

ALICIA R. TIMME-LARAGY, PH.D.

*Associate Professor
of Environmental Health Science*

Research Interests: Environmental & developmental toxicology, oxidative stress, antioxidant defenses, pancreas

University of Massachusetts Amherst

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EDUCATION

PH.D., Duke University, Durham, NC (2002- 07)

Integrated Toxicology and Environmental Health Program

Nicholas School of the Environment

Dissertation: Mechanisms of synergistic developmental toxicity of polycyclic aromatic hydrocarbons in zebrafish (*Danio rerio*)

Mentor: Richard Di Giulio

B.A., *cum laude*, Franklin and Marshall College, Lancaster, PA, (1996- 2000)

Majors: Biology and Anthropology *Minor:* Environmental Studies

Thesis: Maple syrup urine disease in Old Order Mennonites of Lancaster County, PA

Study Abroad: King's College, University College London, London, England, 1999

PROFESSIONAL APPOINTMENTS

2013– University of Massachusetts Amherst, Department of Environmental Health Sciences, School of Public Health and Health Sciences, Amherst, MA

- **Associate Professor** of Environmental Health Science (2019-)
- **Assistant Professor** of Environmental Health Science (2013-19)
- **Adjunct Faculty Member**, Biology Department (2014 -)
- **Faculty Member**, Molecular and Cell Biology Graduate Program (2014 -)
- **Faculty Member**, Models to Medicine Center, Institute for Applied Life Sciences (2016 -)
- **Faculty Member**, Biotechnology Training Program (2017 -)

2013– **Guest Investigator**, Woods Hole Oceanographic Institution, Biology Department

2007-13 **Postdoctoral Fellow/Scholar**, Woods Hole Oceanographic Institution, Biology Department, Woods Hole, MA. Mentor: Mark Hahn

2002-07 **PhD. Candidate/Research Assistant/Teaching Assistant**, Duke University, Durham, NC

2000-02 **Research Technician**, University of Rochester, Dept. of Biomed. Genetics, Rochester, NY

FUNDING

Current

2017-22 National Institutes of Health R01ES028201 (PI)
Toxicant disruption of receptor-mediated endocytosis in oogenesis and later life metabolic dysfunction
Administrative Supplement, Office of Dietary Supplements, 2019-2020 (PI)

2016-21 National Institutes of Health R01ES025748 (PI)
Activation of Nrf2 during development: mechanisms and consequences

Completed

2015-16 UMASS Public Service Endowment Grant (PI)

- “A new source of PCBs to MA waterways- does this pose a health risk?”
- 2015 Trevi Systems Inc., Zebrafish embryo toxicity testing of a soluble polymer.
- 2013-14 The Andrew W. Mellon Foundation Mutual Mentoring Team Grant (PI), University of Massachusetts Amherst
- 2009-12 National Institutes of Health NRSA F32 Postdoctoral Fellowship F32ES017585
- 2007-09 Woods Hole Oceanographic Institution Postdoctoral Scholar Award
- 2007 Duke University RJR-Leon Golberg Memorial Postdoctoral Training Program in Toxicology
- 2005-07 US Environmental Protection Agency Science to Achieve Results (STAR) Fellowship #F5D40841. Highly competitive national award for graduate research
- 2002-04 Duke University NIH T32 Predoctoral Training Grant Fellowship

AWARDS & HONORS

- 2020-21 University of Massachusetts Center for Research on Families Fellow
- 2019 University of Massachusetts Public Engagement Project Fellow
- 2016 University of Massachusetts Innovation Fellow
- 2016 Nominee, University of Massachusetts Distinguished Teaching Award
- 2015 National Institutes of Health Early Career Reviewer Program, Systemic Injury of Environmental Exposures Grant Review Panel, June 2015.
- 2014 National Institute of Aging, Butler-Williams Scholars Program. Nationally competitive fellowship to spend a week at the NIH learning about aging research.
- 2012 1st Place, Society of Toxicology Reproductive and Developmental Toxicology Specialty Section Postdoctoral research competition.
- 2011 Gordon Research Conference on Cellular and Molecular Mechanisms of Toxicity, travel award
- 2011 Postdoctoral Scholar Research Integrity Ambassador Award, National Postdoc Association. (national competitive award to attend the U.S. Office of Research Integrity’s conference on Responsible Conduct of Research (RCR) to receive training in RCR education).
- 2011 1st Place, Society of Toxicology Molecular Biology Specialty Section Postdoc Award
- 2007 Pollutant Responses in Marine Organisms (PRIMO) Conference Travel Grant to Florianapolis, Brazil
- 2006 Superfund Basic Research Program 9th Annual Karen Wetterhahn Memorial Award
- 2006 1st Place, Best Student Poster Presentation, EPA STAR Conference, Washington DC
- 2006 1st Honorable Mention , Best Student Platform Presentation, Society of Environmental Toxicology and Chemistry (SETAC), Montreal, Quebec, Canada
- 2006 Student Poster Award. North Carolina Society of Toxicology, Durham, NC
- 2005 2nd Place, Best Student Poster Presentation, SETAC, Baltimore, MD
- 2005 PRIMO Conference Travel Grant to Alessandria, Italy

BIBLIOGRAPHY (UMASS Trainees mentored by AT-L are underlined; reverse chronological order)

Peer Reviewed Publications <https://orcid.org/0000-0002-8835-5038>

<http://www.ncbi.nlm.nih.gov/sites/myncbi/alicia.timme-laragy.1/bibliographay/46893061/public/?sort=date&direction=ascending>

IN REVISION/UNDER REVIEW

Kim JH, Barbagallo B, Annunziato KM, Farias-Pereirab R, Doherty JJ, Lee J, Zina J, Tindal C, McVey C, Aresco R, Johnstone M, Sant KE, **Timme-Laragy AR**, Park Y , Clark JM. Maternal Preconception PFOS Exposure of Drosophila melanogaster Alters Reproductive Capacity, Development, Morphology and Nutrient Regulation. (submitted to Food & Chemical Toxicology, Dec. 2020).

Sant KE, Annunziato KM, Conlin S, Teicher G, Chen P, Venezia OL, Downes GB, Park Y, **Timme-Laragy AR**. Development exposures to perfluorooctanesulfonic acid (PFOS) impact embryonic nutrition, pancreatic morphology, and adiposity in the zebrafish, *Danio rerio*. (in revision, Environmental Pollution)

Wauchope S, Roy MA, Irvine W; Morrison I, Brantley E, Gossell-Williams M, **Timme-Laragy AR**, Delgota R. Dibenzyl trisulfide binds to and competitively inhibits the cytochrome P450 1A1 active site without impacting the expression of aryl hydrocarbon receptor. (submitted Oct. 2020 to Toxicology and Applied Pharmacology)

PUBLISHED/IN PRESS

- 41) Rastogi A, **Timme-Laragy AR**. (2020) Using Monochlorobimane to visualize glutathione utilization in the developing zebrafish embryo. *Current Protocols in Toxicology* (in press Dec. 2020)
- 40) Rastogi A, Severance EG, Jacobs HM, Conlin SM, Islam ST, **Timme-Laragy AR**. (2020) Modulating Glutathione Thiol Status Alters Pancreatic β -cell Morphogenesis in the Developing Zebrafish (*Danio rerio*) Embryo. *Redox Biology*. (inPress)
- 39) Yue Y, Li S, Qian Z, Farias-Pereira R, Lee J, Doherty JJ, Zhang Z, Peng Y, Clark JM, **Timme-Laragy AR**, Park Y. (2020) Perfluorooctanesulfonic acid (PFOS) and perfluorobutanesulfonic acid (PFBS) impaired reproduction and altered offspring physiological functions in *Caenorhabditis elegans*. *Food and Chemical Toxicology*. 145:111695. doi: 10.1016/j.fct.2020.111695. PMID: 32835727
- 38) Qi W, Clark JM, **Timme-Laragy AR**, Park Y (2020) Perfluorobutanesulfonic Acid (PFBS) Induces Fat Accumulation in HepG2 Human Hepatoma. *Toxicological & Environmental Chemistry*, DOI: 10.1080/02772248.2020.1808894
- 37) Annunziato KM, Doherty J, Lee J, Clark JM, Liang W, Clark CW, Nguyen M, Roy MA, **Timme-Laragy AR**. (2020). Chemical Characterization of a Legacy AFFF (Aqueous Film-Forming Foam) Sample and Developmental Toxicity in Zebrafish (*Danio rerio*). *Environmental Health Perspectives*. doi 10.1289/EHP6470
- 36) Roy MA, Duche PR, **Timme-Laragy AR**. (2020). The sulfate metabolite of 3,3'-dichlorobiphenyl (PCB-11) impairs Cyp1a activity and increases hepatic neutral lipids in zebrafish larvae (*Danio rerio*). *Chemosphere*. 260:127609. doi: 10.1016/j.chemosphere.2020.127609. PMID: 32693259
- 35) Qi W, Clark JM, **Timme-Laragy AR**, Park Y. (2020). Per- and Polyfluoroalkyl Substances (PFAS) and Obesity, Type 2 Diabetes and Non-alcoholic Fatty Liver Disease: A Review of Epidemiologic Findings. *Toxicology & Environmental Chemistry*, 102:1-4, 1-36, <https://doi.org/10.1080/02772248.2020.1763997>
- 34) Zhu P, Hawkins J, Linthicum WH, Wang M, Li N, Zhou N, Wen Q, **Timme-Laragy AR**; Song X, Sun, Y. (2020) Heavy metal exposure led to rapid changes in cellular biophysical properties. *ACS Biomaterials Science & Engineering*. 6, 4, 1965-1976 DOI:10.1021/acsbiomaterials.9b01640
- 33) Sant KE, Moreau HM*, Williams LM, Jacobs HM, Bowsher AM, Boisvert JD, Smolowitz RM, Pantazis J, Annunziato KM, Nguyen M, **Timme-Laragy AR**. (2020) Embryonic exposures to mono-2-ethylhexyl phthalate (MEHP) induce larval steatosis in zebrafish independent of Nrf2a signaling. *Journal of Developmental Origins of Health and Disease*. Feb 17:1-9. doi: 10.1017/S2040174420000057. PMC7429360 *undergraduate summer student from Bates College

