

# Curriculum Vita

## G. Allen Burton, Jr.

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(SEAS web site) <http://www-personal.umich.edu/~burtonal/> (Research web site) March 31, 2026

### 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.

*Editor-in-Chief*, Environmental Toxicology & Chemistry, International Journal. 2012-2024.

*Co-Editor-in-Chief*, Environmental Toxicology & Chemistry, 2024

*Concurrent Professor*, School of the Environment, University of Nanjing, China. 2014. *Honorary*

*Professor*, State Key Laboratory of Environmental Criteria and Risk Assessment, Beijing China.

Doctor *Honoris Causa*, Natural Sciences, University of Roskilde, Denmark. 2013

*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

*Graduate Research Microbiologist. 1978 -1979*

## **Honors and Awards**

Fellow. American Association for the Advancement of Science. 2026

Executive Committee of Board of Scientific Counselors, U.S. EPA. 2022-2025.

National Academies of Science, Medicine and Engineering. Committee on Anticipatory Research for EPA's Research and Development Enterprise. 2021-2022.

National Academies of Science, Medicine and Engineering. Committee on Enhancing EPA Science Capability for a Complex Future. 2023-2024

Fellow, Environmental Toxicology & Chemistry, 2016-present.

American Society of Landscape Architects Honor Award for Research. 2021. Addressing systemic inequities in neighborhood greenspace: Leveraging green stormwater infrastructure design elements to enhance well-being.

Water Research Foundation. Microplastic in Water: Occurrence, Removal, Fate, and Transport in Water Treatment. Advisory Committee. 2020-2021.

Southern California Coastal Water Research Project. Microplastics Health Effects Workshop Advisor. 2020-2021.

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

Expert Panel for Fragrance Material Safety. Research Institute for Fragrance Materials.

<http://fragrancesafetypanel.org>; 2016-present.

Concurrent Professor, School of Environment, Univ. of Nanjing, China. 2014.

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

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. 2012-2024. Visiting Senior Scientist, University of Roskilde, Denmark, 2016.

Science Advisory Panel Guest Expert, U.S. EPA Office of Pesticides Programs. Review of Methods for Characterizing Effects of Pesticides and Other Chemical Stressors to Aquatic Organisms. 2012.

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.

Science Advisory Board, U.S. Environmental Protection Agency, Committee on Oil Spill Research Strategic Panel. 2011- 2012.

Science Advisory Board, U.S. EPA, Committee-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

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

Chair, NIEHS Special Emphasis Panel, Innovative approaches to remediation of recalcitrant hazardous substances in sediments (R01). 2007.

NIEHS Basic Superfund Research Program Review Panel. 2008, 2009

National Academies of Science, Medicine and Engineering. 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.

NATO Senior Research Fellow, 1994, 1995, 1996.

Visiting Senior Scientist, Italian Institute for Hydrobiology. 1994, 2001, 2005. Visiting Senior Scientist, New Zealand Inst. of Water & Atmospheric Research. 1996. Sigma Xi, Chapter President, Wright State University. 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** (1985-2004 not included; Academic service not included):

Editorial Board, Chemosphere, 2003-2005.

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

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

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

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.

University of Michigan Road Scholar. 2009.

Expert Panel: ASTM E1924 as a Whole Effluent Toxicity Method. ReGenesis. Nov. 2010.

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.

