Helen C. Poynton
Associate Professor
School for the Environment
University of Massachusetts Boston
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EDUCATION AND TRAINING

Temple University, Philadelphia	Biochemistry	BSc, 2000
University of CA, Berkeley	Molecular/Biochemical Nutrition (Vulpe)	PhD, 2007
U.S. Environmental Protection Agency	Molecular Indicators (Lazorchak)	Postdoc, 2007-2010

PROFESSIONAL APPOINTMENTS

Graduate Research Assistant	UC Berkeley	2000-2007
ORISE Post-doctoral Fellow	U.S. EPA	2007-2009
Post-doctoral Fellow	U.S. EPA	2009-2010
Assistant Professor,	University of Massachusetts Boston	2010-2016
Associate Professor,	University of Massachusetts Boston	2016-

HONORS

EPA Science to Achieve Results (STAR) Fellowship	2004-2007
Oak Ridge Institute for Science and Education Postdoctoral Fellowship	2007-2009
UMass Boston, Endowed Faculty Career Development Award	2013

PEER-REVIEWED PUBLICATIONS (* student advisees):

2018:

30) Russo, C, Isidori, M, Deaver, JA*, **Poynton, HC**. (2018) Toxicogenomic responses of low level anticancer drug exposures in *Daphnia magna*. *Aquat Toxicol.* 203:40-50. (Oct. 2018) https://doi.org/10.1016/j.aquatox.2018.07.010

29) Hasenbein, S, **Poynton, H**, Connon, RE. (2018) Contaminant exposure effects in a changing climate: how multiple stressors can multiply exposure effects in the amphipod *Hyalella azteca. Ecotoxicology*. 27(7): 845-859. (Sept. 2018)

28) Blalock, BJ*, Robinson, WE, Loguinov, A, Vulpe, CD, Krick, KS*, **Poynton, HC**. (2018) Transcriptomic and Network Analyses Reveal Mechanistic-Based Biomarkers of Endocrine Disruption in the Marine Mussel, *Mytilus edulis, Environ Sci Technol.* 53(16): 9419-9430. ***Cover Article***. (Aug 21, 2018)

27) Major, KM*, Weston, DP, Lydy, MJ, Wellborn, GA, **Poynton, HC** (2018) Unintentional exposure to terrestrial pesticides drives widespread and predictable evolution of resistance in freshwater crustaceans. *Evolutionary Applications.* 11(5): 748-761. DOI: 10.1111/eva.12584

26) **Poynton, HC**, Hasenbein, S, Benoit, JB, Sepulveda MS et al. (50 authors total) (2018) The Toxicogenome of *Hyalella azteca*: a model for sediment ecotoxicology and evolutionary toxicology. *Environmental Science and Technology.* 52(10): 6009- 6022. DOI: 10.1021/acs.est.8b00837

25) Osborne, KL*, Hannigan, RE, **Poynton HC** (2018) Differential copper toxicity in invasive and native ascidians of New England provides support for enhanced invader tolerance. *Marine Ecology Progress Series* 595:135-147. https://doi.org/10.3354/meps12555.

24) Christie, AE, Cieslak, MC, Roncalli, V, Lenz, PH, Major, KM*, **Poynton, HC** (2018) Prediction of a peptidome for the ecotoxicological model *Hyalella azteca* (Crustacea; Amphipoda) using a de novo assembled transcriptome. *Marine Genomics*. 38: 67-88.

23) Weston, DP, **Poynton, HC**, Major, K*, Wellborn, G, Lydy, MJ, Moschet, C, Connon, RE, (2018) Using mutations for pesticide resistance to identify the cause of toxicity in environmental samples. *Environ Sci Tech*. 52(2): 859-867.

22) Heim, JR, Weston, DP, Major, KM*, **Poynton, HC**, Huff Hartz, K. E., & Lydy, M. J. (2018) Are there fitness costs of pyrethroid resistance in the amphipod, Hyalella azteca? *Environ Pollut.* 235:39-46.

2016:

21) Chen, S, Nichols, KM, **Poynton, HC**, Sepúlveda, MS, (2016) MicroRNAs are involved in cadmium tolerance in *Daphnia pulex*. *Aquat Toxicol.* 175:241-248.

