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### Education

Ph.D. Marine Science, The College of William and Mary (May 2010 expected).

--Dissertation: Bioavailability of Biosolid- and Consumer Product-Associated Polybrominated Diphenyl Ether Flame Retardants to Ecologically Distinct Soil Invertebrates.

M.A. Chemistry 1997, The College of William and Mary

--Thesis: Development of Off-line Supercritical Fluid Extraction (SFE) for the Determination of Polychlorinated Biphenyl Congeners in Biological Samples.

B.S. Biology (with Departmental Honors; Chemistry Minor) 1991, Christopher Newport College

--Thesis: Distribution, Fate and Effects of Tributyl Tin (TBT) in the Marine Environment (Biology).

--Thesis: Photochemical Degradation of Polycyclic Aromatic Hydrocarbons (PAH) in Sea Surface Microlayers (Chemistry).

--Thesis: Microbial Degradation of Polycyclic Aromatic Hydrocarbons (PAH) in Estuarine Environments (Chemistry).

### Research Statement

Environmental problems are complex, demanding imaginative interdisciplinary approaches to solve them. This axiom has long inspired my research interests and activities. My undergraduate research merged elements of Biology, Ecology, Microbiology, Chemistry and Analytical Chemistry to examine disposition of organic pollutants, as well as dimethylsulfoniopropionate (DMSP) and dimethyl sulfide (DMS) cycling, within estuarine environments. I continued this strategy for my master's research, integrating principles of Biology, Analytical and Environmental Chemistry, as well as Physics and Engineering, to develop and validate an environmentally friendly analytical methodology for measuring polychlorinated biphenyl (PCB) burdens in the edible tissues of commercially important fishes. Similarly, my doctoral research has necessitated fusion of a multitude of disciplines and experimental techniques to address the impact to soil ecosystems of land-applied wastewater treatment residues contaminated with elevated levels of polybrominated diphenyl ethers (PBDEs)—a class of highly bioaccumulative and toxic organic flame retardants widely distributed in the global environment. I have also blended contrasting disciplines to examine direct PBDE uptake from treated consumer polymer products ingested by soil invertebrates, including earthworms and crickets. The latter are common cohabitant insects and thus may represent an important ecological nexus through which consumer product chemical additives, prolific within contemporary human habitations, may be transferred to, and bioaccumulated and biomagnified within, soil ecosystems.

## Awards

- Dean's Academic List, Christopher Newport College. 1990.
- Virginia Water Environment Association (VWEA) Best Student Research Paper. 1996.
- SONY Invention Patent Award. 1998.
  - An Apparatus and Method for Removal of Silicon RTV from Cathode Ray Tube Glass
- Chesapeake and Potomac Regional Chapter (CPRC) of The Society of Environmental Toxicology and Chemistry (SETAC) Best Student Research Paper. 2003.
- W&M Student Research Conference Best Presentation. 2002.

## Professional Experience

- Spring 2009 -- Graduate Research Assistant, Department of Environmental and Aquatic Animal Health, VIMS, College of William and Mary, Gloucester Point, VA.
- May 2008 to Spring 2009 -- Research Assistant (Volunteer), Department of Environmental and Aquatic Animal Health, VIMS, College of William and Mary, Gloucester Point, VA.
- May 2007 to May 2008 -- Bookseller/Musical Entertainment Coordinator, Barnes and Noble Booksellers/The College of William and Mary Bookstore, Williamsburg, VA.
- 2007 to present -- Editor/Writer/Consultant, AMP Booking LLC, Chicago, IL.
- 2003 to present -- Founder-Owner/Instructor/Recording and Touring Artist, Red Metric Enterprises LLC, Gloucester, VA.
- 2006 to 2007 -- Manager/Booking Agent/Publicist/Recording Artist, WARM Entertainment, Williamsburg, VA.
- 2005 to 2007 -- Editor/Writer/Recording Artist, Digitone Records LLC, Richmond, VA.
- Fall 2005 -- Faculty Instructor, Department of Chemistry, ECPI/Medical Careers Institute, Newport News, VA.
- 2005 to 2008 -- Instructor, Family Educational Services Division, University Instructors Inc., Staunton, VA.
- 2003 to 2004 -- Scientist Senior, Department of Environmental and Aquatic Animal Health, VIMS, College of William and Mary, Gloucester Point, VA.
- 1999 to 2003 -- Graduate Research and Teaching Assistant, Department of Environmental and Aquatic Animal Health, VIMS, College of William and Mary, Gloucester Point, VA.
- January to August 1999 -- Scientist, Department of Environmental Sciences, VIMS, College of William and Mary, Gloucester Point, VA.

