



Kristin Nielsen, Ph.D.

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EDUCATION

- 2016 *Ph.D. in Aquatic Toxicology; University of North Texas, Denton, TX.*
Dissertation: Maternal transfer of dietary methylmercury and implications for embryotoxicity in *Pimephales promelas*
- 2005 *B.A. in Biology, Minor in English; Texas A&M University, College Station, TX.*

POSITIONS

- 2020-Present *Assistant Professor; The University of Texas at Austin Marine Science Institute; Port Aransas, TX*
- Research Interests: Developmental toxicity of ubiquitous aquatic contaminants across levels of biological organization; Ecotoxicological effects of per- and polyfluoroalkyl substances (PFAS) on marine and estuarine fishes; Indirect mechanisms of heavy metal-induced developmental neurotoxicity; Effects of globally prevalent pharmaceuticals on the development of non-target aquatic biota; Photo-enhanced toxicity of oil to marine organisms.
 - Risk Assessment Interests: Perform ecological and human health risk assessments for a variety of environmental contaminants. Specific areas of interest include ecotoxicological and human health risks associated with exposure to per- and poly-fluoroalkyl substances (PFAS); Dietary exposure to bioaccumulative contaminants via subsistence practices.
- 2019-2020 *Ecological and Human Health Risk Assessor/Toxicologist; Geosyntec Consultants; Anchorage, AK.*
- Perform Ecological and Human Health Risk Assessments for a wide range of contaminants (under various regulatory frameworks) including those related to natural resource extraction, industry, current and formerly used military/defense sites
 - Evaluate cumulative hazard posed by exposure to contaminated environmental media through all pathways for both ecological and human receptors
 - Apply knowledge of Federal and State regulatory frameworks and facilitate consensus-reaching discussions between the responsible party and regulatory bodies
 - Provide toxicological expertise and communicate risk at Public Meetings
 - Present at scientific conferences and prepare publications
- 2018-2019 *Toxicologist & Program Manager; State of Alaska Division of Public Health; Anchorage, AK.*
- Coordinate activities within the Environmental Public Health program (e.g., oversee staff activities, ensure grant deliverables are achieved, address media/legislative/expert witness requests on behalf of the division)

- Secure and maintain external program funding and manage budgets, including federal cooperative agreements, grants, and interagency RSAs
- Conduct biomonitoring activities related to existing and potential exposures to environmental contaminants and prepare reports and publications
- Perform toxicological risk assessments to evaluate impacts of environmental contamination on public health and communicate findings to both expert and non-technical audiences
- Maintain positive relationships with and/or provide subject matter expertise to cooperating government agencies (e.g. federal, state, tribal), outside stakeholders and community members

8/2016 to 7/2018

Postdoctoral Research Fellow & Adjunct Faculty; University of North Texas; Denton, TX.

- Plan and perform field and laboratory toxicological studies to investigate the effects of environmental contaminants on aquatic biota (e.g., oil, mercury, and pharmaceuticals)
- Prepare grant proposals and manuscripts for submission, present research at conferences
- Provide graduate students with guidance on method development, laboratory procedures and practices, and technical writing
- Instructor of record for a mixed graduate/undergraduate level Aquatic Toxicology course

8/2012 to 8/2016

Graduate Research/Teaching Assistant; University of North Texas; Denton, TX.

- Part of a research team investigating UV enhanced toxicity of PAH mixtures as part of the *Deepwater Horizon* National Resource Damage Assessment

8/2008 to 8/2012

Department Chair/ Composite Science Teacher; Grand Prairie ISD; Grand Prairie, TX.

- Responsible for managing and supporting a team of multidisciplinary science teachers
- Delivered instruction for Biology, Chemistry, and Physics

1/2006 to 2008

Composite Science Teacher/Coach; Pearsall ISD; Pearsall, TX.