20) Ricciardi, K, **Poynton, H,** Duphily, B, Blalock, B*, Robinson, W. (2016) Bioconcentration and depuration of 14C-labeled 17-α-ethinyl estradiol and 4-nonylphenol in individual organs of the marine bivalve, *Mytilus edulis* L. *Environ. Toxicol. Chem.* 35 (4): 863–873

19) Vidal-Dorsch, D. E., Bay, S. M., Moore, S., Layton, B., Mehinto, A. C., Vulpe, C. D., Brown-Augustine, M., Loguinov, A., **Poynton, H.,** Garcia-Reyero, N., Perkins, E. J., Escalon, L., Denslow, N. D., Colli-Dula, R. C., Doan, T., Shukradas, S., Bruno, J., Brown, L., Van Agglen, G., Jackman, P. and Bauer, M. (2016) Ecotoxicogenomics: microarray interlaboratory comparability. *Chemosphere.* 144, 193-200.

2015:

18) Weston, D. **Poynton, H.,** Lydy, M. J., Wellborn, G. 2015. Adaptation, not acclimation, is the likely mechanism for reduced sensitivity of some wild *Hyalella* populations to pyrethroid insecticides. *Environ. Toxicol. Chem.* 34 (10), 2188-2190.

2014:

17) **Poynton, H. C.,** Robinson, W. E., Blalock, B. J.*, Hannigan, R. E. (2014) Correlation of transcriptomic responses and metal bioaccumulation in *Mytilus edulis* L. reveals early indicators of stress. *Aquat Toxicol.* 155, 129–141.

2013:

16) Weston, D.P., **Poynton, H.C.,** Wellborn, G.A., Lydy, M.J. Blalock, B. J.*, Sepulveda, M. S., Colbourne, J. (2013) Multiple origins of pyrethroid insecticide resistance across the species complex of a non-target aquatic crustacean, *Hyalella azteca***.** *Proc. Nat. Acad. Sci. USA.* 110 (41), 16532-16537.

15) Antczak, P., Jo, H.J., Woo, S., Scanlan, L.D., **Poynton, H.C.,** Loguinov, A.V., Chan, S.*, Falciani, F., Vulpe, C. (2013) The molecular toxicity identification evaluation (mTIE) approach predicts chemical exposure in *Daphnia magna*. *Environ. Sci. Technol.* 47 (20), 11747-11756.

14) **Poynton, H.C.,** Lazorchak, J.M., Impellitteri, C.A., Blalock, B.J.*, Smith, M.E., Struewing, K., Unrine, JM, Roose, D. (2013) Toxicity and transcriptomic analysis in *Hyalella azteca* suggests increased exposure and susceptibility of epibenthic organisms to zinc oxide nanoparticles. *Environ. Sci. Technol.* 47 (16), 9453–9460.

2012:

13) **Poynton, H.C.**, Lazorchak, J.M., Impellitteri, C.A., Blalock, B.J.*, Rogers, K., Allen, H.J., Loguinov, A., Heckman, J.L., Govindasmawy, S. (2012) Toxicogenomic responses of nanotoxicity in *Daphnia magna* exposed to silver nitrate and coated silver nanoparticles. *Environ. Sci. Technol.* 46 (11), 6288-6296.

2011:

12) **Poynton, H.C.**, Taylor, N.S., Hicks, J., Colson, K., Chan, S.*, Clark, C., Scanlan, L., Loguinov, A.V., Vulpe, C., Viant, M. R. (2011) Metabolomics of microliter hemolymph samples enables an improved understanding of the combined metabolic and transcriptional responses of *Daphnia magna* to cadmium. *Environ. Sci. Technol.* 45 (8), 3710–3717.

11) Patra, M., Ma, X., Isaacson, C., Bouchard, D., **Poynton, H.,** Lazorchak, J. M., Rogers, K. R. (2011) Changes in agglomeration of fullerenes during ingestion and excretion in *Thamnocephalus platyurus. Environ. Toxicol. Chem*. 30 (4), 828-35.

