Marlo K. Sellin Jeffries, Ph.D.

Department of Biology
Texas Christian University
2800 South University Drive
Fort Worth, TX 76129

Phone: 817-257-6171
m.jeffries@tcu.edu
tcujeffrieslab.com
ORCID: 0000-0003-0118-5222

ACADEMIC BACKGROUND

Education

Ph.D.	2010	University of Nebraska Medical Center, Department of Environmental, Agricultural and Occupational Health (Environmental Toxicology)
M.S.	2005	University of Nebraska at Omaha, Department of Biology (Biology)
B.S.	2002	University of Nebraska at Omaha, Department of Biology (Major: Biology, Minors: Chemistry and Mathematics)

Appointments

2020-Present	**Associate Chair**, Department of Biology, Texas Christian University, Fort Worth, TX
2019-Present	**Associate Professor**, Department of Biology Texas Christian University, Fort Worth, TX
2018-Present	**Assistant Professor**, Department of Medical Education, Texas Christian University and University of North Texas Health Science Center School of Medicine, Fort Worth, TX
2013-2019	**Assistant Professor**, Texas Christian University, Department of Biology, Fort Worth, TX
2010-2013	**Postdoctoral Fellow**, Department of Zoology, Miami University, Oxford, OH
2007-2010	**Emley Fellow**, University of Nebraska Medical Center
2006/2008	**Instructor**, Department of Biology, University of Nebraska at Omaha,
2006-2007	**Research Assistant**, University of Nebraska at Omaha
2004-2006	**United States Environmental Protection Agency GRO Fellow**, University of Nebraska at Omaha & Medical Center
2003-2004	**Teaching Assistant**, Department of Biology, University of Nebraska at Omaha

TEACHING

Courses Taught

Assistant/Associate Professor, Department of Biology, Texas Christian University, Fall 2013-Present

- Biology 40403 (Fall semesters from 2014 to present): Mammalian Physiology. An upper-level course on the function of the major mammalian organ systems.
- Biology 40473 (Fall 2013, Spring semesters from 2014 to 2019): Vertebrate Endocrinology. An upper-level, writing emphasis, lecture and laboratory course on chemical messengers of endocrine origin and the physiological processes under their control. Carries a writing emphasis designation.
- Biology 60131 (Fall semesters from 2017 to 2019): Introduction to Scientific Research and Writing. A graduate-level course on biological research and scientific writing. Co-taught with A. Hale (2017, 2018) and J. Horner (2019).
- Biology 40453/70950 (Spring 2014, Fall 2014, Fall 2015, Fall 2019): Principles of Toxicology. An upper-level/graduate-level discussion course on the fate, transport and biological effects of environmentally-relevant contaminants. Carries a writing emphasis designation.
- Biology 70950 (Spring 2016 and Spring 2020): Gene Expression Analysis. A graduate level course on the methods utilized to prepare samples for gene expression analysis and analyze associated data.

- Biology 10514 (Spring 2014 and 2015): Introductory Biology II. A freshman-level, introductory biology course on evolution and the diversity, morphology, anatomy and physiology of eukaryotes. Co-taught with J. Horner, M. Chumchal and M. Misamore.

Co-instructor, Miami University, Department of Zoology, Spring 2013
- Zoology 462/562: Environmental Toxicology and Risk Assessment. A senior/graduate-level capstone course in applied toxicology from the molecular to ecosystem levels with an emphasis on an interdisciplinary, problem-solving approach to ecological risk assessment.

Teaching Assistant, Miami University, Department of Zoology, Fall 2011
- Zoology 462/562: Environmental Toxicology and Risk Assessment. A senior/graduate-level capstone course in applied toxicology from the molecular to ecosystem levels with an emphasis on an interdisciplinary, problem-solving approach to ecological risk assessment.

Instructor, University of Nebraska at Omaha, Department of Biology, Fall 2006 & 2008
- Biology 1020: Principles of Biology. A team-taught introductory Biology course for non-majors on basic aspects of biology from the molecular to population levels.

Teaching Assistant, University of Nebraska at Omaha, Department of Biology, 2003-2004
- Biology 1750: Biology II. An undergraduate Zoology course required for all Biology majors focusing on whole-organisms and their interactions with the environment.
- Biology 4740: Animal Physiology. An upper-level physiology course on the functions of selected tissue/organ systems in animals.

Teaching Assistant, University of Nebraska at Omaha, Department of Mathematics, 2001-2002
- Math 1310: Intermediate Algebra. An entry-level algebra course.

Student Research Supervision

Ph.D. Dissertations Directed

Julie Krzykwa, 2017 to 2020, "Advancing animal alternatives in toxicity testing: The use of developmental abnormalities in fish embryos to predict chronic toxicity and adverse outcome"

Leah Thornton, 2015 to 2020, "The effects of early life stage thyroid disruption on immune system development, disease resistance, and immune responses". PhD student at University of North Texas, co-advised by Barney Venables

MS Theses Directed

Dalton Allen, 2019 to present, "Marine effluent toxicity testing: Can tests with fish embryos or shrimp replace larval fish tests?"

Austin Bryant, 2019 to present, "Developmental exposures to thyroid disrupting compounds: An investigation of short- and long-term behavioral impacts"

Lynsey Malin, 2019 to 2020, "Hormones and immunity: What is the role of estrogen in immune function?"

Abbey Johnson, 2017 to 2019, "A transcriptomic approach to understanding the basis of altered reproduction in fathead minnows following early life stage thyroid disruption." Co-advised by M. Hale.

[€]Kyle Roush, 2016 to 2018, "Sexual maturity status as a confounding variable in fish-based screening assays for the detection of anti-estrogens and non-aromatizable androgens"

[€] Recipient of the College of Science and Engineering SciCom Outstanding Thesis Award; Nominee for the campus-wide TCU Outstanding Thesis Award

Peter Bruns, 2015 to 2017, "Thinking outside the thyroid: Implications of adult and early life-stage thyroid disruption on reproduction"

Julie Krzykwa, 2015 to 2017, "Can the fish embryo toxicity (FET) test go chronic? Investigation of sublethal endpoints as FET test endpoints"

Leah Thornton, 2013 to 2015, "Timing is everything: Exploring the differential effects of PBDE exposures in adult and early life stage fathead minnows"

Service on TCU Graduate Theses Committees

Evan Barfuss, 2020 to Present, "Development of genetic markers to determine the origin of migratory rainbow trout, *Oncorhynchus mykiss*", Advisor: M. Hale

Katie Clare, 2020 to Present, "Comparative genomics of rainbow trout (*Oncorhynchus mykiss*): Are genes associated with migration conserved among populations?", Advisor: M. Hale

Ishor Thapa, 2020 to Present, "Identifying the role of BRCA1 in transcriptional regulation using *Caenorhabditis elegans*", Advisor: M. Stewart

Haley Hayes, 2016 to 2017, "An exploration of the neuroprotective and anti-inflammatory effects of rolipram in vitro and in an inflammation-induced Alzheimer's disease model", Advisor: M. Chumley

Andria Beal, 2015 to 2016, "Using RNA-Seq to study the sex-role reversed gulf pipefish: Are patterns of sex-bias in gene expression different when we are dealing with Mr. Mom?", Advisor: M. Hale

Carolina Granthon, 2014 to 2015, "Avian malaria and body condition in four species of songbirds", Advisor: D. Williams

Honors Theses Directed

Maddie Wiencek, 2020 to present, "Comparison of toxicity testing strategies for the evaluation of metal contaminants common in oil refinery effluent"

Michaela Kelly, 2020 to present, "Comparison of toxicity testing strategies for the evaluation of metal contaminants common in oil refinery effluent"

Kyle Horton, 2020 to present, "Identification of an appropriate pathogen for the study of immune responses in the fathead minnow"

Kahler Doyle, 2020 to present, "Identification of an appropriate pathogen for the study of immune responses in the fathead minnow"

Delaney Bredehoeft, 2019 to present, "Exploring the impacts of developmental thyroid disruption on transcriptional changes in the brain"

Haley Schluterman, 2019 to present, "Androgens and immunity: Does exposure to non-aromatizable androgens affect female immune function?"

