

Curriculum Vita

G. Allen Burton, Jr.

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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)

Director, Institute for Global Change Biology, University of Michigan. 2018- 2021.

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, LimnoTech International, Ann Arbor MI. 2016-2018.

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: Region VI, 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 2014, previous grants 1985-2013 are not listed; however, funding 1985-2010 ~\$10,000,00)*

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 \$205,983
SERDP. 2017-2019. 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: \$528,029.

International Lead Zinc Organization. Identifying Sediments for Rapid Removal – Reasonable Worst-Case. \$115,507
CH2M. Ecotoxicological evaluation of sediment-associated metals in East Wilson Pond. Amendment of \$35,000
Ambient air monitoring EPA \$12,799
Erb Watershed based Policy – City of Detroit Green Stormwater Infrastructure Pilot (\$51,215 (AB)
Copper removal from freshwaters – International Copper Association \$110,000
South Pond Ecotoxicological Study. Dow Chemical. \$132,834
Institute for Global Change Biology. University of Michigan BioSciences Initiative. 2018-2021. \$2,200,000.
2018 New Funding: \$2,657,355

Copper Transformations in Sediment. Copper Alliance. \$60,386
South Pond Ecotoxicological Study Phase 2. Dow Chemical. \$173,984.
2019 New Funding to Date: \$234,370

Funding for past 5 yrs (2014-2019): \$4,014,144

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
 Great Lakes Stressors
 Stressor Dynamics in Aquatic Ecosystems
 Aquatic Ecosystem Stressors
Ecological Risk Assessment (currently teaching)
Urban Stormwater Science and Management (currently teaching)
Climate Change vs. Everything Else Causing Ecosystem Impairments (currently teaching)

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. Crecelius, 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. Crecelius, 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.
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Patents

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Abstracts (conference presentations since 2014):

Harrison AM, DM Costello, GA Burton, CR Hammerschmidt. 2014. Metal Release and Toxicity of Aged versus Freshly Amended Sediments. Joint Aquatic Sciences Meeting. Portland, OR. May.

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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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.

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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.

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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.

Burton GA, Jen Daley, Anna Harrison, Larissa Sano. 2015. Simulating Resuspension and Bioturbation in Aquatic Sediments: Differentiating the Effects on Metal Bioavailability. Battelle Conference on Remediation and Management of Contaminated Sediments. New Orleans. Jan 2015.

KJ Farley, KJ Rader, RF Carbonaro, GA Burton Release of Metals from Contaminated Sediments: Translation from Laboratory to Field-scale Assessments. Battelle Conference on Remediation and Management of Contaminated Sediments. New Orleans. Jan 2015.

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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.

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Cervi 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.

Drygiannaki I, B. Rao, M. Rakowska, M. Bejar, D. Athanasiou, ,D.D. Reible, G A Burton, B. Chadwick, G. Rosen, M. Colvin, R. Pitt, E. Strecker, B. Steets, M. Otto. 2018. Assessment and management of stormwater on sediment recontamination due to metal contaminants. Ann Meeting Soc Environ Toxicol Chem. Rome

Kvasnicka J, K Stylianou, GA Burton, J Semrau, O Jolliet. 2018. Assessment of human health benefits and risks of contaminated sediment remediation. Ann Meeting Soc Environ Toxicol Chem. Rome

Burton GA Jr., 2018. Metals removal from water for hazard classification. Ann Meeting Soc Environ Toxicol Chem. Rome. (invited)

Posthuma, L, S. Birk, A. Burton, D. De Zwart, S.D. Dyer, A. Focks, M. Holmes, K.E. Kapo, J. van Gils. 2018. Eco-epidemiology of aquatic ecosystems: Aligning chemical and ecological status. Ann Meeting Soc Environ Toxicol Chem. Rome

Burton GA, S Hudson, E Cervi et al., 2018. Novel in -situ toxicity assessment of sediment cover effectiveness in deep water. Ann Meeting Soc Environ Toxicol Chem. Rome.

Thiamkeelakul K. M Hudson. GA Burton. May 2018. Ecotoxicological evaluation of sediment-associated metals and capping effectiveness in a tailings pond: a field and laboratory approach. SETAC. Rome.

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SETAC Rome. (invited)

Burton GA Jr., 2018. Microplastics: Are they an ecological risk. Annu Meeting Soc Environ Toxicol. Sacramento CA.

Drygiannaki I, B. Rao, M. Rakowska, M. Bejar, D. Athanasiou, D.D. Reible, G A Burton, B. Chadwick, G. Rosen, M. Colvin, R. Pitt, E. Strecker, B. Steets, M. Otto. 2018. Assessment and management of stormwater on sediment recontamination due to metal contaminants. Ann Meeting Soc Environ Toxicol Chem. Sacramento.