10) **Poynton, H.C.,** Lazorchak, J., Impellitteri, C., Smith, M.E., Rogers, K., Patra, M., Hammer, K., Allen, J., Vulpe, C. (2011) Differential gene expression in *Daphnia magna* suggests distinct modes of action and bioavailability for ZnO nanoparticles and Zn ions. *Environ. Sci. Technol.* 45 (2), 762-768.

2010:

9) Allen, H.J., Impellitteri, C.A., Macke, D.A., Heckman, J.L., **Poynton, H.C.,** Lazorchak, J.M., Govindaswamy, S., Roose, D.L., Nadagouda, M.N. (2010) Effects from filtration, capping agents, and presence/absence of food on the toxicity of silver nanoparticles to *Daphnia magna*. *Environ. Toxicol. Chem*. 29 (12), 2742-50.

2009:

8) Garcia-Reyero, N., **Poynton, H.C.,** Kennedy, A.J., Guan, X., Escalon, B.L., Chang, B., Varshavsky, J., Loguinov, A.V., Vulpe, C.D., Perkins, E.J. (2009) Biomarker discovery and transcriptomic responses in *Daphnia magna* exposed to munitions constituents. *Environ. Sci. Technol.* 42 (11), 4199-93.

7) **Poynton, H.C.,** Vulpe, C.D. (2009) Ecotoxicogenomics: emerging technologies for emerging contaminants. *J. American Water Resources Association.* 45 (1), 83-96.

2008:

6) **Poynton, H.C.,** Loguinov, A.V., Varshavsky, J.R., Chan, S., Vulpe C.D. (2008) Gene expression profiling in *Daphnia magna* Part I: Concentration dependent gene expression profiles provide support for a No Observed Transcriptional Effect Level in *Daphnia magna. Environ. Sci. Technol.* 42 (16), 6250-6.

5) **Poynton, H.C.,** Zuzow, R., Loguinov, A.V., Perkins E.J., Vulpe C.D. (2008) Gene expression profiling in *Daphnia magna* Part II: Validation of a copper specific gene expression signature with effluent from two copper mines in California. *Environ. Sci. Technol.* 42 (16), 6257-63.

Prior to 2008:

4) **Poynton H.C.,** Varshavsky J.R., Chang B., Cavigiolio G., Chan S., Holman P.S., Loguinov A.V., Bauer D.J., Komachi K., Theil E.C., Perkins E.J., Hughes O., Vulpe C.D. (2007) *Daphnia magna* Ecotoxicogenomics Provides Mechanistic Insights into Metal Toxicity. *Environ. Sci. Technol*. 41 (3), 1044-50. (Included in the "Top Ten Most Cited Papers of 2007" in *Environ. Sci. Technol.*)

3) De Freitas J.M., Kim J.H., **Poynton H.C.,** Su T., Wintz H., Fox T.C., Holman P.S., Loguinov A.V., Keles S., Van Der Laan M., Vulpe C.D. (2004) Exploratory and confirmatory gene expression profiling of mac1. *J. Biol. Chem.* 279 (6), 4450-8.

2) De Freitas J., Wintz H., Kim J.H., **Poynton H.,** Fox T.,Vulpe C. (2003) Yeast, a model organism for iron and copper metabolism studies. *Biometals.* 16 (1), 185-97.

1) Zhang Z.P., Hutcheson J.M., **Poynton H.C.,** Gabriel J.L., Soprano K.J., Soprano D.R. (2003) Arginine of retinoic acid receptor beta which coordinates with the carboxyl group of retinoic acid functions independent of the amino acid residues responsible for retinoic acid receptor subtype ligand specificity. *Arch. Biochem. Biophys.* 409 (2), 375-84.

Peer reviewed book chapters:

4) **Poynton, HC.** (2019) Insights from 'Omics on Ecological Exposure and Effects of Engineered Nanomaterials. In *Ecotoxicology of Nanoparticles in Aquatic Systems.* Eds. Corsi, I. and Blasco, J. CRC Press Taylor & Francis Group. *In press.*

3) **Poynton, H.C.,** Robinson, W.E. Contaminants of Emerging Concern, With an Emphasis on Nanomaterials and Pharmaceuticals. In *Green Chemistry*: *an Inclusive Approach*; Torok, B., Dransfield, T., Eds.; Elsevier: Cambridge, MA, 2018; pp 291-315.