- 32) Roy MA, Sant KE, Venezia OL, Shipman AB, McCormick SD, Saktrakulkla P, Hornbuckle KC, Timme-Laragy AR. (2019). The emerging contaminant 3,3'-dichlorobiphenyl (PCB-11) impedes Ahr activation and Cyp1a activity to modify embryotoxicity of Ahr ligands in the zebrafish embryo model (*Danio rerio*). *Environmental Pollution*. Nov;254(Pt A):113027. doi: 10.1016/j.envpol.2019.113027. PMC7027435
- 31) Rastogi AR, Clark C, Conlin S, Brown SE, Timme-Laragy AR. (2019) Mapping glutathione utilization in the developing zebrafish (*Danio rerio*) embryo. *Redox Biology*. Sep;26:101235. doi: 10.1016/j.redox.2019.101235. PMC6581987
- 30) Sant KE, Venezia O, Sinno PP, Moss JB, Timme-Laragy AR. (2019) Perfluorobutanesulfonic acid disrupts pancreatic organogenesis and regulation of lipid metabolism in the zebrafish, *Danio rerio*. *Toxicological Sciences*. 167(1):258-68. doi: 10.1093/toxsci/kfy237. PMC6317420
- 29) Qi W, Clark JM, Timme-Laragy AR, Park Y. (2018). Perfluorobutanesulfonic acid (PFBS) potentiates adipogenesis of 3T3-L1 adipocytes. *Food Chem Toxicol*. 120:340-345. doi: 10.1016/j.fct.2018.07.031. PMC6169790
- 28) Sant KE, Sinno PP, Jacobs HM, Timme-Laragy AR. (2018) Nrf2a Modulates the Embryonic Antioxidant Response to Perfluorooctanesulfonic Acid (PFOS) in the Zebrafish, *Danio rerio*. *Aquatic Toxicology*. 198:92-102. doi: 10.1016/j.aquatox.2018.02.010. PMC6077977
- 27) Brown SE, Sant KE, Fleishman SM, Venezia O, Roy MA, Zhao L, Timme-Laragy AR. (2018). Embryonic exposure to butylparaben affects pancreatic beta cell development in zebrafish (*Danio rerio*). *Birth Defects Research*. 110(11):933-948. doi: 10.1002/bdr2.1215. PMC6030486
- 26) Jacobs HM, Sant KE, Basnet A, Williams LM, Moss JB, Timme-Laragy AR. (2018). Embryonic Exposure to Mono(2-ethylhexyl) Phthalate (MEHP) Disrupts Pancreatic Organogenesis in Zebrafish (*Danio rerio*). *Chemosphere*. 195:498-507. doi: 10.1016/j.chemosphere.2017.12.094. PMC5788038
- 25) Sant KE, Timme-Laragy AR. (2018). Zebrafish as a model for toxicological perturbation of yolk and nutrition in the early embryo. *Current Environmental Health Reports*. 5(1):125-133. doi: 10.1007/s40572-018-0183-2. PMC5876134
- 24) Timme-Laragy AR, Hahn ME, Hansen JM, Rastogi A, Roy MA. (2018). Redox stress and signaling during embryonic development: regulation and responses. *Seminars in Cell and Developmental Biology*. 80:17-28. doi: 10.1016/j.semcd.2017.09.019. PMC5650060
- 23) Sant KE, Hansen JM, Williams LM, Tran NL, Goldstone JV, Stegeman JJ, Hahn ME, Timme-Laragy AR. (2017). The role of Nrf1 and Nrf2 in the regulation of glutathione and redox dynamics in the developing zebrafish embryo. *Redox Biology*. 13:207-218. doi: 10.1016/j.redox.2017.05.023. PMC5458767
- 22) Leung MC, Procter AC, Goldstone JV, Foox J, DeSalle R, Mattingly CJ, Siddall ME, Timme-Laragy AR. (2017). Applying evolutionary genetics to developmental toxicology and risk assessment. *Reprod Toxicol*. Mar 4;69:174-186. doi: 10.1016/j.reprotox.2017.03.003. PMC5829367
- 21) Sant KE, Jacobs HM, Borofski KA, Moss JB, Timme-Laragy AR. (2017). Embryonic exposures to perfluorooctanesulfonic acid (PFOS) disrupt pancreatic organogenesis in the zebrafish, *Danio rerio*. *Environmental Pollution*. pii: S0269-7491(16)31843-7. doi: 10.1016/j.envpol.2016.10.057. PMC5140685
- 20) Sant KE, Jacobs HM, Xu J, Borofski KA, Moss LG, Moss JB, Timme-Laragy AR. (2016). Assessment of toxicological perturbations and variants of pancreatic islet development in the zebrafish model. *Toxics*. 4(3), 20; doi:10.3390/toxics4030020. PMC5380372

- 19) Wincent E, Kubota A, **Timme-Laragy AR**, Jönsson ME, Hahn ME, Stegeman JJ. (2016). Biological effects of 6-formylindolo[3,2-b]carbazole (FICZ) in vivo are enhanced by loss of CYP1A function in an Ahr2-dependent manner. *Biochem Pharmacol.* 110-111:117-29. doi: 10.1016/j.bcp.2016.04.012. PMC4887394
- 18) **Timme-Laragy AR**, Sant KE, Rousseau ME, dilorio PJ. (2015). Deviant development of pancreatic beta cells from embryonic exposure to PCB-126 in zebrafish. *Comparative Biochemistry and Physiology, Part C- Toxicology.* 178: 25-32. doi:10.1016/j.cbpc.2015.08.012 PMID: 26393762
- 17) Rousseau ME, Sant KE, Borden LR, Franks DG, Hahn ME, **Timme-Laragy AR**. (2015). Regulation of Ahr signaling by Nrf2 during development: Effects of Nrf2a deficiency on PCB126 embryotoxicity in zebrafish (*Danio rerio*). *Aquatic Toxicology.* 167:157-171. doi: 10.1016/j.aquatox.2015.08.002. PMC4703126
- 16) Hahn ME, **Timme-Laragy AR**, Karchner SI, Stegeman JJ. (2015). Nrf2 and Nrf2-related proteins in development and developmental toxicity: Insights from studies in zebrafish (*Danio rerio*). *Free Radical Biology and Medicine.* 88(Pt B):275-89. doi: 10.1016/j.freeradbiomed.2015.06.022. PMC4698826
- 15) Hahn ME, McArthur AG, Karchner SI, Franks DG, Jenny MJ, **Timme-Laragy AR**, Stegeman JJ, Woodin BR, Cipriano MJ, Linney E. (2014). The transcriptional response to oxidative stress during vertebrate development: effects of tert-butylhydroquinone and 2,3,7,8-tetrachlorodibenzo-p-dioxin. *PLoS One.* 2014 Nov 17;9(11):e113158. doi: 10.1371/journal.pone.0079574. PMC4234671
- 14) **Timme-Laragy AR**, Goldstone JV, Imhoff BR, Stegeman JJ, Hahn ME, Hansen JM. (2013). Glutathione redox dynamics and expression of glutathione-related genes in the developing embryo. *Free Radical Biology and Medicine* 65:89-101. doi: 10.1016/j.freeradbiomed.2013.06.011. PMC3823629
- 13) Williams LM, **Timme-Laragy AR**, Goldstone JV, McArthur AG, Stegeman JJ, Smolowitz R, Hahn, ME. (2013). Developmental expression of the Nfe2-related factor (Nrf) transcription factor family in the zebrafish, *Danio rerio*. *PLoS ONE* 8(10): e79574. doi:10.1371/journal.pone.0079574 PMC3840143
- 12) Harbeitner RC, Hahn ME, **Timme-Laragy AR**. (2013). Differential sensitivity to pro-oxidant exposure in two populations of killifish (*Fundulus heteroclitus*). *Ecotoxicology.* 22(2):387-401. doi: 10.1007/s10646-012-1033-x. PMC3573531
- 11) Zhao B; Bohonowych JES; **Timme-Laragy AR**; Jung D; Affatato AA; Rice RH; Di Giulio RT; Denison MS. (2013). Common commercial and consumer products contain activators of the aryl hydrocarbon (dioxin) receptor. *PLoS One.* 8(2):e56860. doi: 10.1371/journal.pone.0056860. PMC3575475
- 10) **Timme-Laragy AR**, Karchner SI, Franks DG, Jenny MJ, Harbeitner, RC, McArthur AG, Goldstone JV, Hahn ME. (2012). Nrf2b: novel zebrafish paralog of the oxidant-responsive transcription factor NF-E2-related factor 2 (NRF2). *Journal of Biological Chemistry.* 287(7):4609-27. doi: 10.1074/jbc.M111.260125. PMC3281635
- 9) Jonsson ME Kubota A, **Timme-Laragy AR**, Woodin B, Stegeman JJ. (2012). Ahr2-dependence of PCB126 effects on the swimbladder in relation to expression of CYP1 and cox-2 genes in developing zebrafish. *Toxicology and Applied Pharmacology.* 265(2):166-74. doi: 10.1016/j.taap.2012.09.023. PMC3529150

- 8) **Timme-Laragy AR**, Van Tiem LA, Di Giulio RT. (2009). Antioxidant responses and NRF2 in synergistic developmental toxicity of PAHs in zebrafish. *Toxicological Sciences*. 109(2):217-27. doi: 10.1093/toxsci/kfp038. PMC2721659
- 7) **Timme-Laragy AR**, Noyes PN, Buhler D, Di Giulio RT. (2008). CYP1B1 knockdown does not alter developmental toxicity of polycyclic aromatic hydrocarbons. *Marine Environmental Research* 66(1): 85-87. doi: 10.1016/j.marenvres.2008.02.030. PMC2516962
- 6) Bohonowych JE, Zhao B, **Timme-Laragy AR**, Jung DJ, Di Giulio RT, Denison MS. (2008). Newspaper and newspaper ink contain agonists for the Ah receptor. *Toxicological Sciences* 102(2): 278-290. doi: 10.1093/toxsci/kfn011. PMC2855230
- 5) Matson CW, **Timme-Laragy AR**, Di Giulio RT. (2008). Fluoranthene, but not benzo[a]pyrene, interacts with hypoxia resulting in pericardial effusion and lordosis in developing zebrafish. *Chemosphere* 74(1): 149-54. doi: 10.1016/j.chemosphere.2008.08.016. PMC2644413
- 4) **Timme-Laragy AR**, Cockman CJ, Matson CW, Di Giulio RT. (2007). Synergistic induction of AHR regulated genes in developmental toxicity from co-exposure to two model PAHs in zebrafish. *Aquatic Toxicology* 85(4): 241-250. PMC2139898
- 3) Billiard SM* and **Timme-Laragy AR***, Wassenberg DM, Cockman C, Di Giulio RT. (2006). The role of the aryl hydrocarbon receptor pathway in mediating synergistic developmental toxicity of polycyclic aromatic hydrocarbons to zebrafish. *Toxicological Sciences* 92(2):526-526. PMID: 16687390*Share first authorship.
- 2) **Timme-Laragy AR**, Levin ED, Di Giulio RT. (2006). Developmental and behavioral effects of embryonic exposure to the polybrominated diphenylether mixture DE-71 in the killifish (*Fundulus heteroclitus*). *Chemosphere* 62:1097-1104. PMID: 16045967
- 1) **Timme-Laragy AR**, Meyer JN, Waterland RA, Di Giulio RT. (2005). Analysis of CpG methylation in the killifish CYP1A promoter. *Comparative Biochemistry and Physiology, Part C*, 141:406-411 PMID: 16257583

Invited Chapter- Peer reviewed (1)

Timme-Laragy AR, Karchner SI, Hahn ME. (2012). Gene knockdown by morpholino-modified oligonucleotides in the zebrafish model: applications for developmental toxicology. In Methods in Molecular Biology: Developmental Toxicology. Hansen and Harris Eds. Springer/ Humana Press. doi: 10.1007/978-1-61779-867-2_5. PMC4218736

Other Publications (non-Peer Reviewed) (1)

Timme-Laragy AR. Sept. 18, 2012. "Doing what's right even when no one is watching" invited Society of Toxicology blog post <http://toxchange.toxicology.org/p/bl/et/blogid=9&blogaid=326>

CONFERENCE ABSTRACTS & PRESENTATIONS (UMASS Trainees mentored by AT-L are underlined)

Conference Presentations-Oral

Timme-Laragy AR. Comparative Toxicity of Legacy AFFF & PFOS. *Northeast PFAS Science Conference: Public Health and the Environment*, Apr. 2020. Framingham, MA (cancelled due to COVID-19)

Timme-Laragy AR. The wrong place at the wrong time: redox stress in the developing embryo. Featured session SOT & Japanese SOT Symposium : Oxidative Stress: Mechanisms and Manifestations. *Society of Toxicology* Mar. 2020. Anaheim, CA (rescheduled for 2021 due to COVID-19)

Timme-Laragy AR. Research Funding Insights Session: Funding 101: Multiple Perspectives on the NIH Grant Process- Academia. *Society of Toxicology*. Mar. 2020. Anaheim, CA (cancelled due to COVID-19)

Timme-Laragy AR. Visualizing glutathione in the developing embryo: where and when. *Society of Redox Biology and Medicine*. Presidential plenary (invited). Nov. 2019. Las Vegas, NV

Timme-Laragy AR. The developing pancreas is a sensitive target organ of toxicant exposures- leveraging zebrafish to uncover mechanisms. *Teratology*. June 2019. San Diego, CA