1998 to 1999 -- Chemical Engineer, SONY Electronics, San Diego, CA.

1993 to 1997 -- Scientist, Department of Environmental Sciences, VIMS, College of William and Mary, Gloucester Point, VA.

1991 to 1993 -- Scientist, Department of Physical Sciences, VIMS, College of William and Mary, Gloucester Point, VA.

May to September 1991 -- Research Intern, University of Georgia Marine Institute, Sapelo Island, GA.

--Thesis: Temporal and Spatial Variability, Biological Consumption and Atmospheric Flux of Dimethyl Sulfide (DMS) in a Georgia Estuary.

September 1991 to May 1992 -- Senior Laboratory Technician, Department of Chemistry and Toxicology, VIMS, College of William and Mary, Gloucester Point, VA.

Summer 1990: Laboratory Technician, Department of Chemistry and Toxicology, VIMS, College of William and Mary, Gloucester Point, VA.

Summer 1989: Research Intern, Department of Chemistry and Toxicology, VIMS, College of William and Mary, Gloucester Point, VA. Research Project: Monitoring Tributyltin (TBT) Levels in Southern Chesapeake Bay.

1988 to 1990 -- Laboratory Assistant, Department of Biology, Chemistry and Environmental Science, Christopher Newport College, Newport News, VA.

1988 to 1990 -- Teaching Assistant, Department of Biology, Chemistry and Environmental Science, Christopher Newport College, Newport News, VA.

1986 to 1988 -- Laboratory Assistant, Department of Biology, Longwood College, Farmville, VA.

1986 to 1988 -- Librarian Assistant, Dabney Lancaster Library, Longwood College, Farmville, VA.

1984 to 1986 (Inactive Reserves 1986 to 1988) -- Boatswain Mate/Rescue Swimmer, United States Coast Guard (Active), Norfolk, VA.

### Teaching Experience

Fall 2005 -- Faculty Instructor, Department of Chemistry, Medical Careers Institute (ECPI), Newport News, VA.

--Developed and taught one semester of *Chemistry For Nursing* lecture and laboratory, a prerequisite General Chemistry course for nursing students.

2005 to 2008 -- Instructor, Family Educational Services Division, University Instructors, Staunton, VA.

--Tutored/coached more than twenty middle school and high school students in varied subject matter, including Earth Sciences, General Mathematics, Pre-Algebra, Algebra 1, 2 and 3, Trigonometry, Mathematical Analysis, Chemistry and Physics.

2003 to present – Founder-Owner and Instructor, Red Metric Enterprises LLC, Gloucester, VA.

--Taught/tutored more than 60 elementary, middle school, high school, college and continuing education students ages 7 to 60 (privately and in group settings) in varied subject matter, including Pre-Algebra, Geometry, Algebra 1 and 2, Pre-Calculus, Calculus for Business, Mathematical Analysis, Statistics, Biology, International Baccalaureate (IB) Biology and Mathematics, Chemistry, Physics, Snare Drum/Drum Set and Introductory Music Theory.  
--Earned Vic Firth PDT Program Educator certification in 2008.

1999 to 2003 -- Teaching Assistant, Department of Environmental and Aquatic Animal Health, VIMS, College of William and Mary, Gloucester Point, VA.

--Guest Lecturer for MS 561, *Analytical Methods in Environmental and Biogeochemical Studies*. Instructor: Dr. Robert Hale. Delivered lectures on fundamental theory and practice of instrumental analytical methodologies used for quantitative determination of persistent organic pollutants in environmental samples.

--Guest Lecturer for MS 698, *Ocean Pollution*. Instructor: Dr. Robert Hale. Delivered lectures on fundamental principles of persistent organic pollutant disposition within estuarine and oceanic environments.

