

ALICIA R. TIMME-LARAGY, PH.D.

*Assistant 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*)

Advisor: 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 – **ASSISTANT PROFESSOR** of Environmental Health Science, Division of Environmental Health Sciences, Department of Public Health, School of Public Health and Health Sciences, University of Massachusetts, Amherst, MA

- **ADJUNCT FACULTY MEMBER**, Biology Department, UMASS Amherst (2014 -)
- **FACULTY MEMBER**, Molecular and Cell Biology Graduate Program, UMASS (2014 -)
- **FACULTY MEMBER**, Models to Medicine Center, Institute for Applied Life Sciences (2016 -)

2013 – **GUEST INVESTIGATOR**, Woods Hole Oceanographic Institution, Biology Department

2007- 13. **POSTDOCTORAL FELLOW/SCHOLAR**, Woods Hole Oceanographic Institution, Biology Department, Woods Hole, MA. *Advisor:* Mark Hahn

2002-07: **PHD. CANDIDATE/RESEARCH ASSISTANT/TEACHING ASSISTANT**, Duke University, Durham, NC
Advisor: Richard Di Giulio

2000-02 **RESEARCH TECHNICIAN**, University of Rochester, Dept. of Biomed. Genetics, Rochester, NY

FUNDING

Current

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

2015-16 UMASS Public Service Endowment Grant (PI)
“A new source of PCBs to MA waterways- does this pose a health risk?”

Completed

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
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AWARDS & HONORS

- 2016 – University of Massachusetts Innovation Fellow
- 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 (21)

- Sant KE, Jacobs HM, Borofski KA, Moss JB, Timme-Laragy AR. (2016). 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.
- 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.
- 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.
- 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
- 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.

- 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.
- 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.
- 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.
- 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
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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. *Share first authorship.

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.

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

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.

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-Platform

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. *North Atlantic Chapter of the Society of Environmental Toxicology and Chemistry (NAC-SETAC)*, 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 (SETAC)*, 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 (SETAC)*, 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 (SOT)*, 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 (NUTMEG)*, 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 (*Danio rerio*). *Society of Environmental Toxicology and Chemistry (SETAC)*, 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-Platform, co-author

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 (*Danio rerio*) embryos. *Society of Environmental Toxicology and Chemistry, North Atlantic Chapter.*, 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 A Collaborative *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 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 (*Danio rerio*). *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 Specialty Section postdoctoral competition (to Dr. K. Sant)

Research Award- 1st place Gabriel L. Plaa Education Award, Mechanisms Specialty Section (to Dr. 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

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 Dr. 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 Ms. 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*. June, 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*, April, 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*, April, 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*, March, 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*, June, 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*, April, 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*, March, 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-dependance 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 swimbladder and expression of *cyp1* and *cox2* genes in developing zebrafish. *Cytochrome P450 Biodiversity and Biotechnology*, 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 (*Danio rerio*). *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*, June, 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, 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 Environmental Toxicology and Chemistry (SETAC)*, 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 (SETAC)*, 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*, April, 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 (SETAC)*, 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

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, February 4, 2016. Piscataway, NJ.

Understanding the Oxidative Stress Response during Embryonic Development, U.S. Coast Guard Academy. April 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. April 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, August 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. April 8, 2011. Durham, NC.

Invited Seminars- Intramural

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. October 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. April 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. April 20, 2007. Durham, NC.

MENTORING & TEACHING

Teaching

University of Massachusetts Amherst

Developed two new courses

PHS 390TL: Ecotoxicology and Public Health, Spring 2014, 2015, 2016

3-credit seminar for upper level undergraduate students

EHS 588: Developmental Origins of Disease, Spring 2013, Fall 2013, Fall 2014, Fall 2016

3-credit seminar for graduate and upper level undergraduate students

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

Toxicology, U.S. Coast Guard Academy, 2015

BIO 103 (Human Biology) Rhode Island College, 2012

Outreach

Eureka! Girls' Inc., Holyoke, MA. 2015.

Organized and led a developmental toxicology workshop for teenage girls.

SERVICE

Advisory Board

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

Grant Review

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

National Institutes of Health SIEE Review Panel (June 2015)

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:

<i>Animal Reproduction Science</i>	<i>Environmental Science & Technology</i>
<i>Antioxidants and Redox Signaling</i>	<i>Fish Physiology and Biochemistry</i>
<i>Annals of the New York Academy of Sciences</i>	<i>Gene</i>
<i>Aquatic Toxicology</i>	<i>Pesticide Biochemistry and Physiology</i>
<i>Chem-biont Signaling</i>	<i>PLoS ONE</i>
<i>Chemico-Biological Interactions</i>	<i>Soil and Sediment Contamination</i>
<i>Chemical Research in Toxicology</i>	<i>Toxicology and Applied Pharmacology</i>
<i>Chemosphere</i>	<i>Toxicological Sciences</i>
<i>Dose Response</i>	<i>Toxicology Letters</i>
<i>Endocrine Disruptors</i>	<i>Zebrafish</i>
<i>Environmental Pollution</i>	

Society Memberships and Activities

2007-	Society of Toxicology (Full Member 2013- present) 2012 Molecular Biology Specialty Section Postdoc Award Selection Committee
2011	Society of Free Radical Biology & Medicine 2015-16 Women in Science Committee
2003-8; 2014-	Society of Environmental Toxicology and Chemistry 2016- N. Atlantic Chapter Board of Directors
2014-2015	Endocrine Society
2007- 2014	AAAS

Superfund Research Program Annual Meetings

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).