Timme-Laragy AR. The developing pancreas is a sensitive target organ of toxicant exposures. *Prenatal Programming in Toxicology VI*. May 2018. Torshavn, Faroe Islands

Timme-Laragy AR. Oxidative stress in developmental toxicology. *Society of Toxicology 57th Annual Meeting*, undergraduate program. Mar. 2018. San Antonio, TX

Timme-Laragy AR, Sant KE, Venezia O, Sinno P. Embryonic exposure to the PFOS replacement PFBS (perfluorobutanesulfonic acid) impairs growth and pancreatic organogenesis in the zebrafish. *Superfund Research Program 30th Anniversary Meeting*. Nov. 2017. Philadelphia, PA

Timme-Laragy AR, Sant KE, Brown SE, Jacobs HM, Borofski KA, Moss JB. Redox stress and toxicological perturbation of pancreas development in the zebrafish (*Danio rerio*). *Aquatic Animal Models of Human Disease*. Jan. 2017. Birmingham, AL

Timme-Laragy AR. What's in your toolbox? Zebrafish: a model for oxidative stress during embryonic development. *Gordon Research Conference: Cellular and Molecular Mechanisms of Toxicity*, Aug., 2015. Andover, NH

Timme-Laragy AR, Sant KE, Rousseau ME, di Iorio PJ. Pancreatic beta cell development and function are affected by exposure to PCB-126 and oxidative stress in the zebrafish embryo. *Society of Environmental Toxicology and Chemistry N. Atlantic Chapter*, June, 2015. Freeport, ME

Timme-Laragy AR, Rousseau ME, di Iorio PJ. Pancreatic beta cell development and function are affected by exposure to PCB-126 and oxidative stress in the zebrafish embryo model. *7th Aquatic Animal Models of Human Disease Meeting*, Dec. 2014. Austin, TX

Timme-Laragy AR, Hahn ME. Molecular Evolution of the Transcription Factor Nrf2 in Zebrafish and Killifish. *Society of Environmental Toxicology and Chemistry*, Nov., 2014. Vancouver, Canada

Timme-Laragy AR, Rousseau ME, di Iorio PJ. Does Nrf2 play a role in endocrine disruption? Altered insulin regulation in zebrafish embryos. *Society of Environmental Toxicology and Chemistry*, Nov. 2014. Vancouver, Canada

Timme-Laragy AR, Hahn ME. Molecular evolution of transcription factors: implications for biomedical and environmental toxicology. *Society of Toxicology Annual Meeting*, Mar. 2014. Phoenix, AZ

Timme-Laragy AR. How do embryos respond to oxidative stress? Nrf2 and the regulation of the oxidative stress response during embryonic development. *Connecticut Valley Zebrafish Meeting*, Jan., 2013. Northampton, MA

Timme-Laragy AR, Goldstone JV, Stegeman JJ, Hansen JM, Hahn ME. Glutathione redox dynamics in the developing zebrafish. *New England Membrane Enzyme Meeting*, Oct., 2009. Woods Hole, MA

Timme-Laragy AR, Di Giulio RT. Oxidative stress and the AHR: mechanisms underlying synergistic developmental toxicity of PAHs in zebrafish. *Pollutant Responses in Marine Organisms (PRIMO) Conference*, May, 2007. Florianapolis, Brazil

Timme-Laragy AR, Billiard S, Wassenberg D, Cockman C, Di Giulio RT. Mechanisms of synergistic developmental toxicity of polycyclic aromatic hydrocarbons in the zebrafish. *Superfund Basic Research Program (SRP) Annual Meeting*, Dec., 2006. San Diego, CA

Award- 9th Annual Karen Wetterhahn Memorial Award

Timme-Laragy AR, Billiard S, Wassenberg D, Cockman C, Di Giulio RT. A morpholino approach to understanding synergistic developmental toxicity of polycyclic aromatic hydrocarbons in the zebrafish. *Society of Environmental Toxicology and Chemistry*, Nov., 2006, Montreal, Canada

Award - 1st Honorable Mention , Best Student Platform Presentation

Timme-Laragy AR, Levin ED, Di Giulio RT. The developmental and behavioral effects of embryonic exposure to DE-71 in *Fundulus heteroclitus*. *The International Workshop on Brominated Flame Retardants*, June 2004. Toronto, Canada

Conference Presentations-Oral, co-author

Roy MA, Duche PR, Hornbuckle KC, Timme-Laragy AR. The sulfate metabolite of 3,3'-dichlorobiphenyl (PCB-11) impairs Cyp1a activity and increases hepatic neural lipids in zebrafish larvae (*Danio rerio*). *Society of Toxicology 59th Annual Meeting* Mar. 2020 (cancelled due to COVID-19)

Award: Graduate Student Travel Award to MA Roy

Award: 1st place recipient of the Vera W. Hudson and Elizabeth K. Weisburger Scholarship Fund Student Award from the Women in Toxicology Special Interest Group to MA Roy

Award: 2nd place NESOT Student Travel Award to attend SOT to MA Roy

Award: Sheldon Murphy Travel award, Mechanisms Specialty Section to MA Roy

Rastogi A, Timme-Laragy AR. Pancreatic Nrf2 expression and organ morphogenesis is altered by glutathione modulation in the developing zebrafish embryo. *Society of Redox Biology and Medicine*. Nov. 2019. Las Vegas, NV

Award - Irwin Fridovitch Young Investigator Award winner to A. Rastogi.

Annunziato KM, Marin M, Lee J, Qi W, Park Y, Clark JM, Timme-Laragy AR. Maternal Preconception Exposures to PFOS and PFBS Impact Zebrafish Fatty Acid Profiles and Development. *Society of Environmental Toxicology and Chemistry Annual Meeting* Nov. 2019. Toronto, Canada

Sant KE, Park Y, Clark JM, Timme-Laragy AR. Maternal preconception exposure to PFOS affects nutrient content of oocytes and later life pancreas development. *Society of Toxicology 58th Annual Meeting* Mar. 2019. Baltimore, MD

Rastogi AR, Clark C, Timme-Laragy AR. Spatial analysis of glutathione utilization in the developing zebrafish. *Connecticut Valley Zebrafish Meeting*. Oct. 2018. Amherst, MA

Roy MA, Sant KE, Venezia OL, Shipman AB, McCormick SD, Timme-Laragy AR. The emerging contaminant PCB-11 impedes Ahr activation and Cyp1a activity to modify embryo toxicity in zebrafish (*Danio rerio*). *Society of Environmental Toxicology and Chemistry, N. Atlantic Chapter*, May 2018. Durham, NH

Best graduate student platform presentation to M.Roy

Sant KE, Timme-Laragy AR. Assessment of Aberrant Pancreatic Development Following Embryonic Toxicant Exposures. *Connecticut Valley Zebrafish Meeting*, Oct. 2016, Amherst, MA

Brown SE, Timme-Laragy AR. Butylparaben affects pancreatic development in zebrafish embryos. *Society of Environmental Toxicology and Chemistry, N. Atlantic Chapter*, Jun. 2016. Amherst, MA

Hahn ME, Karchner SI, Aluru N, **Timme-Laragy AR**, Williams LM. Diversity as Opportunity: Using fish models to understand the role of conditional transcription factors in mechanisms of developmental toxicity. *Workshop on Aquatic Models and 21st Century Toxicology: Leveraging Small Aquarium Fishes to Advance Understanding of Environmentally Influenced Human Disorders and Diseases*. May, 2014. Research Triangle Park, NC

Harbeitner R, **Timme-Laragy AR**, Hahn ME. Altered Responsiveness to Oxidative Stress in Killifish from a Superfund Site. *Florida Chapter of the American Fisheries Society Annual Conference*. Jan., 2011. Tampa, FL

Hahn ME, Karchner SI, Jenny MJ, Franks DG, Reitzel AM, **Timme-Laragy AR**, Aluru N, Nacci DE, Oleksiak MF. Gene-Environment Interactions and Dioxin Sensitivity in Natural and Laboratory Populations of Fish. *Society of Toxicology Annual Meeting*, Mar., 2011. Washington DC

Billiard, SM, **Timme-Laragy, AR**, Wassenberg, DM, Jung D, Di Giulio, RT. The role of the aryl hydrocarbon receptor pathway in developmental toxicity of polycyclic aromatic hydrocarbons to zebrafish. *Pollutant Responses in Marine Organisms (PRIMO) Conference*, June, 2005. Alessandria, Italy

Meyer, JN, **Timme-Laragy, AR**, Waterland R, Di Giulio RT. Analysis of CpG methylation in the promoter region of the CYP1A gene in *Fundulus Heteroclitus* from creosote-contaminated and reference sites. *Pollutant Responses In Marine Organisms (PRIMO) Conference*, May. 2003. Safety Harbor, FL

Conference Presentations- Posters

2020

Rastogi A, Jacobs HM, Islam ST, Severance EG, Conlin SM, Hahn ME, Timme-Laragy AR. Pancreatic Nrf2 expression and organ morphogenesis is altered by modulating glutathione in the developing zebrafish (*Danio rerio*) embryo. *Society of Toxicology 59th Annual Meeting* Mar. 2020. (cancelled due to COVID-19)

Award: 2nd place, Molecular & Systems Biology Specialty Section Graduate Research Award to A Rastogi

Award: Carl C. Smith Graduate Student Award 3rd place, Mechanisms Specialty Section, to A Rastogi

Award: Sheldon Murphy Travel award, Mechanisms Specialty Section to A Rastogi

Award: Association of Scientists of Indian Origin Society of Toxicology Graduate Student Abstract Award to A Rastogi

Clark CW, Annunziato KM, Rastogi A, Timme-Laragy AR. Assessing glutathione utilization and target organs of toxicity in a complex PFAS Mixture. *Society of Toxicology 59th Annual Meeting* Mar. 2020 (cancelled due to COVID-19)

Award: Pfizer Society of Toxicology Undergraduate Research Award to CW Clark

Severance EG, Rastogi A, Young MJ, Timme-Laragy AR. Glutathione depletion and Nrf2 activation underlie PFOS toxicity in human kidney cells. *Society of Toxicology 59th Annual Meeting* Mar. 2020. (cancelled due to COVID-19)

Award: Pfizer Society of Toxicology Undergraduate Research Award to EG Severance
Award: 1st place, Molecular & Systems Biology Specialty Section Undergraduate Research Award to EG Severance

Marin M, Annunziato KM, Lee J, Qi W, Barbagallo B, Park Y, Clark JM, **Timme-Laragy AR**. Developmental and nutritional impacts of maternal preconception exposure to PFOS. *Society of Toxicology 59th Annual Meeting* Mar. 2020. (cancelled due to COVID-19)

Aresco R, McVey C, Johnstone M, Symington S, **Timme-Laragy AR**, Barbagallo B. Preconception exposure to perfluorooctanesulfonic acid (PFOS) alters markers of metabolic disease in *Drosophila melanogaster*. *Society of Toxicology 59th Annual Meeting* Mar. 2020. (cancelled due to COVID-19)

Johnstone M, McVey C, Aresco R, Symington S, **Timme-Laragy AR**, Barbagallo B. Male-specific up-regulation of insulin-like peptides following preconception exposure to perfluorooctanesulfonic acid (PFOS) in *Drosophila melanogaster*. *Society of Toxicology 59th Annual Meeting* Mar. 2020. (cancelled due to COVID-19)

2019

Roy MA, Duche PR, Hornbuckle KC, **Timme-Laragy AR**. The sulfate metabolite of 3,3'-Dichlorobiphenyl (PCB-11) impairs Cyp1a activity and increases hepatic neutral lipids in zebrafish larvae (*Danio rerio*). *Society of Environmental Toxicology and Chemistry Annual Meeting* Nov. 2019. Toronto, Canada