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.  
 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. 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. 2012-2018.  
 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.  
 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. Co-Editor-in-Chief. Environmental Toxicology & Chemistry. 2011.  
 Editorial Board. Environmental Toxicology and Chemistry. 1990-1993. Phi Kappa Phi National Honorary Society. 2000.  
 Phi Beta Delta International Honor Society. 2004. Pi Epsilon National Honorary Society. 2004.  
 Expert Panel, Environmental Toxicology Assessment Panel, Non-Ferrous Metals Research Associations. 1999-2021  
 Advisory Council, The Nature Conservancy of Ohio, 1994 - 1999.  
 Science with Impact in an Age of Information Overload. European Union Workshop. 2021. Microplastics Southern California Water Resources Research Program. 2020-2022.  
 Executive Committee of Board of Scientific Counselors, U.S. EPA. 2022-2026.  
 National Academies of Science, Medicine and Engineering. Committee on Anticipatory Research for EPA's Research and Development Enterprise. 2021-2023.  
 National Academies of Science, Medicine and Engineering. Use of Title 42 Special Hiring Authority (Title 42) Committee. 2023-2024.  
 California Sea Grant Review Panel: Assessment of Deep Sea DDT+. 2023.  
 External Board of Reviewers. State of Washington Department of Ecology. Technology Assessment Protocol – Ecology (TAPE) for Stormwater. 2010-present.

**Research Awards** *(Chronologically since 2016; Older grants 1985-2013 not listed; Funding 1985-2010 ~\$10,000,00; Continuous extramural funding since 1988).*

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. \$173,984
- Institute for Global Change Biology. University of Michigan BioSciences Initiative. 2018-2021. \$2,200,000.

*2018 New Funding: \$2,698,505*

- Copper Transformations in Sediment. Copper Alliance. \$60,386
- A PFAS Special Section for *Environmental Toxicology & Chemistry*: Highlights of SERDP/ESTCP Research. SERDP. \$41,744.
- Technical Support for Developing and Field Testing *In Situ* Bioassays in the Surface Mixing Layer of Marine Waters at Oil Spill Sites. NOAA. \$140,000 (2019-2022)

*2019 New Funding: \$242,130*

- An *in situ* Toxicity Identification Evaluation (iTIE) Technology for Assessing Contaminated Sediments, Remediation Success, Recontamination and Source Identification. SERDP. 2021-2025. \$1,220,000.
- Ecotoxicological Study of Waters Adjacent to South Pond (Ludington, MI). Dow Chemical subcontract to Jacobs Engineering. 2021. \$85,087
- Field Testing of an *In Situ* Bioassay System (DEEAR) at Oil Sites. NOAA. 2021-202. \$114,129.

*2020-21 New Funding: \$1,422,316*

- Ecotoxicological Study of Waters Adjacent to South Pond (Ludington, MI). Additional Data

Collection (Phase 4). Dow Chemical subcontract to Jacobs Engineering. 2022. \$87,187 University of Michigan Bold New Challenge Program. IRISE: Intersecting Research Ideas towards Sustainable Environments-- Improving Built Environment Outcomes in the Face of Increasing Chemical and Pathogen Exposures. 2022. \$25,000  
 2022 New Funding: \$112,187

Field Testing of an *In Situ* Bioassay System (DEEAR) at Oil Sites. NOAA. 2023. \$72,634  
 2023 New Funding: \$72,634 Funding

(2018-2025): \$4,778,364

## 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  
 Urban Stormwater Science and Management  
 Plastics and Microplastics: Human and Environmental Risks  
*Ecological Risk Assessment (currently teaching)*  
*Climate Change vs. Everything Else Causing Ecosystem Impairments (currently teaching)*  
*Fluvial Ecosystems Science & Management (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* (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 (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. Tsybal, 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 M. Stinson. 1996. Interlaboratory study of precision: *Hyalella azteca* and *Chironomus tentans* freshwater sediment toxicity tests. Environ. Toxicol. Chem. 15:1335-1343
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## In Review

Zhu Y, C Zuo, Y Mei, Y Hong, A Burton, R Wang. 2026. Pollutant source and rainfall effects on *E.coli* levels in 247 Michigan watersheds.

## Patents

Rapidly Amplified Polymorphic DNA Profiling: A Reliable/Sensitive Bioindicator of Ecosystem Health. Patent Pending. 1999. D. Sternberg, D. Krane, and G.A. Burton.

*In situ* Sediment Ecotoxicity Assessment System. Patent No. US 8,011,239 B1. 2011. Chadwick, DB, Rosen GH, Burton GA. U.S. Navy and University of Michigan.