2) **Poynton, H.C.,** Wintz, H., Vulpe, C.D. Progress in ecotoxicogenomics for environmental monitoring, mode of action, and toxicant identification. In *Advances in Experimental Biology 2: Comparative Toxicogenomics*; Hogstrand, C., Kille, P., Eds.; Elsevier: Oxford, 2008; Vol. 2, pp 21-73.

1) Perkins, E.J., Denslow, N., Chipman, J.K., Guiney, P.D., Oris, J.R., **Poynton, H.C.,** Robidoux, P.Y., Scroggins, R., Van Der Kraak, G. Application of genomics to assessment of the ecological risk of complex mixtures. In *Genomics in Regulatory Ecotoxicology: Applications and Challenges*; Ankley, G.T., Miracle, A.L., Perkins E.J. and Daston, G.P. Eds.; SETAC Press: Pensacola, FL, 2008, pp 87-122.

RESEARCH SUPPORT (total of $1.2 million in external funding):

1) Poynton, H. (Principal), Robinson, W. (Co-Principal), Chen, R. (Co-Principal). Development and validation of the coastal biosensors for endocrine disruption (C-BED) assay. **MIT-Seagrant**. $149,999 (2/1/13 – 10/31/15).

2) Poynton, H. (Principal), Unrine, J. (Co-Principal). Characterization of environmental transformation, exposure from sediment, and toxicity (E-TEST) for ZnO nanomaterials in natural systems. **National Science Foundation (C-BET).** $177,690 (9/1/14 – 8/31/18).

3) Weston, D. (Principal), Poynton, H.C. (Co- Principal), Young, T. (Co-Principal), Connon, R. (Supporting). Integrated chemical and genomic assessment of contaminant effects on invertebrate fish prey in Cache Slough. **State and Federal Contractors Water Agency.** $324,733 (10/1/14- 4/30/17).

4) Robinson, W. (Principal), Poynton, H.C. (Co-Principal). Tracking the Evolution of Critical Proteins Through the Bivalvia. **Ruth D. Turner Foundation**. $12,000 (12/15/15-12/14/16).

5) Christian, A. (Principal), Poynton, H.C. (Co-Principal). REU Site: Coastal Research in Environmental Science and Technology (CREST) at UMass Boston. **National Science Foundation.** $314,640 (4/1/2017 -3/31/2020).

6) Connon, R., (Principal), Poynton, H.C. (Co-Principal), Fangue, N. (Co-Principal), Hung, T-C. (Co-Principal), Brander, S. (Co-Principal), Lydy, M. (Co-Principal). Contaminant Effects on Two California Fish Species and the Food Web That Supports Them. **California Department of Fish and Wildlife**. $209,338 (sub-award to UMB) (07/01/2017 – 6/30/2020).

Cooperative Agreements:

1) Poynton, H. (Principal). TEMASAV: Technologies and environmental monitoring for the sustainability of wide areas. Cooperative agreement between The Second University of Naples and the University of Massachusetts Boston. $8,000 (2/1/15 – 6/30/15).

Proposals acting as Collaborator:

1) Stiles, S. (PI, Milford NOAA Lab), Goldstone, J. (collaborator, WHOI); Poynton, H. (collaborator); Robinson, W. (collaborator); Tlusty, M. (collaborator); Lindell, S. (collaborator, WHOI) ICAF Proposal: Genomics-assisted Breeding of the Blue Mussel to Increase and Sustain Aquaculture Production, **NOAA internal award**, $200,000 (6/1/18-5/31/21).

2) Courtney, R. (PI, University of Limerick); Poynton, H. (collaborator) Analysis of biomarkers in earthworms exposed to different rehabilitated bauxite residues, **Science Foundation Ireland**. (1/1/18- 12/31/21).