Rastogi A, Jacobs HM, Severance EG, Conlin SM, Hahn ME, **Timme-Laragy AR**. Modulating Glutathione Thiol Status Impacts Nrf2 Expression and Pancreatic β -cell Morphogenesis in the Developing Zebrafish (*Danio rerio*) Embryo. *Northeast Society of Toxicology Annual Meeting* Oct. 2019. Boston, MA

Best student poster award to A. Rastogi

Timme-Laragy AR, Annunziato KM, Doherty J, Lee J, Clark JM. Developmental Toxicity and Chemical Characterization of a Legacy AFFF sample. *Gordon Research Conference on Cellular and Molecular Mechanisms of Toxicity*. Aug. 2019. Andover, NH

Rastogi A, Jacobs HM, Severance EG, Conlin SM, Hahn ME, **Timme-Laragy AR**. Modulating Glutathione Thiol Status Impacts Nrf2 Expression and Pancreatic β -cell Morphogenesis in the Developing Zebrafish (*Danio rerio*) Embryo. *Gordon Research Conference on Cellular and Molecular Mechanisms of Toxicity*. Aug. 2019. Andover, NH

Annunziato KM, Marin M, **Timme-Laragy AR**. Differential Sensitivities of Maternal Preconception PFBS Exposures in Nrf2a Wildtype and Mutant Zebrafish. *Gordon Research Conference on Cellular and Molecular Mechanisms of Toxicity*. Aug. 2019. Andover, NH

Marin M, Annunziato KM, **Timme-Laragy AR**. Maternal Preconception Exposure to PFBS Alters Growth of Offspring. *Gordon Research Conference on Cellular and Molecular Mechanisms of Toxicity*. Aug. 2019. Andover, NH

Roy MA, **Timme-Laragy AR**. Developmental hepatotoxicity of PCB-11 in combination with PCB-126 in zebrafish (*Danio rerio*) is dependent upon the window of exposure. *North Atlantic Chapter of the Society of Environmental Toxicology and Chemistry*. Apr. 2019. Boston, MA

Award: Best Graduate Student Poster award

Annunziato KM, Marin M, **Timme-Laragy AR**. Maternal Preconception Exposure to PFBS Alters Nutrition and Growth of Offspring. *North Atlantic Chapter of the Society of Environmental Toxicology and Chemistry*. Apr. 2019. Boston, MA

Rastogi AR, Clark C, Timme-Laragy AR. Mapping Glutathione Utilization in the Developing Zebrafish Embryo. *Society of Toxicology 58th Annual Meeting*. Mar. 2019. Baltimore, MD

Award: 2nd Place, Reproductive and Developmental Toxicology Graduate Student poster competition, *in vitro* category- A. Rastogi

Award: 3rd Place, Molecular & Systems Biology Graduate Research Award- A. Rastogi

Roy MA, Sant KE, Venezia OL, Timme-Laragy AR. The emerging contaminant 3,3' dichlorobiphenyl (PCB-11) impedes Ahr activation and Cyp1a activity to modify embryotoxicity of Ahr ligands in the zebrafish embryo model (*Danio rerio*). *Society of Toxicology 58th Annual Meeting*. Mar. 2019. Baltimore, MD

Annunziato KM, Marin M, Timme-Laragy AR. Maternal Preconception Exposure to PFBS Alters Nutrition and Growth of Offspring. *Society of Toxicology 58th Annual Meeting*. Mar. 2019. Baltimore, MD

Qi W, Clark JM, Timme-Laragy AR, Park Y. Perfluorobutanesulfonic Acid (PFBS) Promotes Fat Accumulation in HepG2 Hepatocytes. *Society of Toxicology 58th Annual Meeting*. Mar. 2019. Baltimore, MD

Venezia OL, Sant KE, Timme-Laragy AR. Modulation of Peroxisome Proliferator-Activated Receptors gamma (PPAR γ) signaling perturbs embryonic pancreas development in the zebrafish, *Danio Rerio*. *Society of Toxicology 58th Annual Meeting*. Mar. 2019. Baltimore, MD

Award: Pfizer Society of Toxicology Undergraduate Research Award- O. Venezia

Award: 2nd Place, Molecular & Systems Biology Undergraduate Research Award- O. Venezia

Islam SI, Jacobs HJ, Sinno PP, Severance ES, Timme-Laragy AR. Critical Windows of Redox Modulation for Pancreas Development and Embryo Survival. *Society of Toxicology 58th Annual Meeting*. Mar. 2019. Baltimore, MD

Moreau H*, Sant KE, Williams LM, Timme-Laragy AR. Role of Nrf2a in modulating MEHP-induced hepatosteatosis following embryonic exposure in *Danio rerio*. *Society of Toxicology 58th Annual Meeting*. Mar. 2019. Baltimore, MD. *Undergraduate summer student from the William's Lab at Bates College.

2018

Rastogi AR, Clark C, Timme-Laragy AR. Mapping Glutathione Utilization in the Developing Zebrafish Embryo. *Society of Redox Biology and Medicine*. Nov. 2018. Chicago, IL

Rastogi AR, Clark C, Timme-Laragy AR. Mapping Glutathione Utilization in the Developing Zebrafish Embryo. *Northeast Chapter of the Society of Toxicology Annual Meeting*. Oct. 2018. Shrewsbury, MA

Roy MA, Sant KE, Venezia OL, Timme-Laragy AR. The emerging contaminant 3,3' dichlorobiphenyl (PCB-11) impedes Ahr activation and Cyp1a activity to modify embryotoxicity of Ahr ligands in the zebrafish embryo model (*Danio rerio*). *Northeast Chapter of the Society of Toxicology Annual Meeting*. Oct. 2018. Shrewsbury, MA

Qi W, Clark JM, Timme-Laragy AR, Park Y. Perfluorobutanesulfonic Acid (PFBS) Promotes Fat Accumulation in HepG2 Hepatocytes. *Northeast Chapter of the Society of Toxicology Annual Meeting*. Oct. 2018. Shrewsbury, MA

Sant KE, Venezia OL, Sinno PP, Timme-Laragy AR. Embryonic exposure to perfluorobutanesulfonic acid (PFBS) impair growth and pancreatic organogenesis in the zebrafish, *Danio rerio*. *Teratology Society Annual Meeting*. June 2018. Clearwater Beach, FL

Sant KE, Venezia OL, Sinno PP, Timme-Laragy AR. Embryonic exposure to perfluorobutanesulfonic acid (PFBS) impair growth and pancreatic organogenesis in the zebrafish, *Danio rerio*. *Society of Toxicology 57th Annual Meeting*. Mar. 2018. San Antonio, TX

Qi W, Clark JM, Timme-Laragy AR, Park Y. Perfluorobutanesulfonic acid (PFBS) potentiates adipogenesis of 3T3-L1 adipocytes. *Society of Toxicology 57th Annual Meeting*. Mar. 2018. San Antonio, TX

2017

Rastogi AR, Clark CW, Wang F, Karasik Y, Timme-Laragy AR. FRET-based screen for cellular redox potential changes induced by toxicants. *Society of Redox Biology and Chemistry*. Nov./Dec. 2017, Baltimore, MD

Roy MA, Sant KE, Shipman A, McCormick SD, Timme-Laragy AR. Aquatic sampling of PCB-11 and embryotoxicity in zebrafish. *Society of Environmental Toxicology and Chemistry*. Nov. 2017, Minneapolis, MN

Jacobs HM, Xu J, Sant KE, Timme-Laragy AR. Redox modulation of endocrine pancreas growth and morphology during critical windows of development in the zebrafish (*Danio rerio*). *Northeast Chapter, Society of Toxicology Annual Meeting* Oct. 2017. Shrewsbury, MA

Sant KE, Venezia OL, Sinno PP, Timme-Laragy AR. Embryonic exposures to perfluorobutnesulfonic acid (PFBS) impair growth and pancreatic organogenesis in the zebrafish, *Danio rerio*. *Northeast Chapter, Society of Toxicology Annual Meeting* Oct. 2017. Shrewsbury, MA

Rastogi AR, Clark CW, Wang F, Karasik Y, Timme-Laragy AR. FRET-based screen for cellular redox potential changes induced by toxicants. *Northeast Chapter, Society of Toxicology Annual Meeting* Oct. 2017. Shrewsbury, MA

Sant KE, Venezia O, Chen P, Park Y, Timme-Laragy AR. Pancreas development and nutrient uptake and utilization are disrupted by embryonic exposures to the environmental toxicant perfluorooctanesulfonic acid in the zebrafish, *Danio rerio*. *Gordon Research Conference on Cellular and Molecular Mechanisms of Toxicity*. Aug. 2017. Andover, NH

Rastogi AR, Clark CW, Wang F, Karasik Y, Timme-Laragy AR. FRET-based screen for cellular redox potential changes induced by toxicants. *Gordon Research Conference on Cellular and Molecular Mechanisms of Toxicity*. Aug. 2017. Andover, NH

Timme-Laragy AR, Brown SE, Sant KE, Fleishman SM, Venezia O, Roy MA. Embryonic exposure to butylparaben affects pancreatic beta cell development in zebrafish (*Danio rerio*). *Gordon Research Conference on Cellular and Molecular Mechanisms of Toxicity*. Aug. 2017. Andover, NH

Sant KE, Park Y, Timme-Laragy AR. Pancreas development and nutrient uptake and utilization are disrupted by embryoni exposures to the environmental toxicant perfluorooctanesulfonic acid in the zebrafish. *Society of Environmental Toxicology and Chemistry, North Atlantic Chapter Annual Meeting*, Jun. 2017. Amherst, MA

Jacobs HM, Sant KE, Williams LM, Timme-Laragy AR. Embryonic exposure to mono (2-ethylhexyl)phthalate (MEHP) alters pancreatic organogenesis in zebrafish (*Danio rerio*). *Society of Environmental Toxicology and Chemistry, North Atlantic Chapter Annual Meeting*, Jun. 2017. Amherst, MA

Best First-time NAC Presenter Award to H. Jacobs

Roy MA, Timme-Laragy AR. N-Nitrosodiethylamine (NDEA) exposures to zebrafish (*Danio rerio*) embryos and its effects on endocrine pancreas development. *Society of Environmental Toxicology and Chemistry, North Atlantic Chapter Annual Meeting*, Jun. 2017. Amherst, MA

Borofski KA, Sant KE, Timme-Laragy AR. Redox Modulations Alter Development of the Exocrine Pancreas in the Zebrafish Embryo (*Danio rerio*). *23rd Annual Massachusetts Statewide Undergraduate Research Conference*, Apr. 2017. Amherst, MA

Sant KE, Jacobs HM, Borofski KA, Chen P, Park Y, Timme-Laragy AR. Pancreas development and nutrient uptake and utilization are disrupted by embryonic exposures to the environmental toxicant perfluorooctanesulfonic acid in the zebrafish, *Danio rerio*. The Federation of American Societies for Experimental Biology (FASEB) annual meeting on Nutrition, Apr. 2017. San Diego, CA

Sant KE, Jacobs HM, Sinno P, Karasik Y, Timme-Laragy AR. Nrf2 Modulates the Embryonic Redox Response to Subchronic Perfluorooctanesulfonic Acid Exposures in the Zebrafish, *Danio rerio*. *Society of Toxicology 56th Annual Meeting*, Mar. 2017. Baltimore, MD

Edward W. Carney Trainee Award to K. Sant

Borofski KA, Sant KE, Timme-Laragy AR. Redox Modulations Alter Development of the Exocrine Pancreas in the Zebrafish Embryo (*Danio rerio*). *Society of Toxicology 56th Annual Meeting*, Mar. 2017. Baltimore, MD

Pfizer Undergraduate Research Travel Award to K. Borofski

2016

Sant KE, Jacobs HM, Barofski K, Timme-Laragy AR. Perfluorooctanesulfonic Acid (PFOS) alters pancreatic organogenesis and embryonic redox signaling in the zebrafish (*Danio rerio*). *NIH-NIEHS 25 Years of Endocrine Disruption Research: Past Lessons and Future Directions Conference*. Sept. 2016. Bethesda, MD