## Abstracts (conference presentations since 2018)

Drygiannaki I, B. Rao, M. Rakowska, M. Bejar, D. Athanasiou, D.D. Reible, G A Burton, B. Chadwick, G. Rosen, M. Colvin, R, 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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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.

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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)

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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)

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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.

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Burton GA, Jr., Jen Lynch. Aquatic toxicology has evolved via *Environmental Toxicology & Chemistry*; but where is it going? Abstr. Soc Environ Toxicol Chem. Toronto Canada. Nov 2019. (invited)

Burton GA Jr., E Cervi. Do scientific publications in *Environmental Toxicology & Chemistry* (and other journals) make a difference? Abstr. Soc Environ Toxicol Chem. Toronto Canada. Nov 2019. (invited)

Cervi EC, Burton GA Jr, E Verhamme, T Dekker, M Colvin, G Rosen, J Daley, N Hayman. Refinement of in situ Toxicity Identification Evaluation (iTIE) System for Assessing Contaminated Sediments, Remediation, and Source Identification. Abstr. Soc Environ Toxicol Chem. Toronto Canada. Nov 2019.

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Burton GA Jr., E Cervi. Risk determinations of chemical mixtures are primitive and unreliable: Accepting complexity and improving site assessments. Abstr. Soc Environ Toxicol Chem. Toronto Canada. Nov 2019. (invited)

Burton GA Jr, E Cervi, W Clements. Restoring sites in human-dominated systems: What is the reference point, which stressors dominate, and how to determine beneficial uses and compliance? Abstr. Soc Environ Toxicol Chem. Toronto Canada. Nov 2019.

Burton, GA Jr., Eduardo Cervi, Gunther Rosen, Molly Colvin and Bart Chadwick Chasing and assessing oil spill toxicity accurately: A novel approach. Abstr. Soc Environ Toxicol Chem. Toronto Canada. Nov 2019.

Burton GA Jr, EC Cervi. We all hate plastic garbage, but microplastics are not the villains. Abstr. Soc Environ Toxicol Chem. Toronto Canada. Nov 2019.

Burton GA Jr, EC Cervi. In situ assessment tools diagnose which stressors matter. Abstr. Soc Environ Toxicol Chem. Toronto Canada. Nov 2019.

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Burton GA Jr. Adverse effects of microplastics in aquatic ecosystems are questionable. Emerging Technologies to Advance Research and Decisions on the Environmental Health Effects of Microplastics. National Academies of Sciences, Engineering and Medicine. Washington DC Jan 2020. (invited)

Burton, GA Jr, E Cervi, G Rosen, M Colvin, B Chadwick S Allan L Dipinto. Chasing and assessing oil spill toxicity more accurately: A novel approach. Abst Ann Meet Soc Environ Toxicol Chem. May 2020. Dublin, Ireland.

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Burton GA Jr. Climate and global change drivers as metal fate and effect in aquatic ecosystems. Abst Ann Meet Soc Environ Toxicol Chem. Nov. 2020. Fort Worth TX (invited)

Cervi EC, S Clark, KE Boye, JP Gustafsson GA Burton Jr. Effects of organic matter on copper mobilization, speciation, and toxicity in anoxic spiked sediments. Abst Ann Meet Soc Environ Toxicol Chem. Nov. 2020. Fort Worth TX (invited)

Burton, GA Jr, E Cervi, G Rosen, M Colvin, B Chadwick S Allan L Dipinto. Chasing and assessing oil spill toxicity more accurately: A novel approach. Abst Ann Meet Soc Environ Toxicol Chem. Nov. 2020. Fort Worth TX

Cervi EC, GA Burton Jr., K Schanke, M Hudson, L Michalovicz, SS Brown. Effects of capping materials on porewater pH and zinc release in mining pit lake sediments. Abst Ann Meet Soc Environ Toxicol Chem. Nov. 2020. Fort Worth TX

Cervi E, GA Burton JR., J Johnson, DR Lavoie, R Zajac-Fay, SS Brown. Differentiating Natural and Anthropogenic Causes of Benthic Impairment at the Groundwater-Surface Water Interface Using A Novel Weight-of-Evidence Approach. Abst Ann Meet Soc Environ Toxicol Chem.