Proposals funded through University of Massachusetts:

1) Poynton, H. (Principal), Robinson, W. (Co-Principal) Family planning along the coastline: human birth control compounds and the reproductive health of the blue mussel *Mytilus edulis*. **Joseph P. Healey Research Grant Program.** $7,500 (6/1/12 – 6/30/13).

2) Robinson, W. (Principal), Zhou, M. (Co-Principal, Chen, R. (Co-Principal), Lee, Z. (Co-Principal, Poynton, H. (Co- Principal), Schaaf, C. (Co-Principal). Boston Harbor-Mass Bay: laboratory for urban and coastal environmental science (LUCES). **University of Massachusetts.** $120,000 (7/1/13 – 7/1/15).

3) Poynton, H. (Principal). Does adaptation to pollution adversely affect natural populations? **University of Massachusetts Boston, Endowed Faculty Career Development Award.** $3,500 (10/1/13 - 8/31/14).

4) Poynton, H.C. (Principal), Robinson, W. (co-Principal) Sterilizing the sea: investigating the extent of sex reversal in marine mussels from birth control compounds. **Joseph P. Healey Research Grant Program.** $7,500 (7/1/15 - 6/30/16).

5) Courtney, R. (Principal), Poynton, H.C. (co-Principal), Use of biomarkers for assessing stress in organisms exposed to mine spoils. **University of Limerick- UMass Boston Strategic Alliance Joint Seed Funding Program.** $10,000 (1/1/16-12/31/17).

SCIENTIFIC LEADERSHIP

i) Enhancement of graduate and undergraduate student research experiences:

Research Experience for Undergraduates (NSF-REU) mentor (2011-pres.); UMass Boston Coasts and Communities *Integrative Graduate Education and Research Traineeship (*IGERT, funded by NSF) Steering Committee member, and mentor (2014-pres); ERASMUS Training Program in Aquatic Ecosystem Health (funded by NSERC Canada) Program Committee member; faculty mentor for Sanofi Genzyme or Oracle Undergraduate/Graduate Research Fellowships, McNair Fellowship Program, and Bridges to the Baccalaureate Fellowship program (2014-pres)

ii) Development of genomic resources for environmental research:

Lead investigator for *Hyalella azteca* genome project within the i5k project (2012-2018)

Eastern Oyster Genome Consortium member and consultant (2014-pres)

Contributor of transcriptomic resources and tools for *Hyalella azteca, Mytilus edulis,* and *Daphnia magna* (2007-pres.)

iii) Professional societies and advisory committees:

Scientific Committee and Program Committee Organizer for Society of Environmental Toxicology and Chemistry Annual Meeting, Sacramento, CA 2017-2018.

Steering Committee Member, Society of Environmental Toxicology and Chemistry (SETAC) EVOGENERATE (Evolutionary Toxicology) advisory group (2013-pres.)

SETAC Horizon Scanning Workshop participant to identify 40 top questions in Environmental Science (2015-pres.)

iv) Community outreach:

"Know your Pond, Save your Pond" Urban Pond Research, Education, and Outreach Program presented to students and community members of Boston and the surrounding suburbs through community events and workshops (2014-pres.)

v) Peer Review Activities:

- Review panelist for NIEHS Oceans and Human Health Program and Superfund Program, NSF Biology Directorate, Integrative Organismal Systems, and EPA Science to Achieve Results Fellowship Program.
- Technical proposal Reviewer for U.S. Army Corps of Engineers, Research and Development Center (ERDC), Natural Sciences and Engineering Research Council of Canada (NSERC) Strategic Project Grants competition, and the National Oceanic and Atmospheric Administration (NOAA) Seagrant Program.
- Manuscript reviewer for: *Environmental Science and Technology, Nanotoxicology, Environmental Pollution, Aquatic Toxicology, Environmental Toxicology and Chemistry, PLoS One, BMC Genomics, Mutagenesis,* and *Molecular Ecology,* as well as for the U.S. Environmental Protection Agency's internal technical manuscript review.

vi) Professional Societies:

2002- Member, *Daphnia* Genome Consortium
2005- Member, Society of Environmental Toxicology and Chemistry
2010- Member, North Atlantic Chapter, Society of Environmental Toxicology and Chemistry
2011- Member, Organisation for Economic Co-operation and Development (OECD) Community of Practice for Nanomaterials
2011- Associate Member, Dana-Farber/Harvard Cancer Center

vii) Student Advising (Thesis Advisor, Visiting Scholar Mentor, and Independent Study):

Post-doc, visiting scholar:

Simone Hasenbein (visiting scholar) Spring 2016
Chiara Russo (International Visiting Scholar) Spring 2015

PhD students:

Bonnie Blalock (Ph.D. awarded Dec. 2018) 2012-2018.
Kaley Major (Ph.D., awarded Dec. 2018) 2013-2018.
Kristin Osborne (Ph.D, awarded Dec. 2017) 2012-2017.

Masters students:

Nabilah Nadhirah Ahmad Johanif (MS) 2018-pres.
K. Garrett Evensen (MS) 2018-pres.

External PhD examiner/committee member:

Katherine Jeppe, The University of Melbourne, Australia, Contaminant Exposure Affects Gene Expression Markers in the Cysteine Metabolism of *Chironomus tepperi*, 2015.

Guangquan Chen, Vrije Universiteit Amsterdam, The Netherlands, New tools for assessment of soil toxicity in the bio-based economy, 2016.

Shuai Chen, Purdue University, The Role of *Daphnia pulex* microRNAs in Response to Short-term and Multi-generational Cadmium Acclimation, 2015.

Undergraduate students:

Aleesha Grove (undergrad, REU) Summer 2018
Catherine Morgan (undergrad, REU) Summer 2017
Shaun Alexander (undergrad, Honors Thesis) 2015-2017
Keegan Krick (undergrad, Honors Thesis) 2016-2017
Jessica Deavers (undergrad, REU) Summer 2016
Christina Lofton (undergrad, Honors Thesis) 2014-2016
Austin Manny (undergrad, REU) Summer 2015
Shelly-Ann Wood (undergrad, Bridges; UMass Boston McNair Fellowship) 2015-2016
Cristiana Binkley (undergrad, REU) Summer 2014
Sarah Moore (undergrad, independent study) 2013-2014
Padrig Tuck (undergrad, Honors Thesis) 2011-2013
Megan Freiberger (undergrad, REU) Summer 2013
Dale A Cormier II (undergrad, independent study) 2012-2013
Hebe Rosado (undergrad, REU), Summer 2012
Nicholas Sapp (undergrad, REU), Summer 2011
Sara Nelson-Owens (undergrad, REU), Summer 2011

viii) Student Advising (Committee member):

Christine San Antonio (PhD), Robert Holmberg (PhD) Catie Tobin (PhD), Avery Palardy (M.S.) UMass Boston, 2014-2017; Brain Duphily (M.S.) UMass Boston, 2013-2017; Lauren Laskey (M.S.) UMass Boston, 2014-2016; Erin Sullivan (Ph.D. candidate) UMass Lowell, 2013-pres.; Edgar Franck (M.S.) UMass Boston, 2013-2017; Marin Kress (Ph.D.) UMass Boston, 2011- 2015; Thomas Angus (Ph.D.) UMass Boston, 2011-2015; David Weisman (Ph.D.) UMass Boston, 2010-2011.

SELECT PRESENTATIONS (accepted abstracts) (*graduate; **undergraduate student presenter):

1) Lofton, C.**, Blalock, B.J., Robinson, W.E., **Poynton, H.** The effect of exposure to 17α-ethinylestradiol on the mitochondrial DNA composition of mantle tissue in the blue mussel *Mytilus edulis.* Poster Presentation at the North Atlantic Regional SETAC Meeting, Amherst, MA. June 13-14, 2016.

2) Blalock, B.J.*, Duphily, B., Robinson, W., Ricciardi, K., **Poynton. H.** Development of the Coastal Biosensor for Endocrine Disruption (C-BED) Assay Reveals Implications for Ecological Health. Platform Presentation at the North Atlantic Regional SETAC Meeting, Amherst, MA. June 13-14, 2016.