Sant KE, Jacobs HM, Barofski K, Timme-Laragy AR. Perfluorooctanesulfonic Acid (PFOS) alters pancreatic organogenesis and embryonic redox signaling in the zebrafish. *Society of Environmental Toxicology and Chemistry, North Atlantic Chapter Annual Meeting*, Jun. 2016. Amherst, MA

Borofski KA, Sant KE, Timme-Laragy AR. Oxidative stress affects pancreas length and morphology in the zebrafish embryo (*Danio rerio*). *Society of Environmental Toxicology and Chemistry, North Atlantic Chapter Annual Meeting*, Jun. 2016. Amherst, MA

Borofski KA, Sant KE, Timme-Laragy AR. Perfluorooctanesulfonic Acid (PFOS) affects pancreas length and morphology in the zebrafish embryo (*Danio rerio*). *22nd Annual Massachusetts Statewide Undergraduate Research Conference*, Apr. 2016. Amherst, MA

Xu J, Timme-Laragy AR. Does Oxidative Stress Play a Role in Pancreatic Development in the Zebrafish Embryo Model? *22nd Annual Massachusetts Statewide Undergraduate Research Conference*, Apr. 2016. Amherst, MA

Sant KE, Jacobs HM, Barofski K, Timme-Laragy AR. Perfluorooctanesulfonic Acid (PFOS) alters pancreatic organogenesis and embryonic redox signaling in the zebrafish (*Danio rerio*). *Society of Toxicology 55th Annual Meeting*, Mar. 2016. New Orleans, LA

Poster Award- 1st place in the Reproductive and Developmental Toxicology Postdoctoral poster competition (to K. Sant)

Research Award- 1st place Gabriel L. Plaa Education Award, Mechanisms (to K. Sant)

Brown SE, Sant KE, Zhao L, Timme-Laragy AR. Butyl paraben affects pancreatic development in zebrafish (*Danio rerio*) embryos. *Society of Toxicology 55th Annual Meeting*, Mar. 2016. New Orleans, LA

Tran N, Williams LM, **Timme-Laragy AR.** Role of Nrf1 paralogs in regulating the transcriptional response to phthalates in zebrafish (*Danio rerio*). *Society of Toxicology 55th Annual Meeting*, Mar. 2016. New Orleans, LA

Pfizer Undergraduate Research Travel Award to N. Tran (Bates College)

Jacobs HM, Sant KE, Williams LM, Timme-Laragy AR. Mono-2-ethylhexyl phthalate (MEHP) alters embryonic growth and pancreatic organogenesis in zebrafish. *Society of Toxicology 55th Annual Meeting*, Mar. 2016. New Orleans, LA

Pfizer Undergraduate Research Travel Award to H.M. Jacobs

2015

Sant KE, Timme-Laragy AR. Does embryonic PFOS exposure alter pancreatic development? *Society of Redox Biology and Medicine Annual Meeting*, Nov. 2015. Boston, MA

Brown S, Melendez K, Timme-Laragy AR. Measuring tissue-specific glutathione utilization in the developing embryo. *Society of Redox Biology and Medicine Annual Meeting*, Nov. 2015. Boston, MA

Jacobs H, Sant K, Williams LM, Timme-Laragy AR. Mono-2-ethylhexyl Phthalate (MEHP) alters embryonic growth and pancreatic organogenesis in zebrafish. *Society of Redox Biology and Medicine Annual Meeting*, Nov. 2015. Boston, MA

Selected as one of two undergraduate poster presentations sponsored by the Strategic Alliances and Outreach committee of SFRBM

Sant KE, Timme-Laragy AR. Does embryonic PFOS exposure alter pancreatic development? *Society of Toxicology, Northeast Chapter Meeting*, Oct. 2015. Boston, MA

Poster award – 1st Place, Postdoctoral research competition (to K. Sant)

Brown S, Melendez K, Timme-Laragy AR. Measuring tissue-specific glutathione utilization in the developing embryo. *Society of Toxicology, Northeast Chapter Meeting*, Oct. 2015. Boston, MA

Poster award – 3rd Place, Graduate student research competition (to S. Brown)

Sant KE, Timme-Laragy AR. Does embryonic PFOS exposure alter pancreatic development? *Gordon Research Conference: Cellular and Molecular Mechanisms of Toxicity*, Aug. 2015. Andover, NH

Brown S, Melendez K, Timme-Laragy AR. Measuring tissue-specific glutathione utilization in the developing embryo. *Society of Environmental Toxicology and Chemistry, North Atlantic Chapter*. Jun. 2015. Freeport, ME

Rousseau ME, Hahn ME, Timme-Laragy AR. The Role of Nrf2a in the Transcriptional Response to PCB-126 in Zebrafish Embryos. *21st Annual Massachusetts Statewide Undergraduate Research Conference*, Apr. 2015. Amherst, MA

Brown S, Melendez K, Timme-Laragy AR. Measuring tissue-specific glutathione utilization in the developing embryo. *University of Massachusetts School of Public Health and Health Sciences Research Day*, Apr. 2015. Amherst, MA

Rousseau ME, Hahn ME, Timme-Laragy AR. The Role of Nrf2a in the Transcriptional Response to PCB-126 in Zebrafish Embryos. *Society of Toxicology 54th Annual Meeting*, Mar. 2015. San Diego, CA

2014

Rousseau ME, Borden L, Hahn ME, **Timme-Laragy AR**. The role of nrf2a in the transcriptional response to PCB-126 in zebrafish embryos. *North Atlantic Chapter of Society of Environmental Toxicology and Chemistry*, Jun. 2014. Amherst, MA

Rousseau ME, Borden L, **Timme-Laragy AR**. The role of nrf2a in the transcriptional response to PCB-126 in zebrafish embryos. *20th Annual Massachusetts Statewide Undergraduate Research Conference*, Apr. 2014. Amherst, MA

Hahn ME, Karchner SI, Franks DG, **Timme-Laragy AR**, McArthur AG. Chemical-Specific Oxidative Stress Response in Zebrafish Embryos. *Society of Toxicology 53rd Annual Meeting*, Mar. 2014. Phoenix, AZ

2013

Timme-Laragy AR, Karchner SI, Harbeitner RC, MacArthur AG, Hahn ME. Nrf2 gene regulation during oxidative stress in embryonic development *Gordon Research Conference on Cellular and Molecular Mechanisms of Toxicity*, Aug. 2013. Andover, NH

Karchner SI, Franks DG, **Timme-Laragy AR**, McArthur AG, Hahn ME. Chemical-specific oxidative stress response in zebrafish embryos. *Pollutant Responses In Marine Organisms (PRIMO) Conference*, May 2013. Faro, Portugal

Timme-Laragy AR, Karchner SI, Harbeitner RC, MacArthur AG, Hahn ME. Nrf2 Gene Regulation during Oxidative Stress in Embryonic Development. *Society of Toxicology 52nd Annual Meeting*, Mar. 2013. Austin, TX

Wincent E, Kubota A, **Timme-Laragy AR**, Hahn ME, Rannug A, Stegeman J. Biological Impact of a Dysfunctional CYP1/AhR Auto-Regulatory Feedback Loop. *Society of Toxicology 52nd Annual Meeting*, Mar. 2013; San Antonio TX

2012

Timme-Laragy AR, Harbeitner RC, Karchner SI, Hahn ME. Mechanisms of response to oxidative stress in fish embryos. *Superfund Research Program Annual Meeting*, Dec. 2012. Raleigh, NC

Timme-Laragy AR, Goldstone JV, Hansen JM, Stegeman JJ, Hahn ME. Glutathione dynamics and differential sensitivity to pro-oxidants during zebrafish development. *Society of Toxicology 51st Annual Meeting*, Mar. 2012, San Francisco, CA

Poster award – 1st Place, Society of Toxicology Reproductive and Developmental Toxicology Specialty Section Postdoctoral research competition.

Williams LM, **Timme-Laragy AR**, Franks DG, Jenny MJ, Hahn ME. Developmental expression of the Nfe2-related factor (Nrf) transcription factor family and regulation by Ahr2. *Society of Toxicology 51st Annual Meeting*, Mar. 2012, San Francisco, CA

2011

Jönsson M, Kubota A, **Timme-Laragy AR**, Woodin B, Stegeman J. AHR2-dependence of effects on the swimbladder in relation to CYP1 and COX-2 gene expression in PCB126-exposed developing zebrafish. *Centre for Reproductive Biology in Uppsala Workshop: Reproductive Disorders in Baltic Vertebrate Wildlife*, Dec. 2011. Uppsala, Sweden

Timme-Laragy AR, Goldstone JV, Hansen JM, Stegeman JJ, Hahn ME. Glutathione dynamics and differential sensitivity to pro-oxidants during zebrafish development. *Gordon Research Conference on Cellular and Molecular Mechanisms of Toxicity*, Aug. 2011, Andover, NH

Timme-Laragy AR, Karchner SI, Franks DG, Jenny MJ, Hahn ME. Nrf2b: a novel *nrf2* paralog in zebrafish. *Society of Toxicology 50th Annual Meeting*, Mar. 2011. Washington DC

Poster award - 1st Place, Society of Toxicology Molecular Biology Specialty Section,
Postdoctoral research award

2010

Jonsson M, Kubota A, **Timme-Laragy AR**, Woodin B, Stegeman J. Effects of PCB126 on the swim-bladder and expression of *cyp1* and *cox2* genes in developing zebrafish. *Cytochrome P450 Biodiversity and Biotechnology*, Dec. 2010. Woods Hole, MA

Timme-Laragy AR, Karchner SI, Franks DG, Jenny MJ, Hahn ME. Nrf2b: a novel *nrf2* paralog in zebrafish. *New England Membrane Enzyme Meeting (NUTMEG)*, Oct. 2010. Woods Hole, MA

2009

Timme-Laragy AR, Smith PJS, Hahn ME. A new approach to measure oxygen consumption in individual live zebrafish embryos. *New England Membrane Enzyme Meeting (NUTMEG)*. Oct. 2009. Woods Hole, MA

2008

Van Tiem L, **Timme-Laragy AR**, Di Giulio RT. NRF2 plays a protective role in response to pro-oxidant exposure of zebrafish embryos. *Society of Toxicology Annual Meeting*, Mar. 2008. Seattle, WA

Di Giulio RT, **Timme-Laragy AR**, Van Tiem L, Jung D. Is oxidative stress a significant factor in the synergistic developmental toxicity of model PAHs in zebrafish? *Society of Toxicology Annual Meeting*, Mar. 2008. Seattle, WA

2007

Timme-Laragy AR, Cockman CJ, Matson CW, Di Giulio RT. mRNA expression of aryl hydrocarbon receptor pathway members during polycyclic aromatic hydrocarbon synergistic developmental toxicity in zebrafish. *North Carolina Society Of Toxicology*. 2007. Research Triangle Park, NC.