- Biology and Chemistry Teacher, Cross Country/ Track Coach

FUNDING AND PROPOSALS

2019-2021

Health Canada (4500396817)- *Chemical Management Plan to Investigate Metformin Environmental Fate and Effects* (Role: Senior Personnel)

2017-2020

Centers for Disease Control & Prevention (NU61T000285-01)- *ATSDR Partnership to Promote Local Efforts to Reduce Environmental Exposure* (Role: Principal Investigator)

2017-2020

Centers for Disease Control & Prevention (NUE2EH001358-02-00)- *Childhood Lead Poisoning Prevention* (Role: Principal Investigator)

In Review

National Institutes of Health (12998953) - *Zebrafish as a Model to Elucidate the Mechanisms by which Metformin Alters the Healthspan of Vertebrates* (Role: Principal Investigator)

In Review

Health Canada- *Clozapine Environmental Fate and Effects Study* (Role: Senior Personnel)

In Review

Health Canada (Continuation of Grant # 4500396817)- *Chemical Management Plan to Investigate Metformin Environmental Fate and Effects* (Role: Senior Personnel)

In Review Prince William Sound Regional Citizens' Advisory Council (Herring Research & Monitoring Program)- *Food web effects of oxy-PAH photoproducts in Aleyeska pipeline terminal effluents and potential implications for juvenile fish recruitment in Prince William Sound, Alaska* (Role: Co-Principal Investigator)

AFFILIATIONS AND AWARDS

2019 Affiliate Faculty- Alaska Pacific University

2019 Geosyntec Risk Assessment and Toxicology Action Group

2018 SETAC Presidential Citation Award Recipient

2013, 2016, 2018 SETAC North America Travel Award Recipient

2018- Present SETAC Early Career Committee member & subcommittee Chair, Development Committee Liaison

2015- Present Reviewer for *Environmental Science & Technology*, *Environmental Toxicology & Chemistry*, *ACS Omega*, *Ecotoxicology*, *Aquatic Toxicology*, *Environmental Pollution*, and others

2012- Present Society of Environmental Toxicology and Chemistry (SETAC), Member

2015, 2018 Session Chair, SETAC North America

2016 Outstanding T.A., Biological Sciences

2014-2016 Beth Baird Scholarship Recipient

PUBLICATIONS

- 1) Ussery EJ; **Nielsen, KM**; Mansfield CM; Simmons DBD; Venables BJ; Holdway D (2021). An 'omics approach to investigate the growth effects of environmentally relevant concentrations of guanylurea exposure on Japanese medaka (*Oryzias latipes*). *Aquatic Toxicology*: 232, 105761.
- 2) **Nielsen, KM**; Furin C; Gerlach B. (2020). Subsistence fish consumption in rural Alaska: Using regional monitoring data to evaluate risk and bioavailability of dietary methylmercury. *Science of the Total Environment*. 139676.
- 3) **Nielsen, KM**; Alloy MM; Damaré LM; Palmer I; Forth HP; Morris JM; Stoeckel J; Roberts, AP (2020). Planktonic fiddler crab (*Uca longisignalis*) are susceptible to photo-induced toxicity following developmental exposure to oiled terrestrial habitat. *Environmental Science & Technology*: 54 (10), 6254-6261.
- 4) **Nielsen, KM**; Curran TE; Magnuson JT; Barker A; Baxter D; Venables BJ (2019). Alterations to the vision-associated transcriptome of zebrafish (*Danio rerio*) following developmental norethindrone exposure. *Environmental Toxicology & Pharmacology*: 69, 137-142.
- 5) Ussery EJ; **Nielsen, KM**; Pandelides Z; Kirkwood AE; Bonetta D; Guchardi J; Holdway D (2019). Developmental and full life-cycle exposures to guanylurea, and guanylurea-metformin mixtures causes adverse effects in Japanese medaka (*Oryzias latipes*). *Environmental Toxicology & Chemistry*: 38(5), 1023-1028.
- 6) Ussery EJ; **Nielsen, KM**; Pandelides Z; Kirkwood AE; Bonetta D; Guchardi J; Holdway D (2018). Developmental effects of metformin on early life stages of Japanese medaka (*Oryzias latipes*). *Aquatic Toxicology*: 205: 58-65.
- 7) **Nielsen, KM**; Zhang Y; Curran TE; Magnuson JT; Venables BJ; Durrer, KE, Allen M; Roberts AP. (2018). Alterations to the intestinal microbiome and metabolome of *Pimephales promelas* and *Mus musculus* following exposure to dietary methylmercury. *Environmental Science & Technology*: 52(15), 8774-8784.
- 8) **Nielsen, KM**; Krasnec M; Magnuson JT; Morris JM; Gielazyn ML; Chavez R; Roberts AP. (2018) Influence of UV and PAH exposure duration on survival of red drum (*Sciaenops ocellatus*) larvae. *Environmental Toxicology & Chemistry*: 37(9), 2372-2379.
- 9) **Nielsen, KM**; Lay CR; Alloy MM; Gielazyn ML; Morris JM; Forth HP; Takeshita R; Travers C; Oris JT; Roberts AP (2018). Estimating incident ultraviolet (UV) radiation exposure in the Northern Gulf of Mexico during the Deepwater Horizon Oil Spill. *Environmental Toxicology & Chemistry*: 37(6), 1679-1687.