Burton GA Jr., 2018. Metals removal from water for hazard classification. Ann Meeting Soc Environ Toxicol Chem. Sacramento CA. (invited)

Huntsman P, GA Burton Jr., et al., 2018. Metal removal from the water column for chronic hazard classification: Method development for an extended transformation/dissolution protocol. Ann Meeting Soc Environ Toxicol Chem. Sacramento CA. (invited)

Rader K., Carbonero R, GA Burton Jr., et al., 2018. Modeling metal rapid removal experiments for hazard classification. Ann Meeting Soc Environ Toxicol Chem. Sacramento CA. (invited)

Jolliet O., J Kvasnicka, GA Burton Jr., et al., 2018. Assessment of human health benefits and risks of contaminated sediment remediation. Ann Meeting Soc Environ Toxicol Chem. Sacramento CA.

Athanasiou D., D Reible, GA Burton et al. 2018. Using passive sampling to assess PAH bioavailability from stormwater-associated sediment recontamination. Ann Meeting Soc Environ Toxicol Chem. Sacramento CA.

Burton A, E Verhamme, T Dekker, M Hudson, E Cervi, M Colvin, G Rosen, T Crandle, J Daley. 2018. Refinement of in situ Toxicity Identification (iTIE) system for assessing contaminated sediments, Remediation, and source identification. Ann Meeting Soc Environ Toxicol Chem. Sacramento CA.

Cervi E, GA Burton. 2018. Metal toxicity during short-term sediment resuspension and redeposition in a tropical reservoir. Ann Meeting Soc Environ Toxicol Chem. Sacramento CA.

McArdle M., A Fairbrother, J Daley, A Burton. 2018. Multiple lines of evidence applied for a realistic Toxic Substances Control Act ecological risk evaluation for D4 using environmental monitoring data. Ann Meeting Soc Environ Toxicol Chem. Sacramento CA.

Burton GA, S Hudson, E Cervi et al., 2018. Novel in -situ toxicity assessment of sediment cover effectiveness in deep water. Ann Meeting Soc Environ Toxicol Chem. Sacramento CA.

Burton A, E Verhamme, T Dekker, M Hudson, E Cervi, M Colvin, G Rosen, T Crandle, J Daley. 2018.

Refinement of in situ Toxicity Identification (iTIE) system for assessing contaminated sediments, Remediation, and source identification. SERDP Annu Conf. Washington DC. (invited)

Burton GA Jr. 2018. Proof-of-concept for the in situ Toxicity Identification (iTIE) system for assessing contaminated sediments, remediation success, recontamination, and source identification. SERDP Annu Conf., Project Review. Washington DC. Nov. (invited)

Burton GA Jr., E Cervi, J Daley, E Verhamme, E Celkis M Colvin, G Rosen. 2019. The in situ toxicity Identification (iTIE) technology: diagnosing which chemicals are an ecosystem concern. Tenth International Conference on the Remediation and Management of Contaminated Sediments New Orleans. February 2019. (invited)

Burton GA Jr, E. Cervi, K Thiamkeelakul, M Hudson, S Nedrich, A Rentschler, SS Brown. Do in situ caps/covers work? Where is the science? Intern Conf Remediation & Mgmt of Contam Sediments. New Orleans. February 2019.

Burton GA Jr, K Thiamkeelakul, E Cervi, M Hudson, S Nedrich, A Rentschler, SS Brown. Laboratory and field-based assessment of the effects of sediment cover materials on zinc flux, bioavailability and toxicity. Ann Meeting Soc Environ Toxicol Chem. Helsinki, Finland. May 2019.

Abstracts: total since 1978 = 356

Invited Lectures and Webcasts *(since 2014):*

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.

Validation of a framework for evaluating the potential effects and risks of trace organic compounds to aquatic life. Aquatic ecological assessment of compounds of current and future interest: Where do we go from here? Water Environment and Reuse Foundation Expert Workshop. Denver CO. Sept. 2018.

Lecture: Critical research and standardization needs: Assessing the ecological effects of microplastics. Water Environment and Reuse Annual Meeting. New Orleans. October 2018.

Workshop Lecture. Microplastics: Are they an ecological risk. Towards the development and application of an environmental risk assessment framework for microplastic. Symposium by the International Council of Chemical Associations. 3 Nov 2018, Sacramento CA.

Webcast for the Water Environment & Reuse Foundation. Microplastics in aquatic systems: Size does matter. December . 500K+ attendees.

Microplastics, chemicals, nutrients, flow and habitat: Which stressors matter most. Department of Biology. University of California Riverside. February 2019

The potential distraction of superficial microplastic risks. Clutching at Straws: Science advice, uncertainty, and global microplastic pollution. AAAS Annual Meeting. Washington DC. February, 2019.

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