Timme-Laragy AR, Cockman CJ, Matson CW, Di Giulio RT. mRNA expression of aryl hydrocarbon receptor pathway members during polycyclic aromatic hydrocarbon synergistic developmental toxicity in zebrafish. *Pollutant Responses in Marine Organisms (PRIMO) Conference*, Jun. 2007. Alessandria, Italy

Timme-Laragy AR, Cockman CJ, Matson CW, Di Giulio RT. Aryl hydrocarbon receptor regulated gene expression during synergistic developmental toxicity of polycyclic aromatic hydrocarbons in zebrafish (*Danio rerio*). *Society of Toxicology Annual Meeting*, Mar. 2007. Charlotte, NC

Matson CW, Fleming CR, **Timme-Laragy AR**, Jung D, Battle LP, Di Giulio RT. Developmental and molecular interactions between the hypoxia and aryl hydrocarbon receptor (AHR) pathways in zebrafish. *Society of Toxicology Annual Meeting*, Mar. 2007. Charlotte, NC

2006

Timme-Laragy AR, Billiard SM, Wassenberg DM, Cockman CJ, Jung D, Linney E, Di Giulio RT. Mechanisms of interactive developmental toxicity of polycyclic aromatic hydrocarbons in zebrafish (*Danio rerio*). *Superfund Basic Research Program Annual Meeting*, Dec. 2006. New York, NY

Timme-Laragy AR, Cockman CJ, Matwon CW, Di Giulio RT. Aryl hydrocarbon receptor regulated gene expression during synergistic developmental toxicity of polycyclic aromatic hydrocarbons in zebrafish. *Society of Environmental Toxicology and Chemistry*, Nov. 2006, Montreal, Canada

Timme-Laragy AR, Billiard SM, Wassenberg DM, Cockman CJ, Jung D, Linney E, Di Giulio RT. Mechanisms of interactive developmental toxicity of polycyclic aromatic hydrocarbons in zebrafish (*Danio rerio*). *North Carolina Society Of Toxicology*. 2006. Research Triangle Park, NC

* **Poster Award** – 1st Place

Timme-Laragy AR, Billiard SM, Wassenberg DM, Cockman CJ, Linney E, Di Giulio RT. Mechanisms of interactive developmental toxicity of polycyclic aromatic hydrocarbons in zebrafish (*Danio rerio*). *U.S.EPA Science To Achieve Results (STAR) Graduate Fellowship Conference*, 2006. Washington DC
* **Poster Award** - 1st Place, Best Student Poster Presentation

Di Giulio RT, Billiard SM, **Timme-Laragy AR**, Wassenberg DM, Cockman CJ, Linney E. Role of the aryl hydrocarbon receptor pathway in the synergistic developmental toxicity of polycyclic aromatic hydrocarbons in zebrafish. *Society of Toxicology Annual Meeting*, Mar. 2006. San Diego, CA

2005

Timme-Laragy AR, Billiard SM, Wassenberg DM, Cockman CJ, Jung D, Linney E, Di Giulio RT. Mechanisms of interactive developmental toxicity of polycyclic aromatic hydrocarbons in zebrafish (*Danio rerio*). *Society of Environmental Toxicology and Chemistry*, Nov. 2005. Baltimore, MD
* **Poster Award** - 2nd Place, Best Student Poster Presentation

Billiard, SM, **Timme-Laragy, AR**, Wassenberg, DM, Linney, E, Di Giulio, RT. The role of the aryl hydrocarbon receptor pathway in developmental toxicity of polycyclic aromatic hydrocarbons to zebrafish. *Carolina Society of Environmental Toxicology and Chemistry*, Apr. 2005. Raleigh, NC

2004

Timme-Laragy, AR, Levin, ED, Di Giulio, RT. The developmental and behavioral effects of embryonic exposure to DE-71 in *Fundulus heteroclitus*. *Society of Environmental Toxicology and Chemistry*, Nov. 2004. Portland, OR

Timme-Laragy, AR, Meyer, JN, Wassenberg, D, Waterland, RA, Karchner, SI, Hahn, ME, Di Giulio, RT. Analysis of CpG methylation in the promoter region of the CYP1A gene in *Fundulus Heteroclitus* from creosote-contaminated and reference sites. *North Carolina Society Of Toxicology*. Mar. 2004. Research Triangle Park, NC

2003

Timme-Laragy, AR, Meyer, JN, Wassenberg, D, Waterland, RA, Karchner, SI, Hahn, ME, Di Giulio, RT. Analysis of CpG methylation in the promoter region of the CYP1A gene in *Fundulus Heteroclitus* from creosote-contaminated and reference sites." *Society of Environmental Toxicology And Chemistry*, Nov. 2003. Austin, TX

Invited Seminars- Extramural

The wrong place at the wrong time: redox stress in the developing embryo. University of New Mexico, Sept. 25, 2020 (virtual seminar)

Brigham Young University, Mar. 25, 2020. Provo, UT (postponed due to COVID-19)

The developing pancreas is a sensitive target organ of toxicant exposures and oxidative stress. Texas A&M University, Oct. 21, 2019. College Station, TX

The developing pancreas is a sensitive target organ of toxicant exposures and oxidative stress. Brown University, Sept. 25, 2019. Providence, RI

Oxidative stress in developmental toxicology. University of New England, Sept.13, 2019. Biddeford, ME

The developing pancreas is a sensitive target organ of toxicant exposures and oxidative stress. University of North Carolina, Nov. 5, 2018. Chapel Hill, NC

Redox perturbations of pancreas development. University of Connecticut, Toxicology Scholars Colloquium, May 14, 2018. Storrs, CT

Can exposure to environmental contaminants cause congenital pancreas malformations? University of Massachusetts Medical School, Endocrine Grand Rounds, January 22, 2018. Worcester, MA

Understanding the oxidative stress response during embryonic development: Implications for the pancreas and metabolic health, Duke University, Integrated Toxicology and Environmental Health Program, Sept. 30, 2016. Durham, NC

Understanding the oxidative stress response during embryonic development: implications for the pancreas and metabolic health, Rutgers University, Environmental and Occupational Health Sciences Institute, Feb. 4, 2016. Piscataway, NJ

Understanding the Oxidative Stress Response during Embryonic Development, U.S. Coast Guard Academy. Apr. 23, 2015. Groton, CT

*Sponsored by the Society of Toxicology ToxScholar Outreach Grant.

Nrf2 and the oxidative stress response during embryonic development, University of Rochester Medical Center. Apr. 12, 2012. Rochester, NY

Nrf2 and the regulation of the oxidative stress response during embryonic development, University of Massachusetts Amherst, School of Public Health and Health Sciences. Feb. 17, 2012. Amherst, MA

Glutathione redox dynamics in the developing zebrafish, Woods Hole Toxicology Round Table, Aug. 5, 2011. Woods Hole, MA

Nrf2b, a novel paralog of the antioxidant response element transcription factor in zebrafish. Duke University, Integrated Toxicology and Environmental Health seminar. Apr. 8, 2011. Durham, NC

Invited Seminars- Intramural

Redox stress in the embryo: why it matters. University of Massachusetts Environmental Health Sciences Departmental Seminar. Oct. 14, 2020. (virtual seminar)

Revising for Success: How to move from an unfunded to a funded project. Center for Community Health Equity Research, New Investigator Seminar Series. March 4, 2020. Amherst, MA

Developmental origins of metabolic dysfunction- a (fish) tale of oxidative stress and the pancreas. University of Massachusetts Amherst, School of Public Health and Health Sciences, Work In Progress seminar series. February 11, 2019. Amherst, MA

Off to a bad start- early life programming of adult metabolic dysfunction. University of Massachusetts Biotechnology Training Program Biotech-theses seminar series, presented along with Dr. Alexander Suvorov. Nov. 1, 2018. Amherst, MA

Redox perturbations of pancreas development. University of Massachusetts Veterinary and Animal Sciences Seminar Series, March 21, 2018. Amherst, MA

Understanding the embryonic response to oxidative stress: Implications for the pancreas and metabolic health. University of Massachusetts Molecular Cell Biology Graduate Program Colloquium, Nov. 7, 2016. Amherst, MA

Understanding the embryonic response to oxidative stress: Implications for the pancreas and metabolic health. University of Massachusetts Environmental Health Sciences Departmental Seminar, Oct. 31, 2016. Amherst, MA

How do embryos respond to oxidative stress and what are the consequences? University of Massachusetts Junior Fellows in Life Sciences, Feb. 2015. Amherst, MA

Introduction to the National Institute on Aging- Lessons from the Butler-Williams Summer Institute. University of Massachusetts School of Nursing. Oct. 30, 2014. Amherst, MA

Nrf2 and the oxidative stress response during embryonic development. University of Massachusetts Fish and Friends Nov. 2013. Amherst, MA

Mechanisms affecting pollutant toxicity in the developing zebrafish. Woods Hole Oceanographic Institution, Biology Department seminar. Apr. 16, 2009. Woods Hole, MA

Pollutants and embryotoxicity in the zebrafish model. Woods Hole Oceanographic Institution Postdoctoral Retreat. Oct. 2008. Woods Hole, MA

Mechanisms underlying synergistic developmental toxicity of PAHs in zebrafish. Duke University, Integrated Toxicology and Environmental Health Program Seminar Series. Apr. 20, 2007. Durham, NC

MENTORING & TEACHING

Teaching

University of Massachusetts Amherst

Courses developed and taught

EHS 588: Developmental Origins of Disease, Spring 2013, Fall 2013, 2014, 2016, 2018, 2019
3-credits, designed for graduate and upper level undergraduate students

PHS 433: Ecotoxicology and Public Health, Spring 2014, 2015, 2016
3-credits, designed for senior undergraduate students

PHS 390AT: Introduction to Toxicology, Fall 2017
3-credits, designed for undergraduates

Independent study in toxicology (1-3 credits; 4 students in 2017, 1 in 2016, 1 in 2013)

Independent study in laboratory-based research projects (3 credits, 1-6 students per semester)

EHS 704: Journal Club in Environmental Health Science, Fall 2020, Spring 2021

EHS 727/PH427: Seminars in Environmental Health Science, Fa 2017, Sp 2018, Sp 2021

Thesis/Qualification Exam Committees:

Ph.D.

Chair of Ph.D. Thesis Committee

Archit Rastogi (Molecular & Cellular Biology, Ph.D. 2020)

Monika Roy (Environmental Health Sciences, Ph.D. expected 2021)

Member of Ph.D. Thesis Committee

Kate Crawford (School of Public Health, Boston University, Ph.D. 2018)

Ira Male (Molecular & Cellular Biology, Ph.D. 2020)

Yiren Yue (Food Science, Ph.D. 2020)

Michael Mingroni (Chemistry, Ph.D. expected 2021)

Chair of Ph.D. Qualification Exam

Oladele Oluwayiose (Environmental Health Sciences, 2020)

Justyne Ogdahl (Molecular & Cellular Biology, 2020)

Member of Ph.D. Qualification Exam

Jake Schnabl (Molecular & Cellular Biology, 2015)

Haotian Wu (Environmental Health Science, 2016)

M.S.

Chair of M.S. Thesis Committee

Sarah Brown (Environmental Health Science, M.S. 2016)
Haydee Jacobs (Environmental Health Science, M.S. 2018)
Emily Severance (Molecular and Cellular Biology, M.S. expected 2021)

Member of M.S. Thesis Committee

Corinne Hill (Environmental Health Science, M.S. 2015)
Alyssa Lutservitz (Neuroscience & Behavior, M.S. 2016)
Sridurgadevi Kolla (Environmental Health Science, M.S. 2018)
Gabriel El Sebae (Molecular & Cellular Biology, M.S. 2018)
Stephanie Hung (Environmental Health Science, M.S. 2018)
Aastha Pokharel (Environmental Health Science, M.S. 2020)

Undergraduate Honors Thesis

Chair of Undergraduate Honors Thesis Committee

Derek Luthi (Public Health, 2015)
Jiali Xu (Biochemistry, 2016)
Katrina Borofski (Public Health, 2017)
Paul Sinno (Biochemistry, 2018)
Olivia Venezia (Public Health, 2019)
Sadia Islam (Biochemistry, 2019)
Michael Young (Biochemistry, 2019)
Christopher Clark (Environmental Science, 2020)
Emily Severance (Biochemistry, 2020)
Emily Formato (Biology, expected 2021)
Thomas Giannasca (Biochemistry, expected 2021)

Member of Undergraduate Honors Thesis Committee

Alyssa Lutservitz (Biology, 2015)

Honors:

2016- Nominated for the Distinguished Teacher Award, a UMASS campus-wide distinction.
2016 -Innovation Fellow (Selected to participate in the Innovation Symposium to explore new technologies to engage students in the classroom).