Gabby Lamanteer, 2018 to 2020, "Comparison of methods for assessing swim performance in larval and juvenile fathead minnows"

Miranda Finch, 2017 to 2020, “The sexually dimorphic immune system: Identification of sex-specific differences in immune responses in the fathead minnow”

Hannah Nettelblad, 2018 to 2019, “Exploring the effects of early life stage nitrate exposure on sexual development and reproduction”

Caroline Wade, 2017 to 2019, “Exploring the endocrine activity of nitrate: Does exposure alter hormone levels and reproduction in adult fathead minnows?”

April Tran, 2017 to 2019, “Uncovering the effects of thyroid disruption on immune cell development and function”

Mallory Seemann, 2016 to 2018, “Exploring the mechanisms underlying the long-term reproductive effects of early life stage thyroid disruption”

[€]Meriel LeSueur, 2014 to 2017, “Another fish in the signaling sea: The effect of thyroid hormone on the immune function of adult fathead minnows”

[€]TCU College of Science & Engineering 2017 Honorable Mention for Best Honors Presentation

[€]Gunnar Nystrom, 2014 to 2017, “Cause for Concern: Chemical contamination in Kazakhstan’s Syr Darya river and its impacts on fish reproductive health.”

[€]Recipient of the 2017 TCU Boller Award for Best Honors Presentation

Kyle Roush, 2014 to 2016, “Enhancing the fish embryo toxicity test: Growth, development abnormalities and gene expression as additional test endpoints”

Elise Path, 2014 to 2016, “Identifying sensitive indicators of thyroid disruption in fathead minnows after exposure to thyroxine and propylthiouracil”

Alexis Medders, 2014 to 2016, “Males, masculinity and immunity: A test of the immunocompetence handicap hypothesis in fathead minnows”

Kate Phillips, 2014 to 2016, “Identifying molecular biomarkers of growth inhibition in fathead minnows: Ontogenetic expression profiles and responses to common contaminants”

Jacob Malmquist, 2014 to 2016, “Effective spawning strategies for producing viable fathead minnow embryos for use in fish embryo toxicity tests.”

[€]Alexandra Yost, 2014-2015, “Global amphibian declines: Are exposures to polybrominated diphenyl ethers a contributing factor?”

[€]Finalist for the 2015 TCU Boller Award for Best Honors Presentation

Independent Research Projects Directed

Andrew Mielcuszny, 2020 to present, “Sex-specific differences in cellular immune function”

Lynsey Malin, 2018, “Sex-specific differences in immune function: The role of estrogens”

Asal Saeid, 2017 to 2019, “Validation of a short-term larval fathead minnow thyroid disruption screening assay”

Ari Soto, 2017 to 2018, “Uncovering the basis of sex-specific differences in immune function: The role of estrogens”

Lydia Stephens, 2014 to 2018, "The effects of early life stage thyroid disruption on thyroid follicle size and structure"

Bethany Pierce, 2016 to 2018, "Analyzing the effects of thyroid disrupting compounds on eye development in *Pimephales promelas*"

Alexis Olivas, 2016 to 2017, "Identifying molecular biomarkers of cardiovascular and neurological development in fathead minnows: Ontogenetic expression profiles"

Haley Egan, 2015 to 2017, "Sink or swim: Effects of thyroid hormones on the developing fathead minnow immune system."

Dane Stephens, 2013 to 2015, "Seeking animal alternatives in toxicity testing: Enhancement of the fathead minnow fish embryo toxicity test as an alternative to larval fish toxicity tests"

Supervised Undergraduate Students (*co-author on presentation* or publication†*)

Texas Christian University (2013-Present, 37 to date*)*

Delaney Bredehoeft	Lauren Burgess	Thomas Boudreaux*	Khoa Dao
Vuong Do*	Kahler Doyle	Haley Egan*	Miranda Finch*
Abby Hawkins*	Kyle Horton	Hana Jaafari	Michaela Kelly
Sarah King*	Gabby Lamanteer*	Meriel LeSueur*†	Lynsey Malin*
Jacob Malmquist*†	Alexis Medders*	Andrew Mielcuszny*	Hannah Nettelblad*
Gunnar Nystrom*†	Alexis Olivas*†	Elise Path*†	Kate Phillips*
Bethany Pierce*	Kyle Roush*†	Asal Saeid*†	Haley Schluterman*
Mallory Seemann*	Dane Stephens*†	Arantxa Soto	Lydia Stephens*
April Tran*	Michael Vaughan	Caroline Wade*	Maddie Wiencek
Alexandra Yost*†			

Service on Honors Theses Committees

Hank Weresh, 2020-2021, "Synthesis of 1,1'-Dideaza-Quinine" Advisor: Dr. David Minter (Chemistry)

Nam Nguyen, 2020-2021, "Evaluation of the therapeutic efficacy of small pyridine-containing molecules for treatment of neurodegenerative diseases" Advisor: Dr. Kayla green (Chemistry)

Jack Figg, 2018-2019, "Impact of early developmental stress on Alzheimer's pathology in adulthood", Advisor: Dr. Mike Chumley (Biology)

Phat Do, 2018-2019, "Elaborating the mechanism of cell killing of a novel chemotherapeutic drug targeting breast cancer cells", Advisor: Dr. Giri Akkaraju (Biology)

Khoa Dao, 2018-2019, "How does BRCA1 associate with P53? Investigating the molecular details of the interaction between 2 tumor suppressing proteins", Advisor: Dr. Mikaela Stewart (Biology)

Lynsey Malin, 2018, "Sex-bias in expression of sex determination genes in brain tissue of rainbow trout", Advisor: Dr. Matt Hale (Biology)

Brook Hardiman, 2018, "Chronic mild sleep restriction and its contribution to Alzheimer's disease in healthy wild type mice", Advisor: Dr. Gary Boehm (Psychology)

Adam Burgess, 2016-2017, "IL-1β as a predictor of life history strategy and impulsivity in humans" Advisor: Dr. Sarah Hill (Psychology)

Michael Chandra, 2016-2017, “Targeting the estrogen receptor in breast cancer cells with cytotoxic drugs” Advisor: Dr. Giri Akkaraju (Biology)

Sarah Price, 2016-2017, “Spectroscopic analysis of BODIPY dyes” Advisor: Dr. Sergei Dzyuba (Chemistry)

Eleanore Rominger, 2016-2017, “Characterization of LPS activated peritoneal B-1 cells” Advisor: Dr. Mike Chumley (Biology)

Sam Showalter, 2016-2017, “Examining sex bias in gene expression in the brain tissue of brook trout” Advisor: Dr. Matt Hale (Biology)