1988 to 1990 -- Teaching Assistant, Department of Biology, Chemistry and Environmental Science, Christopher Newport College, Newport News, VA.

--Proctored and graded quizzes/tests/exams for departmental faculty and provided student tutoring services for Introductory Biology lecture and laboratory.

#### Students Mentored

Fall 2009 -- Katelyn Jenkins

--York High School Mentorship Program

--Research Topic: Organic pollutant loadings in sewage sludges intended for land application: potential ecological consequences.

--Current: High school senior continuing mentorship in the laboratory of Dr. Ashley Haines, Department of Biology, The College of William and Mary.

2006 to 2007 -- Jeri Dilts

--York High School International Baccalaureate (IB) Program: Mathematics and Biology.

--IB Graduate 2007.

--Current: B.S. student, Department of Bioinformatics, Virginia Commonwealth University (VCU).

2005-2006 -- Danny Mazzeo

--Department of Business, The College of William and Mary.

--Red Metric Enterprises intern.

--B.S. Graduate 2006.

--Current: Financial Center Leader, BB&T Bank, Baltimore, MD.

Spring 2002 -- Jay Oliver

--Department of Geology, College of William and Mary.

--Senior thesis: pH and organic matter-dependent sorption of octylphenol to an artificial soil.

--B.S. Graduate 2002.

Summer 2001 -- Camille Saurel

--School of Ocean Sciences, University of Wales, Bangor.

--Masters thesis: Comparison of two analytical approaches for quantitative determination of nonylphenol polyethoxylates and nonylphenol in influent, effluent and sludge from UK and US wastewater treatment facilities.

--M.S. Graduate 2002.

--Current: Ph.D. Candidate, School of Ocean Sciences, University of Wales, Bangor.

1999-2000 -- Mara Jacobs

--Department of Chemistry, College of William and Mary.

--Honors thesis: The impact of humic substances on the toxicity of malathion and butyrylcholinesterase inhibition by its o-analog, malaaxon.

--B.S. Graduate with High Honors 2000.

--M.S. Chemistry, College of William and Mary 2009.

1997-1998 -- Michelle Ricketts

--Department of Chemistry, College of William and Mary

--Senior thesis: Determination of nonylphenols in the Chesapeake Bay watershed.

--B.S. Graduate with High honors 1998.

--M.S. Forensic Science, George Washington University 1999.

--Current: Forensic Chemist, ATF, Washington, DC.

1995-1996 -- Britta Bierwagen

--Department of Chemistry, College of William and Mary.

--Honors thesis: Application of supercritical fluid extraction (SFE) to the determination of polychlorinated terphenyls (PCTs) in biological samples.

--B.S. Graduate with High Honors 1996.

--Current: Environmental Scientist, EPA, Washington, DC.

## Publications

R.C. Hale, M.J. La Guardia, E. Harvey, **M.O. Gaylor**, T.M. Mainor. 2006. Brominated Flame Retardant Concentrations and Trends in Abiotic Media. *Chemosphere*. 64(2): 181-186.

M.J. La Guardia, R.C. Hale, E. Harvey, T.M. Mainor, **M.O. Gaylor** and E.O. Bush. 2004. Organic Contaminants of Emerging Concern in Land-Applied Sewage Sludge (Biosolids). *J. Residuals Sci. and Technol.* 1(2):111-122.

R.C. Hale, M.J. La Guardia, E.P. Harvey, T.M. Mainor, W.H. Duff and **M.O. Gaylor**. 2001. Brominated Diphenyl Ether Fire Retardant Burdens in Virginia Freshwater Fishes (USA). *Environ. Sci. Technol.* 35(23):4585-4591.

R.C. Hale, M.J. La Guardia, E.P. Harvey, **M. O. Gaylor**, T.M. Mainor and W.H. Duff. 2001.

Persistent Pollutants in Land-Applied Sludges. *Nature*. 412:140-141.

R.C. Hale, M.J. La Guardia, E.P. Harvey, T.M. Mainor, **M.O. Gaylor**, W.H. Duff, E.M. Jacobs and G.L. Mears. 2000. Comparison of Brominated Diphenyl Ether Fire Retardant and Organochlorine Burdens in Fish from Virginia Rivers (USA). *Organohalogen Cmpds*. 47:65-72.