Woods Hole Oceanographic Institution

Professional non-credit short course on topics in Oceanography for BP executives, 2011.

Presented lecture Introduction to Marine Toxicology

Guest lectures

UMASS Innovate@Symposium, The use of Instagram in the toxicology classroom, Jan. 2018
Toxicology, U.S. Coast Guard Academy, 2015
BIO 103 (Human Biology) Rhode Island College, 2012

Mentoring:

National Research Mentor Training completed January 2020

Current Trainees & Accomplishments, University of Massachusetts Amherst:

Didem Oral, Ph.D. (2021- present); Visiting postdoctoral fellow from Turkey
Emily Marques, Ph.D. (2020- present); Postdoc, Environmental Health Sciences, School of Public Health and Health Sciences

Monika Roy (2016- present); Ph.D. graduate student, Environmental Health Sciences, School of Public Health and Health Sciences. Project: Toxicity of PCB-11 in zebrafish

Fellowship: NIH NRSA F31ES030975 Predoctoral fellowship (2019-22).

Title: Investigating the hepatic toxicity of 3,3'-dichlorobiphenyl (PCB-11) in zebrafish (*Danio rerio*)

Fellowship: Biotechnology Training Grant, T32 fellowship (2017-19)

Award: UMASS Center for Research on Families Grad Student Travel Award (2017)

Award: Corinne A. Johnson Memorial Scholarship Award (2017)

Award: Stewart Fellowship (2017)

Award: UMASS 3-minute thesis presentation contest, 1st place (2018)

Award: Northeastern Regional 3-minute thesis presentation contest, 3rd place (2018)

Award: NAC SETAC best graduate student platform presentation (2018)

Service: Student rep. to NAC SETAC (2017- 2020)

Award: Ronald G. Thurman Mechanisms Specialty Section Student Travel Award to attend the SOT Annual Meeting (2019)

Award: UMASS SPHHS Research Day, 2nd place poster competition (2019)

Award: NAC SETAC best graduate student poster presentation (2019)

Award: SOT GIFT Award to support a summer internship in Industry (2019)

Award: Graduate Student Travel Award to SOT (2020)

Award: 1st place recipient of the Vera W. Hudson and Elizabeth K. Weisburger Scholarship Fund Student Award from the Women in Toxicology Special Interest Group of SOT (2020)

Award: 2nd place NESOT Student Travel Award to attend SOT (2020)

Award: Sheldon Murphy Travel award, Mechanisms Specialty Section, Society of Toxicology (2020)

Marjorie Marin (2018- present); Ph.D. graduate student, Environmental Health Sciences, School of Public Health and Health Sciences.

Scholarship: Mt. Desert Island Microscopy course (2019)

Fellowship: Biotechnology Training Program Grant, T32 (2021)

Madeline Tompach (2020- present), Molecular and Cellular Biology Ph.D. Graduate Program

Fellowship: Biotechnology Training Program Grant, T32 (2021-22)

Emily Severance (2017- 2020) undergraduate Biochemistry, College of Natural Sciences, Commonwealth Honors College; (2020-21) M.S. Molecular & Cellular Biology Program.

Grants: Commonwealth Honors College Research Grant (Fa 2019, Sp 2020)

Award: Pfizer Society of Toxicology Undergraduate Research Award (2020)

Award: 1st place, Molecular & Systems Biology Specialty Section Undergraduate Research Award, Society of Toxicology (2020)

Honors thesis: PFOS Induced Redox Toxicity in Kidney & Pancreatic β -Cells (2020)

Emily Formato (2018- present), undergraduate, Biology, College of Natural Sciences, Commonwealth Honors College.

Honors thesis: TBD (2021)

Grants: Commonwealth Honors College Research Grant (Fa 2020)

Thomas Giannasca (2019- present), undergraduate, College of Natural Sciences, Commonwealth Honors College.

Honors thesis: Maternal PFOS, PFHxS, and PFBS exposures impact ovarian transporter expression driving alterations observed in maternal transfer of nutrients in embryos (2021)

Grants: Commonwealth Honors College Research Grant (Fa 2020)

Fatima Zahoor (2018- present), undergraduate, College of Natural Sciences.

Malina Nguyen (2018- present), undergraduate, College of Natural Sciences.

Fellowship: Commonwealth Honors College Research Fellowship (Fa 2020)

Kristina Borys (2019- present), undergraduate, College of Natural Sciences.

Charlotte Gridley (2020- present), undergraduate, Environmental Science, College of Natural Sciences, Commonwealth Honors College

Paige Arsenault (2020- present), undergraduate, Vet. & Animal Sciences, College of Natural Sciences, Commonwealth Honors College

Isabella Boyack (2020- present), undergraduate, Biochemistry, College of Natural Sciences, Commonwealth Honors College

Emily Leonard (2020- present), undergraduate, Public Health/Psychology, School of Public Health and Health Sciences, College of Natural Sciences, Commonwealth Honors College

Donasia Flintroy (2020- present), undergraduate, Springfield Tech. Comm. Coll. Upward Bound/Western MA Diversity Initiative Mentoring program

Previous trainees, University of Massachusetts Amherst:

Kate Annunziato (2018- 2020); Postdoc. Project: Preconception exposures to PFOS and PFBS and later-life effects on metabolic health.

Service: Postdoc rep. to NESOT

Current position: Investigative Toxicologist, ViiV Discovery, Branford, CT

Archit Rastogi (2016- 20); Ph.D., Molecular & Cellular Biology Graduate Program. Dissertation: Redox Signaling in the zebrafish embryo and implications for endocrine pancreas morphogenesis.

Service: SFRBM Trainee Council representative (2017-19); Chair (2019-20)

Award: 1st Place, NESOT Student Travel Award to attend SOT (2019)

Award: Sheldon D. Murphy Mechanisms Specialty Section Student Travel Endowment Award to attend the SOT Annual Meeting (2019)

Award: Molecular & Systems Biology Specialty Section Graduate Research Award 3rd place, Society of Toxicology (2019)

Award: 2nd place graduate student poster competition, Reproductive & Developmental Toxicology Specialty Section, *In vitro* category, Society of Toxicology (2019)

Award: Graduate Student Poster Award, NE SOT Annual Meeting (2019)

Award: Graduate Student Travel Award to SOT (2020)

Award: SfRBM Irwin Fridowich Young Investigator Award (2019)

Award: 2nd place, Molecular & Systems Biology Specialty Section Graduate Research Award, Society of Toxicology (2020)

Award: Carl C. Smith Graduate Student Award 3rd place, Mechanisms Specialty Section, Society of Toxicology (2020)

Award: Sheldon Murphy Travel award, Mechanisms Specialty Section, Society of Toxicology (2020)

Award: Association of Scientists of Indian Origin Society of Toxicology Graduate Student Abstract Award (2020)

Current position: Toxicologist, Gradient, Boston, MA

Christopher Clark (2017- 2020), undergraduate, College of Natural Sciences. STEM AP program.

Project: Analytic measures of glutathione utilization in live zebrafish embryos.

Grants: Commonwealth Honors College Research Grant (Fa 2019, Sp 2020)

Award: Pfizer Society of Toxicology Undergraduate Research Award (2020)

Award: University of Massachusetts 21st Century Leaders Award (given to 10 members of the graduating class for outstanding leadership)

Honors Thesis: Assessing glutathione utilization and target organs of toxicity in a complex PFAS Mixture

Current position: University of Michigan, Environmental Health Sciences M.S. program

Perseverance Duche (2017- 2019), undergraduate, School of Public Health and Health Sciences.

Project: Lipid staining of zebrafish embryos.

Olivia Venezia (2015- 2019), undergraduate, College of Natural Sciences, Commonwealth Honors College. Project: Role of Nrf2 and PPAR modulation in islet development

Fellowship: Commonwealth Honors College Research Fellowship (2017)

Honors thesis

Grants: Commonwealth Honors College Research Grant (Sp 2019)

Award: Pfizer Society of Toxicology Undergraduate Research Award (2019)

Award: Molecular & Systems Biology Specialty Section Undergraduate Research Award 2nd Place, Society of Toxicology (2019)

Award: UMASS Rising Researcher (2019)

Current position: Research Technician, Harvard University. Applying to Ph.D. programs (fall, 2020)

Sadia Islam (2015- 2019), undergraduate, College of Natural Sciences. Project: Developmental windows of oxidative stress in zebrafish and PPAR crosstalk.

Honors thesis

Grants: Commonwealth Honors College Research Grant (Sp 2019)

Award: Undergraduate Diversity Program Travel Award, Society of Toxicology, March 2019

Current position: Graduate Student- Ph.D. track, University of Delaware

Michael Young (2018- 2019), undergraduate, College of Natural Sciences. Project: cell culture approaches to measure toxicant-induced oxidative stress.

Grants: Commonwealth Honors College Research Grant (Fa 2018, Sp 2019)

Honors thesis

Current position: Research Technician, The Broad Institute, MIT. Applying to Ph.D. programs (fall, 2020)

Breannarose Lamb (2017- 2019), undergraduate, College of Natural Sciences. Project: Lipid staining of larval fish embryos.

Fellowship: Commonwealth Honors College Research Fellowship (Sp 2018, Fa 2018, Sp 2019)

Dr. Karilyn Sant (2015-2018), postdoctoral trainee. Project: Mechanisms and consequences of PFOS toxicity in the embryo, and the role of PPARs in pancreas development and toxicity.

Fellowship: NIH F32 NRSA Postdoctoral fellowship (2017-2018)

Award: Women In Toxicology Postdoctoral Achievement Award (2018)

Award: Edward E. Carney Award, Reproductive and Developmental Toxicology Specialty Section, Society of Toxicology (2017)

Award: Gabriel L. Plaa Education Award, Mechanisms Specialty Section, Society of Toxicology (2016)

Award: 1ST Place in the Postdoctoral Research Competition, Reproductive and Developmental Toxicology Specialty Section, Society of Toxicology (2016)

Award: 1st Place in the Postdoctoral Research Competition, Northeast Chapter of the Society of Toxicology (2015)

Service: Postdoctoral rep. to SOT MSBSS (2017) Junior Counsilor MSBSS (2018), Co-Chair GRS Cell & Mol Mech. Tox. 2017

Current Position: Assistant Professor, Division of Environmental Health, School of Public Health, San Diego State University (Aug. 2018-)

Haydee Jacobs (2015- 2018), undergraduate/M.S. student, School of Public Health and Health Sciences. Project: MEHP toxicity and the developing pancreas.

Award: Delta Omega Honor Society's abstract award at UMASS SPHHS Research Day for her poster: "Redox modulation of endocrine pancreas growth and morphology during critical windows of development in the Zebrafish."

Award: Best First-time Presenter Award, NAC SETAC (2017)

Award: Pfizer Society of Toxicology undergraduate research award (2016)

Award: University of Massachusetts "Rising Researcher" (2016)

Award: Society of Redox Biology and Medicine undergrad. outreach recipient (2015)

Current position: Research Technician, toxicology

Hadley Moreau (summer 2018), undergraduate guest researcher from Bates College. Project: role of Nrf2a in MEHP toxicity in zebrafish embryos.

Paul Sinno (2015- 2018) undergraduate Biochemistry, College of Natural Sciences, Commonwealth Honors College

Grants: Commonwealth Honors College Research Grant (Fa 2018)

Honors thesis: Exocrine pancreatic development in response to redox modulation in zebrafish (*Danio rerio*) (2018)

Yankel Karasik (2015- 18), undergraduate, College of Natural Sciences. Project: Morphometric analyses of the exocrine pancreas.

Felicia Wang (2015- 18), undergraduate, College of Natural Sciences. Project: Butylparaben toxicity and oxidative stress.