Julianna West, 2016-2017, “The effect of the stimulation and inhibition of the inflammatory response on the activation of NF-kB” Advisor: Dr. Giri Akkaraju (Biology)

Rachel Cartmell, 2015-2016, “Determination of the phenology of fall flowering plant species in the Fairview Prairie.” Advisor: Dr. Glenn Kroh (Biology)

Candler Bortz, 2015-2016, “YwIE effect on oxidative stress response in *Bacillus anthracis*.” Advisor: Dr. Shauna McGillivray (Biology)

Jessica Mussatto, 2013-2014, “Analysis of amyloid beta clearance in exercised mice following inflammation.” Advisor: Dr. Michael Chumley (Biology)

RESEARCH AND CREATIVE ACTIVITY

Refereed Publications *(35 published to date)*

** denotes undergraduate, ** denotes graduate student*

Snow DD, Chakraborty P, Uralbekov B, Satybaldiev B, Sallach B, Thornton L**, **Jeffries M**, Kolok A, Bartelt-Hunt S. 2020. Legacy and current pesticide residues in Syr Darya, Kazakhstan: Contamination status, seasonal variation and preliminary ecological risk assessment. *Water Research* 184: 116141.

Thornton Hamptom LM**, **Sellin Jeffries MK**, Venables BJ. 2020. A practical guide for assessing respiratory burst and phagocytic cell activity in the fathead minnow, an emerging model for immunotoxicity. *MethodX* 7: 100992.

Krzykwa JC**, **Sellin Jeffries MK.** 2020. Comparison of behavioral assays for assessing toxicant-induced alterations in neurological function in larval fathead minnows. *Chemosphere* 257: 126825.

Krzykwa JC**, **Sellin Jeffries MK.** 2020. Development of a larval fathead minnow optomotor response assay for assessing visual function. *MethodX* 7: 100971.

Thornton Hamptom LM**, Martyniuk CJ, Venables BJ, **Sellin Jeffries MK**. 2020. Advancing the fathead minnow (*Pimephales promelas*) as a model for immunotoxicity testing: Characterization of the renal transcriptome following *Yersinia ruckeri* infection. *Fish and Shellfish Immunology* 103:472-480.

Roush KS**, **Sellin Jeffries MK**. 2019. Sexual maturity status as a confounding variable in fish-based screening assays for the detection of anti-estrogens and non-aromatizable androgens. *Environmental Toxicology and Chemistry* 38:603-615.

Krzykwa JC**, Saeid A*, **Sellin Jeffries MK**. 2019. Identifying sublethal endpoints for evaluating neurotoxic compounds utilizing the fish embryo toxicity test. *Ecotoxicology and Environmental Safety* 170:521-529.

Norberg-King TJ, Embry MR, Belanger SE, Braunbeck T, Butler JD, Dorn PB, Farr B, Guiney PD, Hughes SA, **Jeffries M**, Journel R, Lèonard M, McMaster M, Oris JT, Ryder K, Segner H, Senac T, Van Der Kraak G, Whale G, Wilson P. 2018. An international perspective on the tools and concepts for effluent toxicity assessments in the context of animal alternatives. *Environmental Toxicology and Chemistry* 37:2745-2757.

Krzykwa JC**, Olivas A*, **Sellin Jeffries MK**. 2018. Development of cardiovascular and neurodevelopmental metrics as sublethal endpoints for the fish embryo toxicity test. *Environmental Toxicology and Chemistry* 37:2530-2541.

Thornton LM**, Path EM*, Nystrom GS*, Venables BJ, **Sellin Jeffries MK**. 2018. Embryo-larval BDE-47 exposure causes decreased pathogen resistance in adult male fathead minnows (*Pimephales promelas*). *Fish and Shellfish Immunology* 80:80-87.

Roush KS**, Krzykwa JC**, Malmquist JA*, Stephens DA*, **Sellin Jeffries MK.** 2018. Enhancing the fathead minnow fish embryo toxicity test: Optimizing embryo production and assessing the utility of additional test endpoints. *Ecotoxicology and Environmental Safety* 153:45-53.

Thornton LM**, LeSueur MC*, Yost AT*, Stephens DA*, Oris JT, **Sellin Jeffries MK**. 2017. Characterization of basic immune function parameters in the fathead minnow (*Pimephales promelas*), a common model in environmental toxicity testing. *Fish and Shellfish Immunology* 61:163-172.

Fiester S, Arivett B, Schmidt R, Beckett A, Ticak T, Carrier M, Ohneck E, Metz, M, **Sellin Jeffries MK**, Actis L. 2016. Iron-regulated phospholipase C activity contributes to the cytolytic activity and virulence of *Acinetobacter baumannii*. *PLOS ONE* 11(11): e0167068.

Yost AY*, Thornton LM**, Venables BJ, **Sellin Jeffries MK**. 2016. Dietary exposure to polybrominated diphenyl ether 47 (BDE-47) inhibits development and alters thyroid hormone-related gene expression in the brain of *Xenopus laevis* tadpoles. *Environmental Toxicology and Pharmacology* 48:237-244.

Thornton LM**, Path EM*, Nystrom GS*, Venables BJ, **Sellin Jeffries MK**. 2016. Early life stage exposure to BDE-47 causes adverse effects on reproductive success and sexual differentiation in fathead minnows (*Pimephales promelas*). *Environmental Science and Technology* 50:7834-7841.

Thornton LM**, Path EM*, Venables BJ, **Sellin Jeffries MK**. 2016. The endocrine effects of dietary BDE-47 exposure, measured across multiple levels of biological organization, in breeding fathead minnows. *Environmental Toxicology and Chemistry* 35:2048-2057.

[€]**Sellin Jeffries MK**, Stultz AE, Smith AW, Stephens DA*, Rawling JM, Belanger SE, Oris JT. 2015. The fish embryo toxicity test as a replacement for the larval growth and survival test: A comparison of test sensitivity and identification of alternative endpoints in zebrafish and fathead minnows. *Environmental Toxicology and Chemistry* 34:1369-1381.

[€]Nominated for *Environmental Toxicology and Chemistry* Best Paper of 2015 (Baird, D. 2016, ET&C Best Paper of 2015. Environ Toxicol Chem, 35: 1605–1606)

Sellin Jeffries MK, Kiss AJ, Smith AW, Oris JT. 2014. A comparison of commercially-available automated and manual extraction kits for the isolation of total RNA from small tissue samples. *BMC Biotechnology* 14:94.

Sellin Jeffries MK, Stultz AE, Smith AW, Rawling JM, Belanger SE, Oris JT. 2014. Alternative methods for toxicity assessments in fish: Comparison of the fish embryo toxicity and the larval growth and

survival tests in zebrafish and fathead minnows. *Environmental Toxicology and Chemistry* 33:2584-2594.

Kolok AS, **Sellin Jeffries MK**, Knight L, Snow DD, Bartelt-Hunt, SL. 2014. The hourglass: A conceptual framework for the transport of biologically active compounds from agricultural landscapes. *Journal of the American Water Resources Association* 50:266-274.

Sellin Jeffries MK, Claytor C, Stubblefield W, Pearson WH, Oris JT. 2013. Quantitative risk model for polycyclic aromatic hydrocarbon photo-induced toxicity in Pacific herring following the *Exxon Valdez* oil spill. *Environmental Science and Technology* 47:5450-5458.