R.M. Dickhut, E.A. Canuel, K.E. Gustafson, K. Liu, K.Y. Murray, S.E. Walker, G. Edgecombe, **M.O. Gaylor** and E.H. MacDonald. 2000. Automotive Sources of Carcinogenic Polycyclic Aromatic Hydrocarbons Associated with Particulate Matter in the Chesapeake Bay Region. *Environ. Sci. Technol.* 34: 4635-4640.

**M.O. Gaylor** and R.C. Hale. 2000. Supercritical Fluid Extraction of PCBs from Fish Tissue. In Williams, J.R. and Clifford, A.A., (Editors): *Methods in Biotechnology: Supercritical Fluid Methods and Protocols*, Chapter 5, pp. 41-53. The Humana Press Inc., Totowa, NJ.

R.C. Hale, **M.O. Gaylor**, J.F. Thames, C.L. Smith and R.F. Mothershead. 1996. Robustness of Supercritical Fluid Extraction (SFE) in Environmental Studies: Analysis of Chlorinated Pollutants in Tissues from the Osprey (*Pandion haliaetus*) and Several Fish Species. 1996. *Int. J. Env. Anal. Chem.* 64: 11-19.

R.C. Hale and **M.O. Gaylor**. 1995. Analysis of PCBs in Fish Tissues Using Supercritical Fluid Extraction. *Environ. Sci. Technol.* 29:1043-1047.

#### Manuscripts Submitted or in Preparation

**M.O. Gaylor** and R.C. Hale. Factors Controlling Supercritical Fluid Extraction (SFE) of PCBs From a Biological Reference Material. *Int. J. Env. Anal. Chem.* Submitted.

**M.O. Gaylor**, R.C. Hale and E. Harvey. Bioaccumulation of Brominated Flame Retardants by Insects: A Possible Role for Direct Consumption of Consumer Polymer Products. *Environ. Sci. Technol.* Submitted.

**M.O. Gaylor** and R.C. Hale. Bioaccumulation of Brominated Flame Retardants by Earthworms (*Eisenia fetida*) Exposed to Sludge Products Intended for Land Application. *Environ. Sci. Technol.* In prep.

**M.O. Gaylor**, R.C. Hale and E. Harvey. Bioaccumulation of Brominated Flame Retardants by Earthworms: A Possible Role for Direct Consumption of Weathered Consumer Polymer Products. *Environ. Pollut.* In prep.

**M.O. Gaylor**, R.C. Hale, E. Harvey and G. Mears. Bioaccumulation and Biomagnification of Brominated Flame Retardants in a Soil Ecosystem Receiving Sewage Sludge Amendments. *Environ. Sci. Technol.* In prep.

#### Final Project Reports

R.C. Hale and **M.O. Gaylor**. Development of Supercritical Fluid Extraction to Identify Power

Plant-Related Emission Components in Aquatic Biota. 1997. Maryland Department of Natural Resources.

R.C. Hale, **M.O. Gaylor**, C.L. Smith. PCBs and Chlorinated Pesticide Residues in Blue Crabs and Fish Fillets from the Elizabeth, James, Lafayette, Rappahannock and York Rivers. 1995. Virginia Department of Environmental Quality.

R.C. Hale, **M.O. Gaylor** and C.L. Smith. PCBs and Chlorinated Pesticides in Virginia Fishes: Validation of Supercritical Fluid Extraction and Results of Analyses. 1995. Virginia Department of Environmental Quality.

R.M. Dickhut, **M.O. Gaylor** and E.H. Macdonald. Atmospheric Deposition of Selected Polycyclic Aromatic Hydrocarbons and Polychlorinated Biphenyl Congeners to Southern Chesapeake Bay. 1992. U.S. Environmental Protection Agency (EPA).

### Other Publications

An Upside to Migraine? The Case for Hyperthought, in Betsy Baxter Blondin (editor): Migraine Expressions (Word Metro Publishing, Carlsbad, CA, 2008), pp. 133-135.

More Than Just Warm-Ups: Advancing Your Single Kick Technique With Killer Hand-Foot Routines. Modern Drummer Magazine, *submitted*.

Reader's Platform. Modern Drummer Magazine, March 2006.