- 10) Damaré LM; **Nielsen, KM**; Forth HP; Lay CR; Morris JM; Stoeckel J; Curran TE; Soulen BK; Alloy MM; Roberts AP (2018). Photo-induced toxicity in early lifestage fiddler crab (*Uca longisignalis*) following exposure to Deepwater Horizon spill oil. *Ecotoxicology*: 27(4), 440-447.
- 11) **Nielsen, KM**; Venables, BJ; Roberts AP (2017). Effects of mercury on the dopaminergic system of adult fathead minnows and their offspring. *Environmental Toxicology & Chemistry*: 36(4), 1077-1084.
- 12) Alloy MM; Garner TG; **Nielsen, KM**; Mansfield CM; Carney M; Forth HP; Krasnec M; Lay CR; Takeshita R; Morris JM; Oris JT; Roberts AP (2017). Co-exposure to sunlight enhances the toxicity of naturally weathered Deepwater Horizon oil to early lifestage red drum (*Sciaenops ocellatus*) and speckled seatrout (*Cynoscion nebulosus*). *Environmental Toxicology & Chemistry*: 36(3), 780-785.
- 13) **Nielsen, KM**; Soulen BK; Overturf CL; Drevnick PE; Roberts AP (2016). Embryotoxicity of maternally-transferred methylmercury to fathead minnows (*Pimephales promelas*). *Environmental Toxicology & Chemistry*: 35(6), 1436-41.
- 14) Barst BD; **Nielsen, KM**; Korbas M; Roberts AP; Van Kirk K; McNeel K; Drevnick PE (2015). The role of melano-macrophage aggregates in the storage of mercury and other metals: An example from yelloweye rockfish (*Sebastes ruberrimus*). *Environmental Toxicology and Chemistry*: 34(8), 1918-1925.
- 15) Lay CR; Morris JM; Takeshita R; Forth HP; Travers CL; Roberts AP; Alloy MM; Garner TR; **Nielsen, KM** (2015) Incident Ultraviolet (UV) Radiation and Extinction Coefficients in the Northern Gulf of Mexico During the *Deepwater Horizon* Oil Spill. (TOX_TR.06). Boulder, CO. *DWH Toxicity NRDA Technical Working Group Report*.

ADDITIONAL MANUSCRIPTS IN REVIEW OR PREPARATION

- 1) Damaré CL; Garner TR; Alloy MM; **Nielsen, KM**; Soulen BK; Gnau J; Wormington AM; Sweet LE; Morris JM; Roberts AP (In Review). Factors Affecting Photo-induced Toxicity Outcomes in Mysid Shrimp (*Americamysis Bahia*) with Oil Collected from the Deepwater Horizon Spill. *Environmental Toxicology & Chemistry*.
- 2) **Nielsen, KM**; Lay, CR; Alloy, MM; Forth, HP; Gielazyn, ML; Roberts, AP; Morris, JM. Predicting photo-induced toxicity of complex polycyclic aromatic hydrocarbon (PAH) mixtures: a comparison of two established models.
- 3) Garner TR; Damaré CL; Alloy MM; O'Shaughnessy KA; **Nielsen, KM**; Van Aken M; Chesney EJ; Roberts AP. Photo-enhanced toxicity of Deepwater Horizon spill oil to two fishes of the Louisiana gulf coast.