Sellin Jeffries MK, Mehinto AC, Carter BJ, Denslow ND, Kolok AS. 2012. Taking microarrays to the field: Differential hepatic gene expression of caged fathead minnows from Nebraska watersheds. *Environmental Science and Technology* 46:1877-1885.

Sellin Jeffries MK, Abbott KI*, Cowman T, Kolok AS. 2011. Occurrence and endocrine effects of agrichemicals in a small Nebraska watershed. *Environmental Toxicology and Chemistry* 30:2253-2260.

Sellin Jeffries MK, Conoan N*, Cox M, Sangster J, Balsiger HA*, Bridges AA*, Cowman T, Knight LA*, Bartelt-Hunt SL, Kolok AS. 2011. The anti-estrogenic activity of sediments from agriculturally-intense watersheds: Assessment using *in vivo* and *in vitro* assays. *Aquatic Toxicology* 105:189-198.

Sellin MK, Snow DD, Schwarz M, Kolok AS. 2010. Reductions in hepatic vitellogenin and estrogen receptor alpha expression by sediments from an agriculturally impacted waterway. *Aquatic Toxicology* 96:103-108.

Sellin MK, Snow DD, Schwarz M, Carter BJ, Kolok AS. 2009. Agrichemicals in Nebraska, USA, watersheds: Occurrence and endocrine-disrupting effects. *Environmental Toxicology and Chemistry* 28:2443-2448.

Sellin MK, Snow DD, Gustafson ST*, Erickson GE, Kolok AS. 2009. The endocrine-activity of beef cattle wastes: Do growth-promoting implants make a difference? *Aquatic Toxicology* 92:221-227.

Sellin MK, Snow DD, Akerly DL*, Kolok AS. 2009. Estrogenic compounds downstream of three small cities in eastern Nebraska: Occurrence and biological effect. *Journal of the American Water Resources Association* 45:1-8.

Kolok AS, **Sellin MK**. 2008. The environmental impact of growth-promoting compounds employed by the beef cattle industry: history, current knowledge and future directions. *Reviews in Environmental Contamination and Toxicology* 195:1-30.

Kolok AS, Snow DD, Kohno S, **Sellin MK**, Guillette Jr. LJ. 2007. Occurrence and biological effect of exogenous steroids in the Elkhorn River, Nebraska. *Science of the Total Environment* 388:104-115.

Sellin MK, Eidem TM*, Kolok AS. 2007. Cd exposures in fathead minnows: are there sex-specific differences in mortality, reproductive success and Cd accumulation? *Archives of Environmental Contamination and Toxicology* 52:535-540.

Sellin MK, Kolok AS. 2006. Maternally-derived Cu tolerance in larval fathead minnows: how long does it persist? *Journal of Fish Biology* 69:1570-1574.

Sellin MK, Kolok AS. 2006. Cd exposures during early development: do they lead to reproductive impairment in fathead minnows? *Environmental Toxicology and Chemistry* 25:2957-2963.

Sellin MK, Kolok AS. 2006. Cd exposures in fathead minnows: effects on adult spawning success and reproductive physiology. *Archives of Environmental Contamination and Toxicology* 51: 594-599.

Sellin MK, Tate-Boldt EK, Kolok AS. 2005. Acclimation to Cu in fathead minnows: does age influence the response? *Aquatic Toxicology* 74:97-109.

Non-refereed Publications

Corrales J, **Jeffries MK**, Hansen JD, Hogan N. 2020. Addressing existing challenges in immunoeco(toxico)logy: From tool development to risk assessment. *Society of Environmental Toxicology and Chemistry Globe* 21:2.

Corrales J, **Jeffries MK**, Thornton LM. 2019. Immunotoxicology: Identifying Adverse Effects, Developing New Approaches and Confronting Existing Challenges. *Society of Environmental Toxicology and Chemistry Globe* 19:4.

Corrales J, **Jeffries MK**, Thornton LM. 2018. Immunotoxicology: Impacts of contaminants on immune function and susceptibility to disease. *Society of Environmental Toxicology and Chemistry Globe* 19:2.

Ali JM, **Jeffries MK**, Kolok AS. 2017. Uncharted Waters: Field Ecotoxicology in Remote Locations on Limited Resources. *Society of Environmental Toxicology and Chemistry Globe* 18:1.

Awards

Funded External Grant Proposals

Society of Environmental Toxicology and Chemistry/ Procter & Gamble Fellowship for Research in Environmental Science. 2018-2019. Advancing animal alternatives in toxicity testing: The use of developmental abnormalities in fish embryos to predict chronic toxicity and adverse outcomes. $15,000. Awarded to Graduate Student, Julie Krzykwa.

American Association of Laboratory Animal Sciences – Grants for Laboratory Animal Science (GLAS) program. 2015-2016. Towards the 3R's in fish toxicity testing. $27,192. Marlo Jeffries.

Subcontract through Al-Farabi National Kazakh University. 2015-2016. Emerging Contaminants and Environmental Security in the Syr Darya River Basin. $7,150. Subcontract to Marlo Jeffries.

National Science Foundation – Catalyzing New International Collaborations (CNIC) Program. 2014-2015. Catalyzing New International Collaborations: US-Kazakhstan workshop and pilot study-Pesticide occurrence and ecological effects in the Syr Darya River Basin. $49,751. Dan Snow, Alan Kolok, Shannon Bartelt-Hunt and Marlo Jeffries.

The Genome Consortium for Active Teaching – NextGen Sequencing in Undergraduate Education Workshop. 2015. Masculinity and immunity: Using global gene expression data to uncover the relationship between sexual ornamentation and pathogen resistance in male fathead minnows. Funds awarded to cover workshop travel ($800) and NGS costs ($1500). Marlo Jeffries and Matt Hale.

Funded Internal Grant Proposals

TCU Research and Creative Activities Fund. 2020-2021. Alternatives in marine effluent toxicity testing: Can fish embryos or invertebrates replace larval fish? $6000. Marlo Jeffries.

TCU Research and Creative Activities Fund. 2017-2018. Utilizing next-generation sequencing to unravel the mechanisms underlying altered reproductive development and function following exposures to thyroid disrupting chemical contaminants. $4480. Marlo Jeffries.

TCU Research and Creative Activities Fund. 2016-2017. Where's the beef? Identification of watershed characteristics that minimize the environmental impacts of hormonally-active compounds associated with cattle feedlot effluent. $3996. Marlo Jeffries.

TCU Junior Faculty Summer Research Program. 2016. Where's the beef? Identification of watershed characteristics that minimize the environmental impacts of hormonally-active compounds associated with cattle feedlot effluent. $6000. Marlo Jeffries.

TCU Research and Creative Activities Fund. 2015-2016. Enhancement of the fathead minnow fish embryo toxicity test: Seeking sublethal endpoints as sensitive indicators of chemically-induced adverse effects. $3930. Marlo Jeffries.

TCU Junior Faculty Summer Research Program. 2015. Enhancement of the fathead minnow fish embryo toxicity test: Seeking sublethal endpoints as sensitive indicators of chemically-induced adverse effects. $6000. Marlo Jeffries.

TCU Research and Creative Activities Fund. 2014-2015. Development and validation of a small fish model for assessing the effects of emerging contaminants on immune function. $3988. Marlo Jeffries.