Book Review: Chesapeake Boyhood: Memoirs of a Farm Boy, by William Turner, The Johns Hopkins University Press; School of Marine Sciences (VIMS), College of William and Mary Bookstore. 1999.

Feedback Forum, DRUM! Magazine, Issue #112.

Feedback Forum, DRUM! Magazine, Issue #110.

Op-Ed, The Virginia Gazette, Williamsburg, Virginia, January 28, 1995.

Constitutional Crisis in the Colonial Capital, Museum News, May/June 1995.

### Musical Publications

Warm – *Warm Is Cool* – EP release, 2001 (Warm Entertainment).

Red Metric – *Ends and Means* – EP release, 2004 (Red Metric Enterprises).

Red Metric – *Learning Curve* – EP release, 2005 (Red Metric Enterprises).

Red Metric – *The New World Drama* – Full-length CD release, 2005 (Digitone Records).

Warm – *Somewhere in Between* – EP release, 2007 (Warm Entertainment).

### Peer Review Activities

Manuscript reviewer for the scientific journal *Chemosphere*.

### Grants and Sponsorships

Vic Firth Inc, Educator Endorsement Proposal. **M.O. Gaylor**. Awarded Private Drum Teacher (PDT) Certification. 2008.

TRX Cymbal Company, Educator Endorsement Proposal. **M.O. Gaylor**. Awarded educational product endorsement. 2008.

Shine Custom Drums Inc., Educator Endorsement Proposal. **M.O. Gaylor**. Awarded educational product sponsorship. 2007.

Risen Drums Inc., Educator Endorsement Proposal, **M.O. Gaylor**. Awarded educational product sponsorship. 2006.

Eskimo Pie Inc., Concert Tour Sponsorship Proposal, **M.O. Gaylor**. Awarded tour sponsorship. 2006.

Switch Beverage Inc., Concert Tour Sponsorship Proposal, **M.O. Gaylor**. Awarded tour sponsorship. 2006.

Full Armor Clothing Inc., Concert Tour Sponsorship Proposal, **M.O. Gaylor**. Awarded tour sponsorship. 2005.

Jim Beam Inc. B.E.A.M. Grant Program, Independent Musical Artist Development Proposal. **M.O. Gaylor** and J.M. Tingley. 2003. \$3000.

CPRC-SETAC Graduate Student Conference Travel Grant. 2000/2001/2002/2003. \$1000 cumulative.

VIMS GSA Graduate Student Conference Travel Grant. 2000/2001/2002. \$600 cumulative.

W&M Student Activities Conference Presenter Grant. 2001/2002. \$300 cumulative.

An Experimental Design Approach to the Optimization of Supercritical Fluid Extraction of Brominated Diphenyl Ethers From Biosolids. **M.O. Gaylor**. SETAC, Chesapeake and Potomac Regional Chapter Graduate Student Research Award Program. 2000. \$1000.

Determination of Brominated Diphenyl Ethers in Sewage Sludge Biosolids. **M.O. Gaylor**. VIMS GSA Graduate Student Research Grant Program. 2000. \$500.

Fabrication of High Definition CRT (HDTV) Computer Screens. J. Talbot and **M.O. Gaylor**.

University of California SMART Program and SONY Electronics, San Diego, CA. 1998.  
\$40,000.

### Invited Presentations

\*Bioavailability of Polyurethane Foam-Associated PBDEs to Earthworms. 2003. **M.O. Gaylor** and R.C. Hale. Spring Meeting of the Chesapeake and Potomac Regional Chapter of the Society of Environmental Toxicology and Chemistry. Annapolis, MD.

\*Awarded best student research paper.

M.J. La Guardia, R.C. Hale, E. Harvey, E.O. Bush, T.M. Mainor and **M.O. Gaylor**. 2003. Emerging Chemicals of Concern in Biosolids. Proceedings of The Water Environment Federation-AWWA-CWEA Joint Residuals and Biosolids Management Conference. Residuals and Biosolids Management-Partnering for a Safe, Sustainable Environment. Baltimore, MD.

