-206.
17. Burton, G.A., Jr., D. Nimmo, F. Payne and D. Murphey. 1987. Microbial activity and *Ceriodaphnia* stream impact survey. *Environ. Toxicol. Chem.* 6: 505-513.
18. Burton, G.A., Jr., A. Drotar, J. Lazorchak and L. Bahls. 1987. Relationship of microbial activity and *Ceriodaphnia* responses to mining impacts on the Clark Fork River, MT. *Arch. Environ. Contam. Toxicol.* 16:523-530.
19. Drotar, A., G.A. Burton, Jr., J.E. Tavernier and R. Fall. 1987. Widespread occurrence of bacterial thiolmethyl-transferases and the biogenic emission of methylated sulfur gases. *Appl. Environ. Microbiol.* 53: 1626-1631.
20. Burton, G.A., Jr. and G.R. Lanza. 1987. Aquatic microbial activity and macrofaunal profiles of an Oklahoma stream. *Water Res.* 21: 1173-1182.
21. Burton, G.A., Jr. 1988. Occurrence of bacterial resistance to arsenite, copper, and selenite in diverse habitats. *Bull. Environ. Contam. Toxicol.* 39: 990-997.
23. Burton, G.A., Jr. and B.L. Stemmer. 1988. Evaluation of surrogate tests in toxicant impact assessments. *Toxicity Assess.* 3: 255-269.
24. Burton, G.A., Jr. 1988. Sediment impact assessments using microbial activity tests, In: J. Lichtenberg, J. Winter, C. Weber, and L. Fradkin (eds.), *Chemical and Biological Characterization of Municipal Sludges, Sediments, Dredge Spoils and Drilling Muds*, STP 976, American Society for Testing and Materials. Philadelphia, PA, pp. 300-310.
25. Burton, G.A., Jr. 1989. Health effect assessments at hazardous waste sites: increasing your expertise. *Ohio J. Environ. Health.* 39: 22-23.
26. Lanza, G.R., G.A. Burton, Jr. and J.M. Dougherty. 1989. Microbial enzyme activities: potential use for monitoring decomposition processes, In: J. Cairns, Jr. and J.R. Pratt (eds.), *Functional Testing of Aquatic Biota for Estimating Hazards of Chemicals*, ASTM STP 988. American Society for Testing and Materials, Philadelphia, PA. pp. 41-54.
27. Burton, G.A., Jr. 1989. Evaluation of seven sediment toxicity tests and their relationships to stream parameters. *Toxicity Assess.* 4: 149-159.
28. Burton, G.A., Jr., B.L. Stemmer, K.L. Winks, P.E. Ross, and L.C. Burnett. 1989. A multitrophic level evaluation of sediment toxicity in Waukegan and Indiana harbors. *Environ. Toxicol. Chem.* 8: 1057-1066.
29. Burton, G.A., Jr., B.L. Stemmer, P.E. Ross, and L.C. Burnett. 1989. Discrimination of sediment toxicity in freshwater harbors using a multitrophic level test battery. In, W.S. Davis and T.P. Simon (eds.), *Proceedings of the 1989 Midwest Pollution Control Biologists Meeting*. U.S.