Nov. 2020. Fort Worth TX

Diamond J, G Allen Burton Jr., Predicting potential effects of chemicals on aquatic life: navigating the multi-chemical, multi-stressor environment. Abstr Ann Meeting Soc Freshwater Sci. May 2020.

Burton GA Jr, E Cervi, M Colvin, G Rosen. Refinement of in situ Toxicity Identification Evaluation (iTIE) System for Assessing Contaminated Sediments, Remediation, and Source Identification. SERDP-ESTCP Annual Meeting. Washington D.C. December 2020. (invited)

Hampton, LMT, SM Brander, GA Burton Jr, S Coffin, M Cole, T Guinn, AA Koelmans, AC Mehinto, E Miller, CM Rochman, M Wagner. California microplastics health effects workshop: Informing management for the aquatic environment. SETAC. Portland OR

Cervi EC, G. Allen Burton, M. Hudson, A. Rentschler, K. Schanke, Steven S. Brown. Laboratory and field-based evaluation of capping materials to reduce zinc flux from sediments in a former mining pit lake. Battelle Sediment Conference. Nashville TN. Jan 2022

Burton GA, M. Hudson, SP McElmurry, C Riseng, J Nassauer . Green Infrastructure on Vacant Land: Mitigating aquatic stressors of urban ecosystems through green stormwater infrastructure. Society of Environmental Toxicology and Chemistry Annual Conference (SETAC-AC). Portland, OR. Nov.

Knapen D, J O'Brien, J Lynch, N Delrue, GA Burton Jr, DL Villeneuve. AOP reports: A new way of publishing AOPs in peer-reviewed scientific journals. SETAC-AC. Portland, OR Nov.

Cervi EC, GA Burton Jr, KE Boye, J Gustafsson, S Baken. Complex copper transformations in sediments affect toxicity. SETAC-AC, Portland OR Nov.

Burton GA Jr, EC Cervi, A Rentschler, DR Lavoie, SS Brown. Lessons learned in identifying dominant stressors on benthic communities at the groundwater-surface water interface. SETAC-AC. Portland OR Nov.

Burton GA Jr, DB Chadwick, G Rosen, M Colvin. 2022. Advancing the in situ toxicity identification evaluation (iTIE) technology for identifying toxicants. SETAC, Copenhagen, May 2022

Burton GA Jr., E. Nichols, D Lavoie, Jon Tombassi, S Brown. Multi-tiered assessment discerning anthropogenic from natural stressors: Improving causality in risk assessments. Abstr. SETAC. Pittsburgh, PA Nov 2022.

Burton GA Jr, J Lynch, 2023. Maintaining High Quality in the International Journal *Environmental Toxicology & Chemistry* – in the Face of Deception, Misleading Impact Factors, and the Limited Resources of a Non-Profit System. Abstr Ann Meeting Society

for Environ Toxicol Chem. Louisville KY. Nov.

Burton GA Jr, J Lynch, 2023. Maintaining High Quality in the International Journal *Environmental Toxicology & Chemistry* – in the Face of Deception, Misleading Impact Factors, and the Limited Resources of a Non-Profit System. Abstr Ann Meeting Society for Environ Toxicol Chem. Louisville KY. Nov.

Crane, A, G.A. Burton, B. Chadwick, M. Roe, A. Nicholson. 2023. Design Verifications and Improvements to the *in-situ* Toxicity Identification Evaluation System, Abstr Ann Meeting Society for Environ Toxicol Chem. Louisville KY. Nov.