Brominated Flame Retardants in the Chesapeake Bay. 2002. R.C. Hale, M. LaGuardia, E. Harvey, M. Mainor, **M.O. Gaylor**, E. Bush, S. Ceparis, E. Jacobs and D. Luellen. Joint EPA-Chesapeake Bay Foundation Workshop on Brominated Flame Retardants in the Chesapeake Bay Watershed. Chesapeake Bay Biological Laboratory, University of Maryland, Cambridge, MD.

Brominated Flame Retardants: Burned Again? 2002. R.C. Hale, M. LaGuardia, E. Harvey, M. Mainor, **M.O. Gaylor**, E. Bush, S. Ceparis, E. Jacobs and D. Luellen. Chesapeake Bay Biological Laboratory Seminar Series, University of Maryland, Cambridge, MD.

Brominated Flame Retardants: Vital Life Savers or Environmental Disaster? 2002. R.C. Hale, M.J. LaGuardia, E. Harvey, T. Mainor, **M.O. Gaylor**, E. Bush, S. Ceparis and M Jacobs. Hourly and Classified Employees (HACE) Seminar Series. College of William and Mary, Williamsburg, VA.

\*Brominated Flame Retardants in Land Applied Biosolids: Emerging Contaminants and an Emerging Global Environmental Issue. 2002. **M.O. Gaylor** and R.C. Hale. 1<sup>st</sup> Annual Graduate Research Symposium. The College of William and Mary, Williamsburg, VA.

\*Awarded best student presentation.

Assessing Bioavailability of Brominated Diphenyl Ethers in a Biosolid Compost to the Earthworm, *Eisenia foetida*. 2002. **M.O. Gaylor**, R.C. Hale and W.H. Duff. 1<sup>st</sup> Annual Graduate Research Symposium. College of William and Mary, Williamsburg, VA.

Polybrominated Diphenyl Ethers in Land-Applied Sewage Sludge. 2002. M.J. LaGuardia, R.C. Hale, T. M. Mainor, E. Harvey and **M.O. Gaylor**. 1<sup>st</sup> Annual Graduate Research Symposium. College of William and Mary, Williamsburg, VA.

Are Brominated Diphenyl Ethers in Land Applied Biosolids Bioavailable to Soil Organisms? 2002. **M.O. Gaylor**, R.C. Hale and W.H. Duff. Environmental Sciences Spring Seminar Series. School of Marine Sciences, VIMS, College of William and Mary, Gloucester Point, VA.

Comparison of PBDE and Organochlorine Burdens in Virginia Fish. 2000. R.C. Hale, M.J. La Guardia, E.P. Harvey, T.M. Mainor, **M.O. Gaylor**, W.H. Duff, E.M. Jacobs and G.L. Mears.

Dioxin 2000 International Symposium on Halogenated Environmental Organic Pollutants and POPs, Monterey, CA.

Discovery of High Levels of Brominated Flame Retardants in Resident Fishes of the Roanoke River Basin, Virginia: A Case Study in the Environmentally Bizarre. 2000. **M.O. Gaylor**, Public Outreach Program Seminar Series, School of Marine Science, VIMS, College of William and Mary, Gloucester Point, VA.

Science and Mathematics: What Good are They Good for Anyway? 1998. **M.O. Gaylor**, SONY Electronics Video Conferencing Lecture Series, San Diego, CA.

The Global Ocean: Earth's New Frontier. 1998. **M.O. Gaylor**, SONY Electronics Video Conferencing Lecture Series, San Diego, CA.

Supercritical Fluid Extraction: Why Should SONY Electronics Care? 1997. **M.O. Gaylor**, SONY Electronics, Inc., San Diego, CA.

Environmentally Benign Approaches to Environmental Chemistry: A Viable Solution to the Hazardous Solvent Paradox. 1997. **M.O. Gaylor** and R.C. Hale. Chemistry Seminar Series, Department of Natural Sciences, Longwood College, Farmville, VA.

Toxic Organic Chemicals in the Chesapeake Bay Watershed: How Do We Determine What, Where and How Much? 1996. **M.O. Gaylor**. Yorktown Rotary Club, Yorktown, VA.

\*Efficacy of Supercritical Fluid Extraction in the Determination of PCBs in Edible Tissues of Aquatic Biota. 1996. **M.O. Gaylor**, R.C. Hale and C.L. Smith. Virginia Water Environment Association Annual Meeting, Williamsburg, VA.