- Environmental Protection Agency, Region V, Instream Biocriteria and Ecological Assessment Committee. Chicago, IL. EPA 905/9-89-007. pp. 71-84.
30. Burton, G.A., Jr., 1990. Ecotoxicology: The Study of the Effects of Chemicals on Natural Systems (a four part feature series--Special Editor). Environ. Sci. Technol. 24: 9.
 31. Stemmer, B.L., G.A. Burton, Jr., and S. Leibfritz-Frederick. 1990. Effect of sediment test variables on selenium toxicity to *Daphnia magna*. Environ. Toxicol. Chem. 9: 381-389.
 32. Stemmer, B.L., G.A. Burton, Jr., and G. Sasson-Brickson. 1990. Effect of sediment spatial variance and collection method on cladoceran toxicity and indigenous microbial activity determinations. Environ. Toxicol. Chem. 9: 1035-1044.
 33. Burton, G.A., Jr. and P.F. Landrum. 1990. New Standard Guide for Sediment Collection, Storage, Characterization, and Manipulation of Sediments for Toxicological Testing. ASTM Standard E1391. American Soc. Testing and Materials. Philadelphia, PA.
 34. Sasson-Brickson, G. and G.A. Burton, Jr. 1991. *In situ* and laboratory testing with *Ceriodaphnia dubia*. Environ. Toxicol. Chem. 10: 201-207.
 35. Hieber, P., L. Bedel, and G.A. Burton, Jr. 1991. A noise survey of groundskeepers and highway workers. Ohio J. Environ. Health. 41: 26-29.
 36. Kenoyer, G., J. Seaberg, J. Reese, G. Hess, and G.A. Burton, Jr. 1991. Simulation of aquifer remediation with laboratory and field tests of sorption of chlorinated VOCs. Proceedings, National Waterwell Association Outdoor Action Conference, May, 1990, Las Vegas. NWWA, Columbus, OH.
 37. Burton, G.A., Jr. 1991. Assessing freshwater sediment toxicity. Environ. Toxicol. Chem. 10: 1585-1627.
 38. Burton, G.A., Jr. 1991. Impacts of sediment contaminants on sediment macrofauna. L'Ecotoxicologie Des Sediments, Rapport et communications du congres international de La Rochelle. Societe D'Ecotoxicologie Fondamentale et Appliquee. Paris, France.
 39. Burton, G.A., Jr. 1992. Sediment Toxicity Assessment. Editor. Lewis Publishers. Boca Raton, FL. 457 p
 40. Burton, G.A., Jr. 1992. Sediment collection and processing: factors affecting realism. In, Sediment Toxicity Assessment. Lewis Publishers. Boca Raton, FL. pp. 37-66.
 41. Burton, G.A., Jr. 1992. Plankton, macrophyte, fish and amphibian toxicity testing of contaminated freshwater sediments. In, Sediment Toxicity Assessment. Lewis Publishers, Boca Raton, FL. pp.167-182.
 42. Burton, G.A., Jr., M.K. Nelson, and C. Ingersoll. 1992. Freshwater benthic toxicity assays. In, Sediment Toxicity Assessments. Lewis Publishers, Boca Raton, FL. pp. 213-240.
 43. Chapman, P., E. Power, and G.A. Burton, Jr. 1992. Integrative assessments in aquatic ecosystems. In, Sediment Toxicity Assessment. Lewis Publishers. Boca Raton, FL. pp. 313-340.
 44. Burton, G.A., Jr. 1992. Annex X4. *Daphnia* and *Ceriodaphnia* sp. In ASTM Standard Guide E1383. New Standard Guide for Conducting Sediment Toxicity Tests with Freshwater Invertebrates. Amer. Soc. Testing and Materials. Philadelphia, PA.
 45. Ross, P.E., G.A. Burton, E.A. Creclius, J.C. Filkins, J.P. Giesy, Jr., C.G. Ingersoll, M.J. Mac, T.J. Murphy, J.E. Rathbun, V.E. Smith, H.E. Tatem, & R.W. Taylor. 1992. Assessment of sediment contamination at Great Lakes Areas of Concern: the ARCS Program Toxicity-Chemistry Work Group strategy. J. Aquatic Ecosystem Health 1:193-200.