Fellowship: Commonwealth Honors College Research Fellowship (Sp 2017, Fa 2017, Sp 2018)

David Nava (Summer 2017), undergraduate guest researcher from UC Berkeley. Project: glucose mimetics and pancreas development

Alix Shipman (2016-17), Masters of Public Health student, School of Public Health and Health Sciences. Project: Embryotoxicity of PCB-11

Aviraj Basnet (2015-17), undergraduate, College of Natural Sciences. Project: Effect of MEHP on alpha-cell development in the pancreas.

Katrina Borofski (2014- 17): Role of oxidative stress in exocrine pancreas development.

Award: Pfizer SOT Travel Award (2017)

Award: William F. Field Alumni Scholars Award (2016).

Grants: Commonwealth Honors College Research Grant (2015, 2016)

Honors thesis

Sarah Brown (2014-16), Masters of Science student, School of Public Health and Health Sciences. Projects: Impact of butylparaben on the developing pancreas.

Award: 3rd place, Graduate Student Research Competition, Northeast Chapter of the Society of Toxicology (2015)

Current position: Environmental Health Scientist at Cardno Chemrisk

Jiali Xu (2014 – 16), undergraduate, College of Natural Sciences. Project: Role of oxidative stress in endocrine pancreas development.

Grants: Commonwealth Honors College Research Grant (2015)

Honors thesis

Shana Fleishman (2014- 16), undergraduate, College of Natural Sciences. Project: Optimization of zebrafish embryo imaging and morphometrics.

Michelle Rousseau (2013-15), undergraduate, Commonwealth Honors College and College of Natural Sciences. Project: Does Nrf2 play a role in PCB embryotoxicity?

Grants: Commonwealth Honors College research grant (2014, 2015).

Derek Luthi (2014-15), Commonwealth Honors College and School of Public Health and Health Sciences. Project: The role of Nrf2a in zebrafish fin regeneration.

Honors thesis

Marjorie Marin (summer 2014), undergraduate, Universidad de Florianopolis, Brazil. Project: Oxidative preconditioning and Nrf2 in the zebrafish fin wound healing.

Karen Melendez (2013-14, LSAMP), undergraduate, College of Natural Sciences. Project: In vivo measures of glutathione use in the embryo.

Linnea Borden (2013), undergraduate, School of Public Health and Health Sciences. Project: Crosstalk between the Ahr and Nrf2 pathways during embryonic development.

Former UMASS undergraduate students, lab training (not project focused)

Sonia Filipczak (Public Health, 2013-14)
Christopher Sparages (Engineering, 2014-16)
Kaylee-Anna Williams (Biology, LSAMP program, 2014-15)
Gabriella McClellan (Biology, LSAMP program 2014-15)
Julia Bergh (Environmental Science, 2015)
Johnny Dray (Biology, 2015)
Leah Woldergeosis (postbac SPUR/PREP, 2016)
Aiden Smith (STEM AP, 2019)
Griffin Seidel (Biology, 2019)
Tanzima Toma (postbac, 2019)
Sofia Marszalek-Baldyga (Biology, 2019- 2020)
Joseph Swanson (Biology, 2019-20)

Previous mentoring experience

Duke University masters student (Crystal Cockman, 2005-6), WHOI summer undergraduate fellow (Rachel Harbeitner, 2010), WHOI research technician (Rachel Harbeitner, 2011). Also trained WHOI visiting scientists, graduate students at Duke University and University of Rochester, and 3 Howard Hughes high school summer students.

SERVICE

Advisory Boards

2017- present Belchertown School System STEM Advisory Board

2014-present Scientific Advisory Board for the EPA Narragansett Bay Watershed Estuary program

Grant Review

National Institutes of Health

SIEE Review Panel (ad hoc June 2015, June 2018, June 2019)

NIEHS Center: Exposures, Diseases, Genomics and Environment (Mar. 2018).

Nutrition (ad hoc Oct. 2019)

Cancer Etiology Panel (ad hoc Oct. 2018, Feb. 2020; **standing member** Jul 2020-24, Alternate Chair Oct. 2020)

ZRG1 DKUS (April 2020)

National Academy of Sciences, GULF Research Program (Sept. 2017)

NC Center for Human Health and the Environment (Nov. 2016)

National Science Foundation (IOS, 2014, 2015)

National Science Foundation Postdoctoral Fellowship grant review panel (2015)

Wellcome Trust/DBT India Alliance (2015)

Michigan Diabetes Research Center (2014)

NOAA Wisconsin Sea Grant (2013)

Editorial Service

Ad hoc reviewer for:

Animal Reproduction Science

Antioxidants and Redox Signaling

Annals of the New York Academy of Sciences

Aquatic Toxicology

Biochemical Journal

Chemico-Biological Interactions

Environmental Toxicology and Pharmacology

FASEB

Fish Physiology and Biochemistry

Free Radical Biology & Medicine

Gene

International Journal of Molecular Sciences

Chemical Research in Toxicology

Journal of Nutritional Biochemistry
Journal of Pharmacological and Toxicological
Methods

Chemosphere

Neurotoxicology & Teratology

Comparative Biochemistry and Physiology Part C

Pesticide Biochemistry and Physiology

Dose Response

PLoS ONE

Redox Biology

Endocrine Disruptors

Science of the Total Environment

Environmental Health Perspectives

Soil and Sediment Contamination

Environmental Pollution

Toxicology and Applied Pharmacology

Environmental Science & Technology

Toxicological Sciences

Environmental Science & Technology Letters

Toxicology Letters

Zebrafish

Society Memberships and Activities

- 2009- Society of Toxicology (Full Member 2013- present)
Membership in Northeast SOT Chapter, Women in Toxicology, Mechanisms, Reproductive and Developmental Toxicology, and Molecular and Systems Biology specialty sections
2020 Mentor Match (virtual meeting)
2019-2023 Annual meeting Scientific Program Committee
2019 (2020 cancelled) Annual Meeting Session Organizer and Co-Chair
2019 Molecular & Systems Biology Paper of the Year Selection Committee
2018, 2019, (2020 virtual) Graduate Student Mentoring Event
2018, 2019 SOT *In Vitro* Luncheon table host
2017- 2019 Undergraduate Education Subcommittee Member
2017, 2018 Poster judge (Reproductive and Developmental Toxicology)
2012, 2018 Molecular & Systems Biology Specialty Section Postdoc Award Selection Committee
- 2011 Society of Redox Biology & Medicine
2015- Women in Science Committee
2019- Undergraduate Program Committee; Grad School Information Session
- 2003-8; 2014- Society of Environmental Toxicology and Chemistry
2016-19 N. Atlantic Chapter Board of Directors
- 2014-15 Endocrine Society
- 2007- 14 AAAS

Gordon Research Conference on Cellular and Molecular Mechanisms of Toxicity

2019- Session Chair

2017- Panel Member, "Power Hour" on Women in STEM

Superfund Research Program Annual Meetings

30th Anniversary Conference, 2017

Trainee Mentoring Networking Event

Poster competition judge

25th Anniversary Conference, 2012

Steering Committee

Session moderator “ Interdisciplinary Collaborations”
Symposium panelist “Novel Interdisciplinary Approaches to Complex Exposures.”
20th Anniversary Conference, 2007 (Poster competition judge).
Superfund Research Program Strategic Plan- reviewer (2020)

Outreach/Diversity/Inclusion Activities

Eureka! Girls’ Inc., Holyoke, MA. 2015. Organized and led a developmental toxicology workshop for teenage girls.
LSAMP program mentor (2013, 2014, 2015)
SPUR/PREP program mentor (2016)
Laboratory tours to 11th grade students from the Paulo Freire Social Justice Charter School in Holyoke, MA (2017)
STEM Ambassadors Program mentor (2017-)
GRE-Alternatives Workshop Participant (2017)
Belchertown Public School 2nd grade outreach activity (2018, 2020)- hosted 35-44 students at UMASS for a 30 minute activity on zebrafish development.
Chestnut Hill Community School STEM night activity booth (2019, 2020 cancelled due to COVID-19)
Four Rivers Middle School- hosted 40-50 7th graders on campus for hour long zebrafish workshops (2019. 2020)
Upward Bound- mentor (summer 2020)

Science Communication/Press

Social Media

Twitter: @fishytox

Instagram: fishytox

YouTube clip: <https://www.youtube.com/watch?v=Bbdszd6jeUw&feature=youtu.be>

Press

-News article: <http://www.diabetes.co.uk/news/2016/aug/scientists-to-study-if-early-pollutants-exposure-could-predispose-people-to-diabetes-96306184.html>

- News article:
<http://www.news-medical.net/news/20160809/Scientist-receives-2417-million-grant-to-study-how-early-life-toxic-exposures-predispose-to-diabetes.aspx>

-Interview given 11/6/17 to Northeast Public Radio, Allison Dunne; aired on “Midday Magazine: on 11/30/17. Topic: toxicity of perfluorinated pollutants

<http://wamc.org/post/umass-amherst-scientist-receives-grant-study-health-effects-pfos-pfbs>

Interview with News 10 on PFAS, Oct. 17, 2019

Outreach

PFAS toxicity education

Beacon Hill, MA State Legislators, June 2019

Lab Tours for a MA State Representative, July 2019

<https://www.umass.edu/newsoffice/article/timme-laragy-colleagues-host-visit-state>

“PFAS with UMASS” Community meeting, Westfield, MA, Oct. 17, 2019

<https://thewestfieldnews.com/umass-scientists-talk-about-pfas-in-panel/>

“PFAS 101” for elected officials in MA. Attended by staffers from MA Congressional offices and by several MA State Senators and Legislators, Westfield city officials and candidates. Amherst, MA, Oct. 25, 2019

Service to the University of Massachusetts Amherst

- 2013-14 EHS Graduate Admissions Committee (Member)
EHS/CHC Faculty Search Committee (Member)
SPHHS Curriculum Committee (Member)
- 2014-15 EHS Graduate Admissions Committee (Member)
EHS Department Personnel Committee (Member)
SPHHS Curriculum Committee (Member)
Targets of Opportunity Faculty Search Committee (Member)
EHS Faculty Search Committee for EHS Department Chair (Member)
DPH Curriculum Committee (Member 2014)
SPHHS CEPH Accreditation Self Study Committee on Academic Instructional Programs (Member)
- 2015-16 EHS Graduate Admissions Committee (Chair 2016)
EHS Graduate Recruitment Committee
EHS Department Personnel Committee (Member)
SPHHS Curriculum Committee (Member)
EHS Faculty Search Committee for EHS Department Chair (Member)
Corinne A. Johnson Memorial Scholarship Award Selection Committee (Member)
- 2016-17 EHS Graduate Admissions Committee (Chair)
EHS Graduate Recruitment Committee
EHS Department Personnel Committee (Chair)
SPHHS Curriculum Committee (Member)
MCB Graduate Admissions Committee (Member)
- 2017-18 EHS Graduate Admissions Committee (Member)
EHS Graduate Recruitment Committee
EHS Department Personnel Committee (Chair)
EHS Award Selection Committee (Member)
EHS Search Committee for Administrative Assistant (Member)
SPHHS Curriculum Committee (Member)
MCB Graduate Admissions Committee (Member)
SPHHS NIH-F32 Postdoctoral Fellowship Information Panelist
- 2018-19 EHS Department Personnel Committee (Chair)
EHS Department Admissions Committee (Member)
MCB Graduate Admissions Committee (Member)
EHS Search Committee for Assistant Professor (Member)
EHS Graduate Recruitment Committee
SPHHS Curriculum Committee (Member)
- 2019-20 EHS Department Personnel Committee (Member)
EHS Search Committee for Assistant Professor (Chair)
EHS Graduate Recruitment Committee
SPHHS Panel: How to write a persuasive grant
EHS Internal Chair Search (Member)
- 2020-21 EHS Department Mentoring Committee (2 mentees)

EHS Climate Committee (Member)
EHS Department Personnel Committee (Member)
EHS Ad-hoc Promotion case personnel committee (Chair)
SPHHS Personnel Committee (Member)