\*Awarded best student research paper.

### Presentations and Abstracts

\*Bioavailability of Sewage Sludge-Associated PBDEs to Earthworms. 2003. **M.O. Gaylor** and R.C. Hale. National Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Austin, TX.

\*Organizer and Chair--Emerging Contaminants and Receptors Platform Session.

Changing of the Guard? PBDEs in Virginia Waterways. R.C. Hale, M.J. La Guardia, E. Harvey, D. Luellen, T.M. Mainor, **M.O. Gaylor**, E. Bush and C. Ceparis. 2003. National Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Austin, TX.

Emerging Chemicals of Concern in Biosolids. 2003. T.M. Mainor, M.J. La Guardia, R.C. Hale, E. Harvey, **M.O. Gaylor** and E. Bush. National Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Austin, TX.

Emerging Chemicals of Concern in Biosolids. 2003. M.J. La Guardia, R.C. Hale, E. Harvey, E.O. Bush, T.M. Mainor and **M.O. Gaylor**. Water Environment Federation-AWWA-CWEA Joint Residuals and Biosolids Management Conference Proceedings, Baltimore, MD.

Bioavailability of Polyurethane Foam-Associated PBDEs to Earthworms. 2002. **M.O. Gaylor** and R.C. Hale. National Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Salt Lake City, UT.

Sewage Sludges as a Sink and Source of Polybrominated Diphenyl Ethers: A Multinational Comparison. 2002. R.C. Hale, M.J. La Guardia, E. Harvey, **M.O. Gaylor**, S. Ciparis, E. M. Jacobs, T.M. Mainor and P.J. Lioy. National Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Salt Lake City, UT.

Effects of Stabilization Processes and Time on Organic Contaminants in Biosolids. 2002. M.J. La Guardia, R. C. Hale, E. P. Harvey, T. M. Mainor, **M.O. Gaylor**, E. O. Bush, M. Jacobs, S. Ciparis. NE 1001 Annual Meeting, Toronto, Canada.

The Fate of Alkylphenol Polyethoxylates (APEOs) and Polybrominated Diphenyl Ethers (PBDEs) in Biosolids. 2002. M.J. La Guardia, R. C. Hale, E. Harvey, E. Bush, T.M. Mainor and **M.O. Gaylor**. DC Water and Sewer Authority (WASA) Workshop on Endocrine Disruptors, Washington DC.

Assessing Bioavailability of Brominated Diphenyl Ethers (BDEs) in Biosolids to the Earthworm, *Eisenia fetida*. 2001. **M.O. Gaylor**, R.C. Hale and W.H. Duff. National Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Baltimore, MD.

Polybrominated Diphenyl Ethers (PBDEs) in Land-Applied Sewage Sludge (Biosolids). 2001. M.J. La Guardia, R.C. Hale, T.M. Mainor, E.P. Harvey and **M.O. Gaylor**. National Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Baltimore, MD.

Is Land Application of Sewage Sludge Safe? Emerging Organic Contaminant Issues. 2001. R.C. Hale, M.J. La Guardia, E.P. Harvey, T.M. Mainor, **M.O. Gaylor** and W.H. Duff. National Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Baltimore, MD.

Quantitation of Brominated Diphenyl Ethers (BDEs) in the Presence of PCBs Using Element Selective GC Detection. 2001. G.W. Rice, K.L. Weidner, R.C. Hale, **M.O. Gaylor** and M.J. La Guardia. The Pittsburgh Conference (PITTCON), New Orleans, LA.

Automobiles as a Source of Carcinogenic Polycyclic Aromatic Hydrocarbons to Air, Water and Sediments of the Chesapeake Bay. 2000. R.M. Dickhut, E.A. Canuel, K.E. Gustafson, K. Liu, K.Y. Murray, S.E. Walker, G. Edgecombe, **M.O. Gaylor** and E.H. MacDonald. National Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Nashville, TN.

Comparison of Brominated Diphenyl Ether Fire Retardants and Organochlorine Burdens in Fish from Virginia Rivers (USA). 2000. R.C. Hale, M.J. La Guardia, T.M. Mainor, **M.O. Gaylor**, E.P. Harvey, W.H. Duff, E.M. Jacobs and G.L. Mears. Third SETAC World Congress/SETAC European Conference, Brighton, UK.