46. Burton, G.A., Jr. 1992. Assessing contaminated aquatic sediments (a two part feature series - Special Editor). *Environ. Sci. Technol.* Vol. 26:1862-1863.
47. Burton, G.A., Jr. 1993. Assessing the quality of life for aquatic biota. In, *Proceedings 1992 International Symposium on Environmental Dredging, A Solution to Contaminated Sediments?*. Erie County Environmental Education Institute, Inc.. Buffalo, NY.
48. Burton, G.A., Jr. and K.J. Scott. 1992. Sediment toxicity evaluations: Their niche in ecological assessments. *Environ. Sci. Technol.* Vol. 26:2068-2075.
48. Burton, G.A., Jr., T. La Point, and C. Zarba. 1993. Contamination assessment of sediments in Freshwater ecosystems, In, J. Saxena, ed., *Hazard Assessment of Chemicals - Current Developments*, Vol. 8: 171-205. Taylor and Francis Publ. Corp., Washington, DC.
50. Burton, G.A., Jr. 1993. Sediment quality assessments, *Proceedings of the Conf. on Assessment and Treatment of Contaminated Sediments in the North Branch Chicago River*. Northeast Illinois Planning Commission, Chicago, IL. pp. 23-30.
51. Nelson, M.K., P.F. Landrum, G.A. Burton, Jr., S.J. Klaine, E.A. Creclius, T.D. Byl, D.C. Gossiaux, V.N. Tsymbal, L. Cleveland, C.G. Ingersoll, G. Sasson-Brickson. 1993. Toxicity of contaminated sediments in dilution series with control sediments. *Chemosphere* 27:1789-1812.
52. Burton, G.A., Jr. 1994. Assessing stormwater impacts. In, G. V. Cotroneo and R.R. Rumer (eds.), *Hydraulic Engineering '94, Proceedings of the 1994 Conference*. Amer. Soc. Civil Engineers Publ. pp.1198-1202.
53. Burton, G.A., Jr. and C.G. Ingersoll. 1994. Evaluation of sediment toxicity, In *Assessment Guidance Document. Assessment and Remediation of Contaminated Sediments (ARCS) Program*, U.S. Environmental Protection Agency, Great Lakes National Program Office, Chicago, IL. pp. 86-130.
54. Hoffman, D.J, B.A. Rattner, G.A. Burton, Jr., and J. Cairns, Jr. (eds.) 1995. *Handbook of Ecotoxicology*. Lewis Publishers, Boca Raton, FL.
55. Burton, G.A., Jr. and C. MacPherson. 1995. Test methods for measuring sediment toxicity, In Hoffman, D., et al. (eds.), *Handbook of Ecotoxicology*. Lewis Publishers, Boca Raton, FL. pp.70-103.
56. Burton, G.A., Jr. 1995. Quality assurance issues in assessing receiving waters. In E.E. Herricks, ed., in *Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment*. Lewis Publishers, Boca Raton, FL. pp. 275-284.
57. Sarda, N. and G.A. Burton, Jr., 1995. Ammonia variation in sediments: Spatial, temporal and method-related effects. *Environ. Toxicol. Chem.* 14:1499-1506.
58. Ingersoll, C.G., G.T. Ankley, D.A. Benoit, E.L. Brunson, G.A. Burton, F.J. Dwyer, R.A. Hoke, P.F. Landrum, T.J. Norberg-King, and P.V. Winger. 1995. Toxicity and bioaccumulation of sediment-associated contaminants using freshwater invertebrates: a review of methods and applications. *Environ. Toxicol. Chem.* 14:1885-1894.
59. Burton, G.A., Jr. 1995. Critical issues in sediment bioassays and toxicity testing. *J. Aquatic Ecosystem Health* 4: 151-156.
60. Ireland, D.S., G.A. Burton, Jr., and G.G. Hess. 1996. *In Situ* toxicity evaluations of turbidity and photoinduction of polycyclic aromatic hydrocarbons. *Environ. Toxicol. Chem.* 15:574-581.
61. Burton, G.A., Jr., T.J. Norberg-King, C.G. Ingersoll, D.A. Benoit, G.T. Ankley, P.V. Winger, J. Kubitz, J.M. Lazorchak, M.E. Smith, E. Greer, F.J. Dwyer, D.J. Call, K.E. Day, P. Kennedy, and

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Costello, D.M.; Burton, G.A. 2012. Variation in biofilm response to metal-contaminated sediments - the importance of ecosystem context for managing polluted ecosystems. Annual Meeting Society of Freshwater Science. Louisville, KY.

Harrison, A.M.; Costello, D.M.; Burton, G.A. 2012. Experiments measuring bioavailability in oxic and spiked sediments. Annual Meeting Society of Freshwater Science. Louisville, KY.

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Nelson WA, Burton GA Jr, Steinman AD. 2012. Sediment toxicity in a Great Lakes Area of Concern: An in situ bioassay with *Chironomus dilutus* and *Hyalella azteca*. Annual Meeting Society of Freshwater Science. Louisville, KY.