TCU Junior Faculty Summer Research Program. 2014. Development and validation of a small fish model for assessing the effects of emerging contaminants on immune function. $6000. Marlo Jeffries.

Honors & Recognition

Exceptional reviewer (top 15 of over 600 reviewers) for *Environmental Toxicology and Chemistry* in 2020*;* recognition to appear in *Environmental Toxicology and Chemistry, 2020, 40:5-6.*

High-ranking (top 5%) reviewer for *Environmental Toxicology and Chemistry* in 2019*;* recognition appears in *Environmental Toxicology and Chemistry, 2020, 39:5-6.*

Exceptional reviewer (top 15 of nearly 850 reviewers) for *Environmental Toxicology and Chemistry* in 2018*;* recognition appears in *Environmental Toxicology and Chemistry*, 38:5-6.

TCU Wassenich Award for Mentoring Nominee, 2018.

TCU Senior Class Legacy Honoree, 2017.

High-ranking (top 5%) reviewer for *Environmental Toxicology and Chemistry* in 2017*;* recognition appears in *Environmental Toxicology and Chemistry,* 2018, 37:5-6.

Nomination for *Environmental Toxicology and Chemistry* Best Paper of 2015; recognition appears in *Environmental Toxicology and Chemistry,* 35: 1605–1606.

Student Accomplishments

Society of Environmental Toxicology and Chemistry Travel Awards

Leah Thornton, 2019, $598
Abbey Johnson, 2018, $580
Kyle Roush, 2016, $576
Leah Thornton, 2015, $560
Julie Krzykwa, 2019, $598
Julie Kryzkwa, 2016, $576
Gunnar Nystrom, 2016, $576
Kyle Roush, 2018, $580
Peter Bruns, 2016, $576
Elise Path, 2016, $576

Other Awards

TCU Graduate Student Travel Grant. 2019. $400. Graduate student: Julie Krzykwa

TCU Graduate Student Travel Grant. 2015. $800. Graduate student: Leah Thornton

Pollutant Responses in Marine Organisms Student Travel Grant. 2015. $402. Graduate Student: Leah Thornton

Sigma Xi Grants-in-Aid of Research Program. 2014-2015. Illuminating the influences of sex-steroid hormones on immune function in the sheepshead minnow. $825. Graduate student: Leah Thornton

Funded TCU CSE Graduate Student SERC Proposals

Investigating the connections between early-life-stage thyroid disruption and long-term behavioral effects. 2020. $1006. Graduate student: Austin Bryant

Towards the 3Rs in marine effluent toxicity testing: Can tests with fish embryos or invertebrates replace larval fish tests? 2019. $2000. Graduate student: Dalton Allen.

Sex Steroid Hormones and Immunity: What is the Role of Estrogen in Immune Function? 2019. $2000. Graduate student: Lynsey Malin

Improving the fish embryo toxicity test: Connecting easily observable developmental changes to alterations in long-term fitness. 2018. $2000. Graduate student: Julie Krzykwa

Screening for reproductive endocrine disrupting compounds: Does phenotype influence test outcome? 2018. $1999. Graduate student: Kyle Roush

A transcriptomics approach to identify the mechanisms underlying reproductive impairments among fathead minnows exposed to thyroid disruptors during early development. 2017. $3000. Graduate student: Peter Bruns

Funded TCU SERC Proposals

2020-2021 Academic Year

Sex-specific differences in immunity: an investigation of cellular immune function in male and female fathead minnows. $943. Undergraduate student: Andrew Mielcuszny

2019-2020 Academic Year

Comparison of swim performance assays for evaluating the cardiovascular fitness of larval fathead minnows. $1426. Undergraduate student: Gabby Lamanteer.

Investigating sex-based differences in pathogen resistance and immune responses in the fathead minnow (*Pimephales promelas*). $1500. Undergraduate student: Miranda Finch

2018-2019 Academic Year

Exploring the effects of early life stage nitrate exposure on sexual development and reproduction. $1500. Undergraduate student: Hannah Nettelblad

The conversion of UV-exposed triclosan to dioxin-like compounds: NMR analysis of triclosan and its photodegradation by-products in water. $1047. Undergraduate student: Asal Saeid

Assessing the impacts of early life stage thyroid disruption on immune cell development and function. $1500. Undergraduate student: April Tran

2017-2018 Academic Year

Uncovering the basis of sex-specific differences in immune function: the role of estrogens. $1500. Undergraduate student: Ari Soto

The effects of thyroid disrupting compounds on bone development in fathead minnows. $1500. Undergraduate student: Mallory Seemann

Analyzing the effects of thyroid disrupting compounds on eye development in *Pimephales promelas*. $1500. Undergraduate student: Bethany Pierce

2016-2017 Academic Year
Sink or swim: Effects of thyroid hormones on the developing fathead minnow immune system. $1326. Undergraduate student: Haley Egan

Another fish in the signaling sea: The effect of thyroid hormone on the immune function of adult fathead minnows. $1500. Undergraduate student: Meriel LeSueur

Cause for Concern: Chemical contamination in Kazakhstan's Syr Darya river and its impacts on fish reproductive health. $1207. Undergraduate student: Gunnar Nystrom

2015-2016 Academic Year
Identifying molecular biomarkers of growth inhibition in fathead minnows: Ontogenetic expression profiles and responses to common contaminants. $1328. Undergraduate student: Kate Phillips.
Effective spawning strategies for producing viable fathead minnow embryos for use in fish embryo toxicity tests. $535. Undergraduate student: Jacob Malmquist

Males, masculinity and immunity: A test of the immunocompetence handicap hypothesis in fathead minnows. $1500. Undergraduate student: Alexis Medders.

Enhancing the fish embryo toxicity test: Growth, development abnormalities and gene expression as additional test endpoints. $1500. Undergraduate student: Kyle Roush.

Identifying sensitive indicators of thyroid disruption in fathead minnows after exposure to thyroxine and propylthiouracil. $1500. Undergraduate student: Elise Path.

2014-2015 Academic Year
Global amphibian declines: Are exposures to polybrominated diphenyl ethers a contributing factor?. $1500. Undergraduate student: Alexandra Yost.

Seeking animal alternatives in toxicity testing: Validation and enhancement of the fathead minnow fish embryo toxicity test as an alternative to larval fish toxicity tests. $1500. Undergraduate student: Dane Stephens.

Funded TCU Honors College Proposals

JVR Honors College Board of Visitors Undergraduate Research/Creative Project Grant Program. 2020. Analyzing the Effects of Androgens on the Female Fish Immune System. $1572. Undergraduate student: Haley Schluterman

JVR Honors College Board of Visitors Undergraduate Research/Creative Project Grant Program. 2019. Exploring the effects of early life stage nitrate exposure on sexual development and reproduction. $740. Undergraduate student: Hannah Nettelblad

JVR Honors College Board of Visitors Undergraduate Research/Creative Project Grant Program. 2019. Exploring the endocrine disrupting potential of nitrates: Do adult exposures lead to alterations in androgen signaling and reproductive success in fathead minnows? $2000. Undergraduate student: Caroline Wade

JVR Honors College Board of Visitors Undergraduate Research/Creative Project Grant Program. 2017-2018. The effects of thyroid disrupting compounds on bone development in fathead minnows. $1500. Undergraduate student: Mallory Seemann

JVR Honors College Board of Visitors Undergraduate Research/Creative Project Grant Program. 2017-2018. Analyzing the effects of thyroid disrupting compounds on eye development in *Pimephales promelas*. $1500. Undergraduate student: Bethany Pierce

JVR Honors College Honors Scholar Award. 2016-2017. Thyroid hormone regulation of immune function. $1000. Undergraduate student: Meriel LeSueur.