3) Blalock, B.J.*, Duphily, B., Robinson, W., Ricciardi, K., **Poynton. H.** Development of the Coastal Biosensor for Endocrine Disruption (C-BED) Assay Reveals Implications for Human and Ecological Health. Platform Presentation at the North American Society of Environmental Toxicology and Chemistry (SETAC), Salt Lake City, Utah, Nov. 2015.

4) Major K.M., Manny, A., Weston D.P., **Poynton H.C.,** Exploring mechanisms of insecticide resistance in the genome of the non-target crustacean, *Hyalella azteca.* Poster Presentation at the North American Society of Environmental Toxicology and Chemistry (SETAC), Salt Lake City, Utah, Nov. 2015.

5) Wood, S-A.**, Blalock, B.J., Major, K., **Poynton, H.C.** Genome annotation of nanoparticle responsive genes in freshwater crustacean, *Hyalella Azteca.* Poster Presentation at the McNair Scholars Symposium, Univ. of CT, CT, July 23, 2015.

6) **Poynton, H.C.,** Major, K.M., Blalock, B., Manny, A., Weston, D., Sepulveda, M., Colbourne, J. Toxicogenome of *Hyalella azteca*: Exploring adaptation and plasticity in response to environmental pollution. Poster Presentation at the Arthropod Genome Symposium, Manhattan, KS, June 17-19, 2015 .

7) Binkley, C.**, Blalock, B., Clearly, A., Zhou, M., Durbin, E., **Poynton, H.** Understanding gene expression in *Euphausia Superba* during quiescence. Poster Presentation at the Association for the Sciences of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting. Granada, Spain, Feb. 21-27, 2015.

8) Major, K.*, Weston, D.P., Tuck, P., **Poynton, H.C.** Development of a genotyping assay to determine the extent of pyrethroid pesticide resistance in members of the *Hyalella azteca* species complex. Platform Presentation at the North American Society of Environmental Toxicology and Chemistry (SETAC), Vancouver, BC, Canada, Nov. 9-13, 2014.

9) **Poynton, H.,** Weston, D., Wellborn, G., Lydy, M., Major, K., Blalock, B. Pollution resistance in risk assessment: a case study of rapid adaptation to pesticides in *Hyalella azteca.* Platform Presentation at the North American Society of Environmental Toxicology and Chemistry (SETAC), Vancouver, BC, Canada, Nov. 9-13, 2014.

10) Blalock, B.*, Duphily, B., Robinson, W., **Poynton, H.,** Development of the coastal biosensor for endocrine disruption (C-BED) Assay. Poster Presentation at the North American Society of Environmental Toxicology and Chemistry (SETAC), Vancouver, BC, Canada, Nov. 9-13, 2014.

11) Major, K.*, **Poynton . H.,** Gene expression variation in *Hyalella azteca* laboratory populations under standardized conditions. Poster Presentation at the North American Society of Environmental Toxicology and Chemistry (SETAC), Vancouver, BC, Canada, Nov. 9-13, 2014.

12) Osborne, K.*, **Poynton, H.** Invading the "dirty waters" of urban harbors: Quantifying invasive tunicate tolerance to marine pollution. Poster Presentation at the North American Society of Environmental Toxicology and Chemistry (SETAC), Vancouver, BC, Canada, Nov. 9-13, 2014.

13) Duphily, B. J.*, Blalock, B. J., **Poynton**, **H.C.,** Robinson, W. E. Uptake, bioaccumulation and depuration of 14C-labeled 17-α-ethinylestradiol and 4-nonylphenol in organs of the marine bivalve, *Mytilus edulis* L. Poster Presentation at the North American Society of Environmental Toxicology and Chemistry (SETAC), Vancouver, BC, Canada, Nov. 9-13, 2014.

14) Osborne. K.*, **Poynton, H.** Invading the "dirty waters" of urban harbors: Quantifying invasive tunicate tolerance to marine pollution. Poster Presentation at the International Invasive Sea Squirt Conference V., Woods Hole, MA, Oct. 29-31, 2014.