Burton, GA. 2012. Improving assessments of invertebrate metal toxicity through realistic, multi-compartment, exposure scenarios. Aquatic Toxicity Symposium, Holden Village, WA. June. (invited)

Mendonça R, A Harrison, D Costello, GA Burton, C Hammerschmidt, L Podzikowski. 2012. Experiments measuring bioavailability in oxic and spike sediments. XII Congresso Brasileiro de Exotoxicologia. Recife, Brazil. Sept. 2012.

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Burton GA, G Rosen, DB Chadwick, C Stransky, H Bailey, MS Greenberg, J Radford. 2013. Improved In Situ Approach for Assessing Sediment Ecological Risk, Remediation Effectiveness and Stormwater Impacts. 7th Intern Conf Remediation of Contaminated Sediments. Dallas, TX. February.

Costello, DM, GA Burton, CR Hammerschmidt, and AM Harrison. 2013. Metal SQGs and the ecosystem concept: lessons from field and mesocosm experiments. *Seventh International Conference on Remediation of Contaminated Sediments*, Dallas.

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Costello, DM, AM Harrison, RM Mendonca*, D Marsh*, CR Hammerschmidt, and GA Burton. 2013. Aging spiked sediments in a flow-through artificial stream - changes in sediment Cu toxicity and speciation. *Annual Meeting of SETAC Europe*, Glasgow, Scotland, 2013.

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Burton, GA, DM Costello, CR Hammerschmidt, EC Rogevich Garman, and CE Schlekot. 2013 Nickel phase partitioning, flux, and toxicity in field deployed sediments. *ECHA Topical Scientific Workshop: Risk Assessment for the Sediment Compartment*, Helsinki, Finland, 2013.

Burton G Allen, Gunther Rosen, D Bart Chadwick, Chris Stransky, Howard Bailey, Marc S Greenberg, John Radford. 2013. Evaluation of a new tool for assessment of *in situ* biological exposure and effects, risk and remediation effectiveness in aquatic environments. 36th AMOP Technical Seminar on Environmental Contamination and Response. Halifax, Nova Scotia. June.

Burton, G Allen, Jr, Rosen G, Chadwick B, Costello D, Fetters K. 2013. Improving linkages between exposure and effects assessments of contaminated sediments in marine harbors. 7th International Conference on Marine Pollution and Ecotoxicology. Hong Kong. June.

Burton GA. 2013. Are sediment guidelines developed from laboratory spiking studies accurate? SETAC Australia Conference. Melbourne. September

Kinsman-Costello L, Dick G, Burton GA, Sheldon N. 2013. Will climate, invasives and toxicants imperil unique biodiversity in Great Lakes Sinkhole ecosystems? MCubed Symposium. University of Michigan. November.

Burton GA. 2013. Are contaminated sediments an important stressor? University of Saskatchewan. Toxicology Centre. November.

Burton GA 2013. Metal bioavailability, multiple stressors and environmental risk assessments: Resolving impairment complexities in human dominated waterways. 7th National Environmental Chemistry Conference. Guiyang, China. September. (invited)

Burton GA 2013. Understanding the ecological risk of anthropogenic chemicals in the context of natural stressors. School of Environment. Nanjing University. September (invited).

Burton GA. 2013. Perspectives on effective management of urban water quality. Biannual Meeting Australasia Chapter of SETAC. Melbourne. October. (invited)

Burton GA. 2013. Natural and anthropogenic stressors in aquatic ecosystems. University of Roskilde. Roskilde Denmark. September. (invited)

Costello, DM, AM Harrison, DL Marsh, RM Mendonca, GA Burton, CR Hammerschmidt. 2013. Dynamic speciation and toxicity during aging of Cu-spiked sediments in a flow-through mesocosm. Ann Meeting SETAC. Nashville TN Nov.

Kapo, K, C. Holmes, S. Dyer, L. Posthuma, D. de Zwart, M. J. Whelan, R. Williams, V. Keller, A. Young, S. Marshall, G.A. Burton, and J. Murray Bligh. 2013. Leveraging Existing Data Resources with Spatial Eco-epidemiology as a Screening-Level Approach in Ecological Risk Assessment: Case Studies in the U.S. and the U.K. Ann Meet SETAC. Nashville TN

Driscoll SBK, Menzie CA, Ghosh U, Reible DD, Burton GA, Gschwend P. Sediment Bioavailability Initiative: Development of Standard Methods for the Use of Passive Samplers in Management of Contaminated Sediment. Ann Meeting SETAC. Nashville TN Nov.