SELECTED PRESENTATIONS

- 1) Examining Risks in Perspective: Subsistence Fishing. University of Texas at Austin Science Festival- Public Lecture Series. Webinar, 2021
- 2) The Role of Toxicology and Risk Assessment in Environmental Public Health Practice. Alaska Pacific University. Anchorage, Alaska, 2021.
- 3) Assessing the Ecological Risks of Per-and Polyfluoroalkyl Substances (PFAS) at Aqueous Film Forming Foam Sites. Emerging Contaminants Summit. Westminster, Colorado, 2020.
- 4) PFAS Toxicology and Risk Assessment: State of the Science. Geosyntec PFAS Technical Webinar Series. Global Webinar, 2020.
- 5) Ecotoxicological Effects of Developmental Exposure to Ubiquitous Aquatic Contaminants Across Levels of Biological Organization. University of Georgia- College of Forestry Seminar. Athens, Georgia, 2020.
- 6) Ecotoxicological Effects of Developmental Exposure to Ubiquitous Aquatic Contaminants Across Levels of Biological Organization. University of North Carolina - Department of Biology and Marine Biology Seminar. Wilmington, North Carolina, 2020.
- 7) An Overview of PFAS Concerns for Alaska Communities. Alaska Tribal Consortium on Environmental Management. Anchorage, Alaska, 2019.
- 8) Alaska Public Media: Talk of Alaska (Radio Interview). PFAS contamination in Alaska. Anchorage, Alaska, 2019.
- 9) Alaska Public Media: Alaska Insight (TV Interview). How Dangerous are PFAS Chemicals and What's Being Done to Clean Them Up? Anchorage, Alaska, 2019.
- 10) Toxicology and Risk Assessment: Alaska Edition. Alaska Pacific University. Anchorage, Alaska, 2019.
- 11) PFAS and Public Health for Public Health Nurses. Division of Public Health Continuing Education Seminar, Anchorage, Alaska, 2019.

- 12) Developmental Toxicity of Ubiquitous Environmental Contaminants in Aquatic Ecosystems. University of Alaska Southeast. Juneau, Alaska, 2019.
- 13) Subsistence Fish Consumption in Alaska: Using Regional Monitoring Data to Evaluate Risk and Bioavailability of Dietary Methylmercury. SETAC North America, 40th Annual Meeting, 2019.
- 14) Risk Assessment and Communication in Environmental Justice Communities in Rural Alaska. Alaska Pacific University, Environmental Health Program Seminar. October, 2019.
- 15) Zhang Y; Curran TE; Magnuson JT; Venables BJ; Durrer, KE, Allen M; Roberts AP. Alterations to the intestinal microbiome and metabolome of *Pimephales promelas* and *Mus musculus* following exposure to dietary methylmercury. SETAC North America, 39th Annual Meeting, 2018.
- 16) Zhang Y; Curran TE; Magnuson JT; Venables BJ; Durrer, KE, Allen M; Roberts AP. Alterations to the intestinal microbiome and metabolome of *Pimephales promelas* and *Mus musculus* following exposure to dietary methylmercury. SETAC Europe, 28th Annual Meeting, 2018.
- 17) Photoperiod, exposure duration, and latent mortality: Photo-induced toxicity effects in aquatic organisms. SETAC Europe, 28th Annual Meeting, 2018.
- 18) Photoperiod, exposure duration, and latent mortality: Photo-induced toxicity effects in aquatic organisms. Gulf of Mexico Oil Spill and Ecosystem Science Conference, 2018.
- 19) Photoperiod, exposure duration, and latent mortality: Photo-induced toxicity effects in aquatic organisms. SETAC North America 38th Annual Meeting, 2017.
- 20) Effects of maternally transferred methylmercury on development of early life stage fish. Marshall University, Biological Sciences Departmental Seminar, 2017.
- 21) The photo-induced toxicity of Australian northwest shelf crude oil to yellowtail kingfish (*Seriola lalandi*) and black bream (*Acanthopagrus butcheri*). International Conference on Environmental Pollution, Restoration, and Management, 2017.
- 22) Effects of dietary methylmercury on the dopaminergic system in adult fathead minnows and their offspring. International Conference on Environ. Pollution, Restoration, and Management, 2017
- 23) Effects of dietary methylmercury on the dopaminergic system in adult fathead minnows and their offspring. SETAC North America 37th Annual Meeting, 2016.
- 24) Embryo-toxicity of maternally transferred methylmercury to fathead minnows (*Pimephales promelas*). SETAC North America 36th Annual Meeting, 2015.
- 25) Evaluation of maternal transfer of dietary methylmercury and implications for embryotoxicity in fathead minnows (*Pimephales promelas*). SETAC North America 35th Annual Meeting, 2014
- 26) Effects of maternally derived methylmercury on fathead minnow (*Pimephales promelas*) reproductive metrics and embryonic development. SETAC-SC Regional Meeting, 2014
- 27) Effects of maternally derived methylmercury on fathead minnow (*Pimephales promelas*) reproductive metrics and embryonic development. SETAC North America 34th Annual Meeting, 2013.