15) Moore, S.**, Osborne, K., **Poynton, H.** From squirts to cirri: A shift from soft-bodied fouling communities or a temporal anomaly? Poster presentation at the North Atlantic Society of Environmental Toxicology and Chemistry, Amherst, MA, Jun. 11-13, 2014.

16) **Poynton, H.C.,** Blalock, B. J., Lazorchak, J. M., Weston, D. P., Wellborn, G., Lydy, M. Genome Sequencing of *Hyalella azteca*: A model for evolutionary toxicology and ecological exposure. Presentation at the North America Society of Environmental Toxicology and Chemistry, Nashville, TN, Nov. 17-21, 2013.

17) **Poynton, H.C.,** Blalock, B.J., Lazorchak, J. M., Impellitteri, C. A., Unrine, J. M., Smith, M. E. Are sediment dwelling organisms at higher risk for nanoparticle exposure? Characterizing nanoparticle exposure and effects in *Hyalella azteca.* Presentation at the North America Society of Environmental Toxicology and Chemistry, Nashville, TN, Nov. 17-21, 2013.

18) Tuck, P.**, **Poynton, H.,** The mechanisms of microevolution in the pollutant exposed amphipod *Hyallela azteca*. Poster presentation. Massachusetts Statewide Undergraduate Research Conference, University of MA, Amherst, Amherst, MA, Apr. 26, 2013.

19) **Poynton, H.,** Robinson, W. Blalock, B. and Hannigan, R. Transcriptomic responses to metal bioaccumulation in the blue mussel *Mytilus edulis.* Platform Presentation at the Society of Environmental Toxicology and Chemistry Annual Meeting, Boston MA, November 2011.

20) **Poynton, H.C.,** Lazorchak, J.M, Impellitteri, C. A., Smith, M. E., Rogers, K., Allen, H.J., Patra, M., Hammer, K.A. A genomic approach for biomarker discovery and exposure monitoring of metal-based nanomaterials in surface waters. Platform Presentation at the Society of Environmental Toxicology and Chemistry Annual Meeting, Portland, OR, Nov. 2010.

Invited Seminars:

1) **Poynton, H.,** The Toxicogenome of *Hyalella azteca*, building genomic resources for healthy ecosystems, Featured Speaker, Center for Genome Research & Biocomputing Fall Conference, Oregon State University, Corvallis, October 12, 2018.

2) **Poynton, H.,** Emerging tools and frameworks for monitoring marine mussels, key indicators of coastal pollution, Invited Seminar at Woods Hole Oceanographic Institute, Woods Hole, MA, October 22, 2015.

3) **Poynton, H.,** Robinson, W., Blalock, B., Duphily, B., Ricciardi, K., Hannigan, R. Development of the coastal biosensors for endocrine disruption (C-BED) assay reveals implications for human and ecological health, Invited Seminar for MIT Seagrant, Cambridge, MA. April 21, 2015.

4) **Poynton, H.,** Emergence of pesticide resistance in the non-target stream invertebrate *Hyalella azteca*: The role of speciation and convergent evolution, Invited Seminar, Biology Dept., University of MA, Lowell, Lowell, MA, Nov. 7, 2012.

5) **Poynton, H.,** Taking toxicogenomics to sea. What gene expression can tell us about pollution. Invited Presentation, School of Marine Sciences Research Colloquium, UMass, Boston, Jan. 20, 2012.

6) **Poynton, H.C.,** Molecular ecotoxicology: The use of genomic transcriptomic approaches in environmental sciences. Invited Seminar, Department of Forestry and Natural Resources, Purdue University, Sept. 13, 2011.

International Symposium:

1) **Poynton, H.,** Toxicogenome of *Hyalella azteca*, building genomic resources for sediment quality assessment and evolutionary toxicology, International Symposium on Ecogenomics towards a bio-based economy. VU University Amsterdam, Netherlands, March 23, 2016.

2) **Poynton, H.,** Toxicogenomic signatures of pollutant exposure and bioaccumulation in aquatic and marine invertebrates. Invited Presentation, International Symposium on Environmental Genomics, Shanghai Center for Bioinformation Technology, Shanghai, China, Mar 26-29, 2012.