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Fetters K, Costello D, Hammerschmidt C, Burton GA. 2013. Toxicological effects of short-term resuspension of metal-contaminated freshwater and marine sediments. Annu Meet Soc Environ Toxicol Chem. Nashville TN. November.

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Costello DM, AM Harrison, GA Burton, CR Hammerschmidt. 2014. Variation in sediment redox potential influences metal biogeochemistry and toxicity. Joint Aquatic Sciences Meeting. Portland, OR. May.

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communities in submerged groundwater seeps of Lake Huron. Joint Aquatic Sciences Meeting. Portland OR. May.

Burton GA and Costello D. 2014. AVS based bioavailability models are inadequate for predicting risk in oxic sediments. No. 157. Annu Meet SETAC Europe. Basel Switzerland.

Posthuma, L, Burton GA et al. 2014. Solution-focused landscape-level eco(toxico)logical assessment and management. No. 522. Annu Meet SETAC Europe. Basel Switzerland.

Burton GA. 2014. Improving spatial and temporal characterizations of metal bioavailability in sediments and overlying waters. SETAC Asia Pacific Biannual Conference. Adelaide Australia.

Costello, D., GA Burton et al. Dynamic speciation and toxicity of metal-spiked sediments during ageing in a flow-through mesocosm. Abstracts. Annual SETAC North American Conference. Vancouver Canada. Nov 2014.

Daley, J., GA Burton et al. Multidisciplinary assessment of the ecological and environmental impacts of microplastics in the Laurentian Great Lakes. Abstracts. Annual SETAC North American Conference. Vancouver Canada. Nov 2014.

Nedrich, S. GA Burton et al. Simulating resuspension and bioturbation in aquatic sediments: Differentiating the effects on metal bioavailability. Abstracts. Annual SETAC North American Conference. Vancouver Canada. Nov 2014.

Burton GA, J Daley et al. Assessing the ecological impacts of trace organics using a weight of evidence framework. Abstracts. Annual SETAC North American Conference. Vancouver Canada. Nov 2014.

Daley, J., GA Burton et al. An in-situ toxicity identification evaluation method to assess the risk of trace organic exposures in the context of co-occurring stressors. Abstracts. Annual SETAC North American Conference. Vancouver Canada. Nov 2014.

Harrison, A., GA Burton et al. Improving metal sediment toxicity testing: methods for more environmentally relevant exposures. Abstracts. Annual SETAC North American Conference. Vancouver Canada. Nov 2014.

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Mendonca, R, Schlekat C, Garman E, Daley J, Hudson M, Burton GA, Costello D. The role of metal oxide minerals in nickel bioavailability in field-contaminated sediments. Soc Env Toxicol Chem Annu Meeting. Orlando Nov 2016

Hudson ML, Burton GA, Costello D, Daley JM. Ecotoxicology of Gold Nanomaterials: Effects on periphyton, *L. Stagnalis*, and *H. Azteca* in an aquatic food chain study. Soc Env Toxicol Chem Annu Meeting. Orlando Nov 2016

Nedrich SM, Brown SS, Burton GA. 2017. Assessing Environmental Risk of Metals to Benthic Organisms in Hydrologically Variable Sediments. 9th Intern Conf Remediation and Mgmt of Contaminated Sediments New Orleans. Feb 2017

Chadwick B, Moore D, Burton GA, Colvin M, Davidson B. Remedy and Recontamination Assessment Array: An Initial Proof of Concept. Intern Conf Remediation and Mgmt of Contaminated Sediments. New Orleans Feb 2017.