JVR Honors College Board of Visitors Undergraduate Research/Creative Project Grant Program. 2016-2017. Thyroid hormone regulation of immune function. $1000. Undergraduate student: Meriel LeSueur.

JVR Honors College Board of Visitors Undergraduate Research/Creative Project Grant Program. 2015-2016. Enhancing the fish embryo toxicity test: Growth, development abnormalities and gene expression as additional test endpoints. $1000. Undergraduate student: Kyle Roush

Student Presentation Awards

2nd Place Best Poster Presentation for "Investigating sex-based differences in the pathogen resistance and immune responses in the fathead minnow, an immunotoxicity model" by Finch M*, Thornton Hampton L**, Malin L*, Jeffries MK. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, 2019.

3rd Place Best Platform Presentation for "Uncovering the effects of thyroid disruption on immune function and development in larval fathead minnows" by Tran A*, Jeffries MK. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, 2019.

1st Place Best Platform Presentation for "Screening for reproductive endocrine disrupting compounds: Does phenotype influence test outcome?" by Roush KS**, Jeffries MK. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, 2018.

1st Place Best Poster Presentation for "Adaptation of methods for the immunofluorescent visualization of thyroxine (T4) in larval fathead minnows (*Pimephales promelas*)" by Thornton LM**, Venables BJ, Jeffries MK. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, 2018.

3rd Place Best Poster Presentation for "Exposure to the model goitrogen, propylthiouracil (PTU), alters the immune response and pathogen resistance in male fathead minnows (*Pimephales promelas*)" by LeSueur MC*, Thornton LM**, Jeffries MK. South Central Society of Environmental Toxicology and Chemistry Meeting, 2017.

3rd Place Best Platform Presentation for "Reproductive effects of early-life stage thyroid disruption in the fathead minnow" by Bruns P**, Pierce BL*, Seemann MM*, Jeffries MK. South Central Society of Environmental Toxicology and Chemistry Meeting, 2017.

2nd Place Best Undergraduate Platform Presentation for "Balancing the effectiveness and practicality of alternative test endpoints for the fathead minnow fish embryo toxicity test" by Roush KS*, Krzykwa J**, Stephens DA*, Jeffries MK. Society of Environmental Toxicology and Chemistry 7th World Congress/37th North America Annual Meeting, 2016.

3rd Place Best Undergraduate Platform Presentation for "An ecotoxicological reconnaissance in Central Asia: Assessment of biomarker responses in wild-caught roach (*Rutilus rutilus*)." by Nystrom GS*, Snow DD, Kolok AS, Bartelt-Hunt SL, Uralbekov B, Mamilov N, Jeffries MK. 2016. Society of Environmental Toxicology and Chemistry 7th World Congress/37th North America Annual Meeting, 2016.

3rd Place Best Masters Platform Presentation for "Cardiovascular and neurodevelopmental metrics as sublethal endpoints for the fish embryo toxicity test" by Krzykwa J**, Jeffries MK. Society of Environmental Toxicology and Chemistry 7th World Congress/37th North America Annual Meeting, 2016.

2nd Place Best Student Platform Presentation for "Development of cardiovascular and neuro-developmental metrics as sublethal endpoints for the fish embryo toxicity test" by Krzykwa, JC*, Jeffries, MK. 2016, Lone Star Chapter of the Society of Toxicology Meeting, 2016.

3rd Place Best Student Platform Presentation for "Identifying sensitive endpoints of thyroid hormone disruption in early life stage fathead minnows." by Path EM*, Egan H*, Jeffries MK; South Central Regional Chapter of the Society of Environmental Toxicology and Chemistry Annual Meeting, 2016.

2nd Place Best Student Poster Presentation for "Can the fish embryo toxicity test go chronic? Screening for sublethal endpoints to predict chronic toxicity in fathead minnow embryos." By Krzykwa JC**, Jeffries MK. South Central Regional Chapter of the Society of Environmental Toxicology and Chemistry Annual Meeting, 2016

Best Student Poster Presentation for "Development of the fathead minnow as a model organism for the study of immune function: characterization of molecular responses to pathogen infection" by Thornton LM**, LeSueur MC*, Yost AT*, Stephens DA*, Oris JT, Jeffries MK; Texas Chapter of the American Fisheries Society Annual Meeting, 2015.

1st Place for "Timing is everything: Are the effects of PBDE-47 different in adult and early life stage organisms?" by Thornton, L.; TCU Three Minute Thesis (3MT®) Competition, 2015.

People's choice award for "Timing is everything: Are the effects of PBDE-47 different in adult and early life stage organisms?" by Thornton, L., TCU Three Minute Thesis (3MT®) Competition; 2015.

Best Graduate Student Platform Presentation for "Development of the fathead minnow as a model organism for immunotoxicity: Characterization of basic immune function parameters." by Thornton, L.*, A. Yost**, M. LeSueur**, D. Stephens**, M. Jeffries; South Central Chapter of the Society of Environmental Toxicology and Chemistry Annual Meeting, 2014.

Presentations (*149 since 2003; 2018-Present shown*)

**undergraduate, **graduate student, †invited*

†Jeffries MKS. Upcoming February 2021. Developmental thyroid disruption and long-term reproductive impacts. University of Texas – Arlington Department of Earth & Environmental Sciences Seminar Series, Arlington, TX.

Schluterman H*, Mielcuszny A*, Malin L**, **Jeffries MKS.** November 2020. An analysis of the effects of the cattle growth-promoting androgen, trenbolone, on the immune function of female fish. Society of Environmental Toxicology and Chemistry SciCon2 (virtual meeting).

Bryant A**, **Jeffries MKS.** November 2020. The Effects of Early Life Stage Thyroid Disruption on Reproductive Behaviors in Fathead Minnows (*Pimephales promelas*). Society of Environmental Toxicology and Chemistry SciCon2 (virtual meeting).

Krzykwa J**, King S*, Hawkins A*, **Jeffries MKS**. November 2020. The inclusion of pericardial edema and growth as indicators of mortality improves fish embryo toxicity test performance. Society of Environmental Toxicology and Chemistry SciCon2 (virtual meeting).

Malin L**, Do V*, **Jeffries MKS.** November 2020. Reproductive endocrine disruption and immunity: Does exposure to an anti-estrogen modulate immune function in female fathead minnows? Society of Environmental Toxicology and Chemistry SciCon2 (virtual meeting).

Krzykwa J**, Lamanteer G*, **Jeffries MKS**. 2020. A comparison of two methods for estimating critical swimming speed (U_{CRIT}) in larval fathead minnows: the laminar flow assay and the spinning task assay. Society of Environmental Toxicology and Chemistry Europe 30th Annual meeting. Virtual meeting (due to COVID-19 pandemic).

Krzykwa J**, King S*, Hawkins A*, **Jeffries MKS**. 2020. Investigating the predictive power of pericardial edema in fish embryos. Society of Environmental Toxicology and Chemistry Europe 30th Annual meeting. Virtual meeting (due to COVID-19 pandemic).