Tianshu Lin, Runzi Wang, Simone Charles, Allen Burton, Jiayang Li, Yiyi Liu, Jianxing Gua. 2023. Investigating the differences between subjective environmental perception and objective environmental quality of riparian zone: a study in the Huron River, Michigan. American Collegiate Schools of Planning Conference.

Nichols, Ek GA Burton, A Crane, S Brown, D Lavoie, J Tortomasi. 2023. Identification and prioritization of stressors at a groundwater upwelling site. Soc Env Toxicol Chem Abstr Ann Meeting, Louisville KY Nov.

Burton, G. A., Chadwick, B., Crane, A., Nicholson, A., Mao, H., Strauss, S., Rosen, G., & Colvin, M. (2024, July 22). *In Situ Toxicity Identification Evaluation (iTIE) Technology for Assessing Contaminated Sediments, Remediation Success, Recontamination and Source Identification* [Poster]. SERDP & ESTCP 2024 PFAS Project Meeting, Long Beach, CA, United States.

Crane, A., Chadwick, B., Mao, H., Strauss, S., Nicholson, A., Roe, M., Thompson, G., Rosen, G., Colvin, M., & Burton, G. A. (2024, October 23). *Prototype Improvements and Field Verifications of a Technology for Detecting Stressor-Causality Linkages* [Platform Presentation]. Society of Environmental Toxicology and Chemistry North America 45th Annual Meeting, Fort Worth, TX, United States.

Mao, H., Burton, G. A., Chadwick, B., Crane, A., & Strauss, S. (2024, October 22). *Dealing with Sulfide in Sediments for In-Situ Toxicity Identification Evaluations (iTIE)* SETAC Annual Meeting, Fort Worth, TX, United States.

Strauss, S., Burton, G. A., Crane, A., & Mao, H. (2024, October 22). *Field Testing of the In-Situ Toxicity Identification Evaluation (iTIE) System as a Novel Approach to Stream Restoration Planning*. Soc Environ Toxicol Chem Ann Meeting, Fort Worth, TX

Burton, GA Jr. 2025. In situ toxicity identification evaluation technology for assessing contaminated sediments, remediation success, recontamination and source identification. Annual Meeting, SERD/ESTCP, Crystal City VA. June 2025. (invited)

Burton GA Jr. 2025. Climate change vs traditional environmental quality concerns. Michigan Environmental Health Association. Ann Arbor MI. March 2025. (Invited)

*Abstracts: total since 1978 = 399*

**Invited Lectures and Webcasts** (since 2018):

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 2019.

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.

Determining whether a chemical of concern is an ecological risk: Integrating lab, field, tradition and novel approaches to support diagnostic, weight-of-evidence based decisions. Sediment Management Workgroup Webinar. December 2019.

Adverse effects of microplastics in aquatic ecosystems are questionable. Emerging Technologies to Advance Research and Decisions on the Environmental Health Effects of Microplastics. National Academies of Sciences, Engineering and Medicine. Washington DC. Jan 2020.

Global Change Biology: Managing Complex Stressor Interactions to Improve Environmental and Human Quality of Life. University of Michigan Alumni Dayton Ohio Club. Feb 2021.

Assessing stressors to aquatic ecosystems: Reducing uncertainties. Michigan Ecology & Evolutionary Biology Society. Jan 25, 2022.

Ohio Lifelong Learning Institute. Plastics and Microplastics: Human and Environmental Risk Overview. January 2023. Also assisted in organizing their 6 lecture series on Plastics and the Carbon Age: Environmental and Health Impacts.

NOAA Workshop on In situ Testing. The DEEAR Technology. May 1-4, 2023. Charleston SC.

PFAS, PFOS, and other Nasty Acronyms. Glacier Hills Retirement Community. Ann Arbor. June 28, 2022

Microplastics in the Environment. City of Ann Arbor Environmental Commission. July 2023

Senior Men's Club of Birmingham. Overview of the Adverse Impacts of Plastics on the Environment. July 14, 2023

*Invited Lectures since 1984 = 221*