Reible D, Rao B, Dmitri Athanasiou, Ilektra Drygiannaki, Magdalena Rakowska, Michelle Bejar, Colvin M, Rosen G, Chadwick B, Otto M, Pitt R, Burton A. (Texas Impacts of Urban Stormwater Contaminants on Coastal Sediment Recontamination. Intern Conf Remediation and Mgmt of Contaminated Sediments. New Orleans Feb 2017

Cerevi Eduardo, Fernandes F., Hudson M, Burton GA, Paletto C. 2016. Mobilization and toxicological effects of metals in freshwater sediment during short-term resuspension events. Brazilian Soc Ecotox. Sept.

Reible D, Rao B, Dmitri Athanasiou, Ilektra Drygiannaki, Magdalena Rakowska, Michelle Bejar, Colvin M, Rosen G, Chadwick B, Otto M, Pitt R, Burton A. (Texas Impacts of Urban Stormwater Contaminants on Coastal Sediment Recontamination. Intern Conf Remediation and Mgmt of Contaminated Sediments. New Orleans Feb 2017

G.A. Burton, S.M. Nedrich, M.L. Hudson, S.S. Brown (May 2017). Fate, speciation, and bioavailability of vanadium in sediments. SETAC Europe, Brussels, Belgium.

S.M. Nedrich, S.S. Brown, G.A. Burton (April 2017). Assessing environmental risk of metals to benthic organisms in hydrologically variable sediments. MGU, Ann Arbor, MI, USA

S.M. Nedrich, G.A. Burton (November 2016). Indirect effects of climate change on Zinc cycling in sediments: the role of changing water levels. SETAC, Orlando, FL, USA.

Rosen G, Hayman NT, Colvin MA, Munson-Decker J, Chadwick, DB, Rao B, Drygianaki I, Athanasiou D, Rakowska M, Bejar M, Reible DD. 2017. Seasonal Toxicity Observed with Amphipods (*Eohaustorius estuarius*) at Paleta Creek, San Diego Bay, USA. SETAC Australasia. Brisbane. Sept.

Abstracts: total since 1978 = 321

Invited Lectures (since 2012):

Why are we failing to manage water quality? University of Toledo Lake Erie Research Center. January 2012. Video: http://www.knowledgestream.org/kstream/index.asp?item_id=10937

Assessing impacts in aquatic ecosystems: Unknown unknowns and the relevance paradox. Michigan Society of Toxicology Annual Meeting. Central Michigan University. May 2012.

Blue Economy. The Craig Fahley show, WDET-FM (101.9) Detroit PBS. March 28. http://www.snre.umich.edu/highlights/2012-03-28/professor_burton_talks_about_the_'blue_economy'

Plenary. Assessing water quality: Holistic approaches that reduce uncertainty. VI Encontro Nacional de Quimica Ambiental (VI ENQAmb), Londrina, Brazil. March 2012.

Improving assessments of invertebrate metal toxicity through realistic, multi-compartment, exposure scenarios. Aquatic Toxicity Symposium, Holden Village, WA. June, 2012.

Brazilian Opportunities in The Society of Environmental Toxicology & Chemistry and Publishing in Environmental Toxicology & Chemistry. XII Congresso Brasileiro de Exotoxicologia. Recife, Brazil. Sept. 2012.

Plenary. Making Ecosystem Reality Checks the Status Quo. XII Congresso Brasileiro de Exotoxicologia. Recife, Brazil. Sept. 2012.

Plastic in aquatic environments: From the Pacific Gyre Garbage Patch to the Great Lakes. Michigan Recycling Coalition. East Lansing, MI. April 2013.

Plenary. Natural and Anthropogenic Stressors in Aquatic Ecosystems. University of Roskilde. Denmark. September 2013.

Plenary. Metal Bioavailability, Multiple Stressors and Environmental Risk Assessments: Resolving Impairment Complexities in Human Dominated Waterways. 7th China National Conference on Environmental Chemistry. Guiyang. September 2013.

Understanding the Ecological Risk of Anthropogenic Chemicals in the Context of Natural Stressors. Nanjing University, China. October 2013.

Perspectives on Effective Management of Urban Water Quality. SETAC Australia Conference. Melbourne. October 2013.

Perspectives on effective management of urban water quality. Biannual Meeting Australasia Chapter of SETAC. Melbourne. October, 2013 (invited)

To Tell the Truth: Will the Real Stressor Please Stand Up? Midwest SETAC Annual Meeting. Loyola University. March 2014.