Norberg-King T, Embry M, Belanger S, **Jeffries M**, Connors, K, Brill J, Schirmer K, Lampi M, Hughes S, Kristofco L. 2020. Whole effluent toxicity testing: Are there alternative approaches? Society of Environmental Toxicology and Chemistry Europe 30th Annual meeting. Virtual meeting (due to COVID-19 pandemic).

Johnson A**, Bruns P**, Hale MC, **Jeffries MK.** 2019. Developmental thyroid disruption impairs reproduction: Uncovering mechanisms using a transcriptomic approach. Society of Environmental Toxicology and Chemistry 40th North America Annual Meeting, Toronto, CA.

Krzykwa J**, Lamanteer G*, **Jeffries MK**. 2019. Identifying methods for the assessment of toxicant-induced alterations in neurological function in larval fathead minnows. Society of Environmental Toxicology and Chemistry 40th North America Annual Meeting, Toronto, CA.

Thornton Hampton L**, Finch MG*, Venables BJ, **Jeffries MK.** 2019. The impacts of developmental thyroid disruption on immune function and the immune response in the fathead minnow. Society of Environmental Toxicology and Chemistry 40th North America Annual Meeting, Toronto, CA.

Thornton Hampton L**, Venables BJ, **Jeffries MK.** 2019. Optimization and validation of respiratory burst and phagocytic cell activity assays in the fathead minnow, an emerging immunotoxicity model. Society of Environmental Toxicology and Chemistry 40th North America Annual Meeting, Toronto, CA.

Thornton Hampton L**, Finch MG*, Venables BJ, **Jeffries MK.** 2019. The impacts of developmental thyroid disruption on immune function and the immune response in the fathead minnow. Southern California Chapter of the Society of Environmental Toxicology and Chemistry Meeting, La Jolla, CA.

Thornton Hampton L**, Venables BJ, **Jeffries MK.** 2019. Optimization and validation of respiratory burst and phagocytic cell activity assays in the fathead minnow, an emerging immunotoxicity model. Southern California Chapter of the Society of Environmental Toxicology and Chemistry Meeting, La Jolla, CA.

Johnson A**, Bruns P**, Hale MC, **Jeffries MK.** 2019. Connecting developmental thyroid disruption to impaired reproductive success in fathead minnows. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, Waco, TX.

Finch M*, Thornton Hampton L**, Malin L**, **Jeffries MK.** 2019. Investigating sex-based differences in the pathogen resistance and immune responses in the fathead minnow, an immunotoxicity model. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, Waco, TX.

Krzykwa J**, Lamanteer G*, **Jeffries MK**. 2019. Validating methods for the assessment of neurological function in larval fathead minnows. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, Waco, TX.

Nettelblad H*, Wade C*, **Jeffries MK**. 2019. Exploring the effects of early life stage nitrate exposure on sexual development and adult reproduction. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, Waco, TX.

Wade C*, Nettelblad H*, **Jeffries MK**. 2019. Exploring the endocrine activity of nitrate: Does exposure alter hormone levels and reproduction in adult fathead minnows? South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, Waco, TX.

Tran A*, **Jeffries MK**. 2019. Uncovering the effects of thyroid disruption on immune function and development in larval fathead minnows. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, Waco, TX.

Thornton Hampton L**, Finch MG*, Venables BJ, **Jeffries MK.** 2019. The impacts of developmental thyroid disruption on immune function and the immune response in the fathead minnow. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, Waco, TX.

Thornton Hampton L**, Venables BJ, **Jeffries MK.** 2019. Optimization and validation of respiratory burst and phagocytic cell activity assays in the fathead minnow, an emerging immunotoxicity model. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, Waco, TX.

Krzykwa J**, Roush KR**, **Jeffries MK.** 2018. Development of methods for the assessment of vision and neurological function in larval fathead minnows. Society of Environmental Toxicology and Chemistry 39th North America Annual Meeting, Sacramento, CA.

Johnson A**, Bruns P**, Seemann M*, Hale MC, **Jeffries MK.** 2018. Connecting developmental thyroid disruption to impaired reproductive success in fathead minnows. Society of Environmental Toxicology and Chemistry 39th North America Annual Meeting, Sacramento, CA.

Malin L*, Finch M*, Gbedey W*, Nettelblad H*, Roush KR**, Thornton LM**, Wade C, **Sellin Jeffries MK**. 2018. Endocrine disrupting compounds and immunity: The effects of estrogens and antiestrogens on immune function in fathead minnows. Society of Environmental Toxicology and Chemistry 39th North America Annual Meeting, Sacramento, CA.

Thornton LM**, Finch M*, Venables BJ, **Jeffries MK.** 2018. The impacts of early life stage hypothyroidism on immune function and the immune response in the fathead minnow (*Pimephales promelas*). Society of Environmental Toxicology and Chemistry 39th North America Annual Meeting, Sacramento, CA.

Thornton LM**, **Jeffries MK**, Venables BJ. 2018. Adaptation of methods for the immunofluorescent visualization of thyroxine (T4) in larval fathead minnows (*Pimephales promelas*). Society of Environmental Toxicology and Chemistry 39th North America Annual Meeting, Sacramento, CA.

Roush KR**, **Jeffries MKS**. 2018. An investigation of sexual maturity status as a confounding factor in screening assays for the detection of androgens and anti-estrogens. Society of Environmental Toxicology and Chemistry 39th North America Annual Meeting, Sacramento, CA.

Roush KR**, **Jeffries MKS**. 2018. Identifying estrogenic and anti-androgenic endocrine disrupting compounds: Can sexual maturity status influence test outcome? Society of Environmental Toxicology and Chemistry 39th North America Annual Meeting, Sacramento, CA.

Jeffries MKS. 2018. The sexually dimorphic immune system: An Exploration of the influence of sex and sexual maturity status on immune function and immunotoxicity in fish. Society of Environmental Toxicology and Chemistry 39th North America Annual Meeting, Sacramento, CA.

†**Jeffries MKS**. 2018. Novel targets for endocrine disrupting compounds: Evidence of the immune and reproductive systems as targets for thyroid disruptors. National Chung Hsing University – Department of Life Sciences Seminar Series. Tiachung City, Taiwan.

Seemann M*, Bruns P**, **Jeffries MK**. 2018. Identifying the causes of reproductive impairment following thyroid disruption. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, Junction, TX.

Stephens L*, Path EM*, Seemann M*, Egan H*, **Jeffries MK**. 2018. Developing a larval fathead minnow screening assay for the detection of thyroid disrupting compounds. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, Junction, TX.

Krzykwa JC**, **Jeffries MK**. 2018. Developing methods for assessment of optomotor response in larval fathead minnows. South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, Junction, TX.

Roush KS**, **Jeffries MK**. 2018. Screening for reproductive endocrine disrupting compounds: Does phenotype influence test outcome? South Central Chapter of the Society of Environmental Toxicology and Chemistry Meeting, Junction, TX.

Thornton LM**, Venables BJ, **Jeffries MK**. 2018. Adaptation of methods for the immunofluorescent visualization of thyroxine (T4) in larval fathead minnows (*Pimephales promelas*). South Central Chapter Society of Environmental Toxicology and Chemistry Meeting, Junction, TX.