Development of SFE for the Determination of Brominated Diphenyl Ethers in Fish and Biosolid Compost With Method Validation Using ASE. 1999. **M.O. Gaylor**, R.C. Hale, E. Harvey and M.J. La Guardia. National Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Philadelphia, PA.

Burdens of Brominated Diphenyl Ether Fire Retardants in Edible Tissues of Fish. 1999. R.C. Hale, **M.O. Gaylor**, W.H. Duff, E.P. Harvey and M.J. La Guardia. National Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Philadelphia, PA.

In-situ Estuarine Weathering of Sediment-Associated Complex Mixtures: Impact on Water-Extractable Fraction and Toxicity. 1998. R.C. Hale, T. M. Mainor, E. Harvey, **M.O. Gaylor**, W.H. Duff and D.C. Powell. National Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Charlotte, NC.

Development of Supercritical Fluid Extraction for the Determination of Polychlorinated Biphenyl Congeners in Biological Samples. **M.O. Gaylor**. 1997. Graduate Thesis Seminar Series, Department of Chemistry, College of William and Mary, Williamsburg, VA.

Optimization of Supercritical Fluid Extraction Variables for the Determination of PAH and PCBs in Aquatic Biological Samples. 1997. **M.O. Gaylor** and R.C. Hale. National Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), San Francisco, CA.

Determination of PCBs and Total Lipids in Aquatic Biota Using Supercritical Fluid Extraction. 1996. **M.O. Gaylor**, R.C. Hale, C.L. Smith, J.F. Thames and C.L. Smith. National meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Washington, DC.

Distribution and Possible Sources of Polychlorinated Terphenyls in the Chesapeake Bay Region (USA) and Globally. 1996. R.C. Hale, J.F. Thames, B.G. Bierwagen and **M.O. Gaylor**. SETAC International Symposium on Environmental Chemistry and Toxicology (SETAC), Sydney, Australia.

Which is Better? Supercritical Fluid, Accelerated Solvent or Soxhlet Extraction for PCBs and Total Lipids? 1996. R.C. Hale, **M.O. Gaylor**, E.O. Bush, J.F. Thames, L.C. Mezin, M.J. Rybitski and Padma T.V. SETAC International Symposium on Environmental Chemistry and Toxicology, Sydney, Australia.

Application of SFE to the Determination of PCBs in Fish and Osprey Tissues. 1995. R.C. Hale, **M.O. Gaylor**, J.F. Thames, C.L. Smith and R.F. Mothershead. International Symposium on Analytical Chemistry and Electrophoresis. Wintergreen, VA.

Application of Supercritical Fluid Extraction (SFE) to the Analysis of PCBs in Aquatic Organisms in Virginia. 1995. R.C. Hale, **M.O. Gaylor**, J.F. Thames, C.L. Smith and R.F. Mothershead II. Environment Virginia Symposium, Virginia Military Institute, Lexington, VA.

Supercritical Fluid Extraction of Chlorinated Pollutants From Fish Tissue. 1994. R.C. Hale and **M.O. Gaylor**. Northwest Regional Meeting of the American Chemical Society, Anchorage, AK.

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### Group Research in the News

- Fire Retardant Catfish? *Science News*, December 8, 2001.
- Burned by Flame Retardants? *Science News*, October 13, 2001.
- VIMS Environmental Scientists Spearheading New Research in US. *The Crest*, 2001, 3(2):3.
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- Toxins Reported in Virginia Rivers. *Richmond Times-Dispatch*, April 13, 2000.

### Committee Activities

Graduate Student Association (GSA) Representative to the Academic Council, School of Marine Sciences, College of William and Mary. 2001.

GSA Research Grant Proposal Review Committee, School of Marine Sciences, College of William and Mary. 2002.

### Community Activities

High School Science Fair Judge, Newport News Public Schools, VA. 1999-2001.

### Professional Affiliations

Society of Environmental Toxicology and Chemistry (SETAC).

American Water Works Association (AWWA).

Virginia Water Environment Association (VWEA).

American Society of Composers, Authors and Publishers (ASCAP).

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