Careers in Environmental Science. School of Environment. Nanjing University (invited). April 2014

Integrating Multiple Assessment Methods to Understand Ecosystem-Stressor Relationships. School of Environment. Nanjing University (invited). April 2014

Options for Assessing Ecosystem Quality in Human-Dominated Watersheds: Issues and Examples. College of Environmental Science & Engineering. Peking University (invited). April 2014

Careers in Environmental Science. College of Environmental Science & Engineering. Peking University (invited). April 2014

Linking Environmental Exposures to Adverse Effects: Weight-of-Evidence Based Approaches Reduce Uncertainty in Human Health Assessments. School of Public Health. Peking University. (invited) April 2014.

Asian carp, Algal Blooms, Fracking, UP Mining, Micro-plastics and Pharmaceuticals: Will the real stressor please stand up? University of Michigan Conservation Ecology Seminar Series. December 2014.

Environmental Epidemiology: Perspectives on Microplastics in Aquatic Ecosystems. Personal Care Products Council. Newark NJ. Oct. 2014

Background Issues in Superfund Cleanups. Panel Participant. Sediment Management Workgroup Symposium. Washington DC. December 2014.

Careers in Environmental Science. School of Environment. Nanjing University (invited). April 2015

Invited Seminar: Will the real stressor please stand up? Calvin College. Feb. 2015.

Invited lecture: Which aquatic stressors really matter? Nanjing University, China April 2015

Keynote: Which aquatic stressors really matter? Pragmatic diagnostic approaches and considerations. National Conference on Ecotoxicology. Xiamen, China April 2015

Invited Seminar: Metal bioavailability (thus toxicity) changes through time in sediments. Nanjing University, China April 2015.

Invited Seminar: What's messing up our streams, rivers, lakes and harbors? How do we make them better? Central Michigan University Field Station. Beaver Island, MI July 2015

Invited lecture: Fate and transport of environmental contaminants. Nanjing University, China. October 2015

Invited lecture: Sediment characterizations and sampling for environmental assessments. Nanjing University, China. October 2015

Invited lecture: In situ cage and mesocosm testing in aquatic systems. Nanjing University, China. October 2015

Invited lecture: Using weight-of-evidence approaches to assess aquatic ecosystems. Nanjing University, China. October 2015

Invited seminar: Improving assessments of metal bioavailability in sediments in the context of multiple stressors. Nanjing University, October 2015

Invited lecture: Sediment quality guidelines and BEAST. Nanjing University, China. October 2015

Invited lecture: Sediment quality guidelines for metals: The past, present and future. Nanjing University, China October 2015

Invited lecture: How to Publish Scientific Papers. Nanjing University, China December 2015

Invited lecture: Environmental epidemiology: Perspectives on the role of microplastics in aquatic ecosystems. Nanjing University, China December 2015

Invited seminar: Diagnosing dominant stressors in aquatic ecosystems. Dalian University, China. December 2015.

Invited seminar: Which aquatic stressors really matter? Pragmatic diagnostic approaches and considerations. Expert Panel, Research Institute for Fragrance Materials, Inc. (RIFM). Miami, FL. January 2016.

Invited lecture: Iron oxides are key to bioavailability of metals in freshwater sediments: a lab and field story. Aquatic Toxicity Symposium. Bar Harbor ME Jun 2016.

Keynote: Human dominated aquatic ecosystems have a plethora of physical, chemical and biological stressors: Where do metal and synthetic organic chemicals rank amongst them. 8th Intern Conf Marine Pollution and Ecotoxicology. Hong Kong. June 2016

Keynote: Breaking from Tradition: Establishing more realistic sediment quality guidelines. Intern Conf Deriving Environ Quality Standards for the Protection of Aquatic Ecosystems. Hong Kong. June 2016.

Keynote: Which chemicals are an ecological risk in the presence of habitat, flow and nutrient stressors? Brazilian National Meeting of Environmental Chemistry. Federal Technological University of Paraná. Curitiba, Brazil. 03-06 October 2017

Invited Panel: Climate change: A local perspective. Arkansas Environmental Policy Summit. Clinton Presidential Center. Oct 27, 2017.

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