SERVICE

Departmental Service

Associate Chair, Biology Department, 2020-present
Member, Biology Department *Ad-hoc* Handbook Committee, 2019-present
Member, Biology Department Advancement Committee, 2019-present
Member, Biology Department Advisory Committee, 2019-present
Member, Biology Department Undergraduate Research Committee, 2017-present
Member, Biology Department Committee on Graduate Studies, 2014-present
Coordinator, Mondays at TCU, 2014-2019
Member, Committee on Student Research Symposium Poster Judging, 2017-2018
Member, *Ad-hoc* Committee on the Future of the Pre-Health Program, 2017

Member, Biology Department Search Committee for Tenure-track Biochemist, 2016
Member, Biology Department Search Committee for Biochemistry Instructor, 2015

College of Science and Engineering (CSE) Service

Member, Graduate Council, 2020-Present
Member, Health Professions Advising Committee, 2014-Present
Presenter, CSE Experience TCU Event for Prospective Students, 2020
Chair, CSE Honors Research Symposium Committee, 2016-2019

University Service

Interviewer, Chancellor's Scholar Program, 2020
Honors Admission Reader, J.V. Roach Honors College, 2020
Faculty Senate, 2019-Present
Academic Excellence Committee, 2019-Present
Alternate Member, TCU Institutional Animal Care and Use Committee, 2018-Present
Member, TCU Allies Program, 2015-Present
Reviewer, J.V. Roach Honors College Honors Undergraduate Research Grants, 2019
Member, TCU Office of Research Compliance Advisory Committee, 2017-2019
College of Science and Engineering Honors Week Liaison, 2015-2019
Member, Honors College Undergraduate Research Grant Committee, 2016-2017
Member, *Ad-hoc* Committee for Controlled Substance Policy and Procedure Revision, 2018
Member, *Ad-hoc* Institutional Animal Care and Use Committee for Policy Revision, 2016-2017
Lecturer, Experience TCU (Chancellor's Scholars weekend), 2015

Community Service and Outreach

Founder, Fort Worth Science Café, 2020-Present
Participant, STEM Summer Camp for Girls Inc. of Tarrant County, 2019

Professional Affiliations and Service

Immunotoxicology Enthusiasts

Co-founder and Steering Committee Member, 2019-present

Health and Environmental Sciences Institute

Animal Alternatives Steering Committee Member, 2019-present
Animal Alternatives Committee Advisory Committee Member, 2014-present

Society of Environmental Toxicology and Chemistry (SETAC)

SETAC Membership

Member, North America Geographic Unit Member, 2004-present
South Central Regional Chapter Member, 2014-present
Member, Ohio Valley Regional Chapter, 2012-2013
Member, Ozark-Prairie Regional Chapter, 2003-2010

SETAC Leadership

2020 North America Meeting Co-chair, 2018-present
Secretary, South Central Chapter, 2019-present
Immediate Past President, South Central Chapter, 2018-2019
President, South Central Chapter, 2017-2018
Vice President, South Central Chapter, 2016-2017
Webmaster, South Central Chapter 2015-present

SETAC Service

Member, North America Inclusive Diversity Committee, 2020-Present
Editorial Board Member, *Environmental Toxicology and Chemistry*, 2017-Present
Student Presentation Judge, North America Annual Meeting, 2020
Member, North America Meeting Social Subcommittee, 2019-2020
Member, North America Meeting Abstract Review Committee, 2019-2020
Mentor, Exploring Career Choices Event, 2018-2019
Co-host, South Central Chapter Annual Meeting Co-host with M. Chumchal and R. Drenner, 2016
North America Annual Meeting Session Co-chair for:

Addressing Existing Challenges in Immunoeco[toxico]logy: From Tool Development to Risk Assessment, 2019

Alternative Animal Ecotoxicity Testing: New and Novel Approaches for Predicting Environmental Hazards and Risk Assessment, 2018

Immunotoxicology: Identifying Adverse Effects, Developing New Approaches and Confronting Existing Challenges, 2018

Alternative Approaches to Animal Testing for Ecotoxicity Assessments, 2017

Immunotoxicity – Impacts of Contaminants on Immune Function and Susceptibility to Disease, 2017

Uncharted Waters: Field Ecotoxicology in Remote Locations on Limited Resources, 2016

Aquatic Toxicology and Ecology – General, 2015

American Association for Laboratory Animal Science, Silver Member, 2014-2017, 2020-present

Council on Undergraduate Research, Member, 2016-2018

Sigma Xi Scientific Research Society, Full Member, 2006-2008, 2013-2014, 2016-2019

Professional Development

Workshops and seminars attended

Make Difficult Conversations Easy(er), 2020. Hosted by TCU Human Resources.

Interrupting Microaggressions, 2020. Hosted by TCU Human Resources.

Racial Equity in Higher Ed: Teaching with Racial Equity, 2020. Hosted by TCU.

Experiences of Black STEM in the Ivory: A Call to Disruptive Action, 2020. Virtual event hosted by the University of Washington.

The Neuroscience of Coaching, 2020. Hosted by the TCU and UNTHSC School of Medicine.

Colloquium on Mental Health and the Classroom, 2020. Hosted by the TCU Academic Excellence Committee and Faculty Senate.

Inclusive Communication, 2019. Hosted by the TCU College of Science & Engineering.

Key communication strategies for navigating challenging workplace relationships, 2017. Hosted by the Society of Environmental Toxicology and Chemistry.

Trainings completed *(those required of all TCU employees are not included)*
Hiring and Selection Committee Training, 2020. Hosted by TCU Human Resources.

Culturally based trauma-informed response training, 2020. Hosted by TCU Student Affairs.

Conflict of interest, 2018. CITI training module.

Essentials for IACUC Members, 2018. CITI training module.

Working with fish in Research Settings, 2018. CITI training module.

Working with the IACUC, 2018. CITI training module.

Other Professional Service Activities

Manuscript Referee.

Aquatic Toxicology, Biological Bulletin, BMC Genomics, Chemosphere, Comparative Biochemistry and Physiology, Ecotoxicology, Ecotoxicology and Environmental Safety, Environmental Pollution, Environmental Science and Pollution Research, Environmental Science and Technology, Environmental Science: Processes and Impacts, Environmental Toxicology and Chemistry, Environmental Toxicology and Pharmacology, Fish Physiology and Biochemistry, Food and Chemical Toxicology, Histology and Histopathology, Journal of Environmental Quality, Journal of Great Lakes Research, International Journal of Environmental Research and Public Health, Journal of Hazardous Materials, Journal of the American Water Resources Association, Microarrays, PLOS ONE, Royal Society Open Science, Science of the Total Environment, Springer Plus, Toxicological Sciences, Toxicology and Industrial Health

Textbook Reviewer.

Schreiber's Integrative Endocrinology (publisher: Oxford University Press), 2020.
Human Physiology: Mechanisms and Logic (publisher: Jones and Bartlett Learning), 2016.

Grant Proposal Reviewer.

Alternative Research and Development Foundation Grant Program, 2020.
Alternative Research and Development Foundation Grant Program, 2019.
National Oceanic and Atmospheric Administration RESTORE Science Program, 2019.
United States Geological Survey 104b State Grant Program (Idaho), 2018.
Graduate Women in Science – Fellowship Program, 2018.
National Science Foundation - International Research Fellowship Program, 2012.

Legislative Testimony.

California Assembly Bill No. 2474: Hazardous waste: identification: testing. Testimony in support of a bill authorizing the Department of Toxic Substances Control to evaluate whether the fish embryo toxicity test can be utilized as an alternative to existing toxicity testing strategies. 2018.