Dr. Leah Thornton Hampton

Senior Scientist
Toxicology Department
Southern California Coastal Water Research Project

Education

Ph.D., biology, University of North Texas, 2020

M.S., biology, Texas Christian University, 2015

B.S., zoology, Miami University, Honors with Distinction, 2013

Professional Experience

Senior Scientist, Southern California Coastal Water Research Project, 2023-Present

Scientist, Southern California Coastal Water Research Project, 2020-2023

Teaching Assistant, University of North Texas, Department of Biology, 2015-2020

Teaching Assistant, Texas Christian University, 2015-2016

Advisory Committees

Statewide Plastics Strategy Technical Advisory Group (2024-Present)

International Standards Organization, Technical advisory group member, Joint ISO/TC 147/SC 2 - ISO/TC 61/SC 14 WG: Plastics (including microplastics) in waters and related matrices (2024-Present)

Fibre Fragmentation Workshop Series, Fashion for Good & The Microfibre Consortium (2024)

International Joint Commission Steering Committee Member, Workshop on Ecological Risk Assessment Framework for Microplastics, Windsor, ON. January 2024.

International Joint Commission Workshop Participant, Towards a Monitoring Program for Microplastics in the Laurentian Great Lakes – Developing a Monitoring Framework. Ann Arbor, MI. September 2023.

Society Memberships and Offices

Board Member, Southern California Regional Chapter, Society of Environmental Toxicology and Chemistry North America (2024-Present)

Program Committee, Society of Environmental Toxicology and Chemistry North America 45th Annual Meeting, Fort Worth, TX. (2024)

Chair of North American Student Advisory Committee, Society of Environmental Toxicology and Chemistry North America, (2018-2019)

Vice Chair of North American Student Advisory Committee, Society of Environmental Toxicology and Chemistry North America, (2017- 2018)

Student Representative, South Central Regional Chapter, Society of Environmental Toxicology and Chemistry North America, (2017-2018)

Honors and Awards

University of Southern California Sea Grant. 2022-2024
Presidential Citation for Outstanding Service, Society for Environmental Toxicology and Chemistry. 2019
University of North Texas Graduate Student Research Award. 2018
University of North Texas Graduate Student Travel Grant. 2017, 2018
Society of Environmental Toxicology and Chemistry Student Travel Grant. 2015, 2019
Texas Christian University Graduate Student Travel Grant. 2015
Pollutant Responses in Marine Organisms Travel Grant. 2015
Adkins Fellowship from Texas Christian University. 2014. Summer Salary
Grant-In-Aid of Research from Sigma Xi, The Scientific Research Society. 2014

Selected Publications

Sherrod H, Leong N, Hapich H, Gomez F, […] Thornton Hampton LM, et al. One4All: An Open Source Portal to Validate and Share Microplastics Data and Beyond. *The Journal of Open Source Software* 2024, DOI: 10.21105/joss.06715.

Mayer PM, Moran KD, Miller EL, Brander SM, […], Thornton Hampton LM, et al. Where the Rubber Meets the Road: Tires as a Complex Pollutant. *Science of the Total Environment* 2024, DOI: 10.1016/j.scitotenv.2024.171153.

Brander SM, König A, Almroth BC, Thornton Hampton LM. The Potential for Toxicity to Fishes from Micro- and Nanoplastics, and Their Additives. Toxicology of Fishes (2nd ed.). Willett KL, & Aluru N (Eds.), 2024, CRC Press. DOI: 10.1201/9781003160694.

Thornton Hampton LM, De Frond H, Gesulga K, Kotar S, Lao W, et al. The influence of complex matrices on method performance in extracting and monitoring for microplastics. *Chemosphere* 2023, DOI: 10.1016/j.chemosphere.2023.138875.

Kotar S, McNeish R, Murphy-Hagen C, Renick V, […], Thornton Hampton LM, et al. Quantitative assessment of visual microscopy as a tool for microplastic research: recommendations for improving methods and reporting. *Chemosphere* 2022, DOI: 10.1016/j.chemosphere.2022.136449.

Thornton Hampton LM, Bouwmeester H, Brander SM, Coffin S, Cole M, et al. Research recommendations to better understand the potential health impacts of microplastics to humans and aquatic ecosystems. *Microplastics and Nanoplastics* 2022, DOI: 10.1186/s43591-022-00038-y.

Thornton Hampton LM, Brander SM, Cole M, Coffin S, Hermabessiere L, et al. Characterizing microplastic hazards: Which concentration metrics and particle characteristics are most informative for understanding toxicity in aquatic organisms? *Microplastics and Nanoplastics* 2022, DOI: 10.1186/s43591-022-00040-4.

Mehinto AC, Coffin S, Koelmans AA, Brander SM, […], Thornton Hampton LM, et al. Risk-based management framework for microplastics in aquatic ecosystems. *Microplastics and Nanoplastics* 2022, DOI: 10.1186/s43591-022-00033-3.

Jenkins T, Persaud B, Cowger W, Szigeti K, […], Thornton Hampton LM, et al. Current state of microplastic pollution research data: Trends in availability and sources of open data. *Frontiers in Environmental Science* 2022, DOI: 10.3389/fenvs.2022.912107.

Thornton Hampton LM, Lowman H, Coffin S, Darin E, De Frond H, et al. A living tool for the continued exploration of microplastic toxicity. *Microplastics and Nanoplastics* 2022, DOI: 10.1186/s43591-022-00032-4.

Gouin T, Ellis-Hutchings R, Thornton Hampton LM, Lemieux CL, Wright SL. Screening and prioritization of nano- and microplastic particle toxicity studies for evaluating human health risks—development and application of a toxicity assessment tool. *Microplastics and Nanoplastics* 2022, DOI: 10.1186/s43591-021-00023-x.

De Frond H, Thornton Hampton LM, Kotar S, Gesulga K, Matuch C, et al. Monitoring

microplastics in drinking water: an interlaboratory study to inform effective methods for quantifying and characterizing microplastics. *Chemosphere* 2022, DOI: 10.1016/j.chemosphere.2022.134282.

Thornton Hampton LM, Finch MG, Martyniuk CJ, Venables BJ, Sellin Jeffries MK. Developmental thyroid disruption causes long-term impacts on immune cell function and transcriptional responses to pathogen in a small fish model. *Scientific Reports* 2021, DOI: 10.1038/s41598-021-93929-8.

Mehinto AC, Thornton Hampton LM, Vidal-Dorsch DE, Garcia-Reyero N, Arick II MA, et al. Transcriptomic response patterns of hornyhead turbot (*Pleuronichthys verticalis*) dosed with polychlorinated biphenyls and polybrominated diphenyl ethers. *Comparative Biochemistry and Physiology Part D: Genomics and Proteomics*, 2021, DOI: 10.1016/j.cbd.2021.100822.

Selected Conference Proceedings

Thornton Hampton LM & Mehinto A. Leveraging Existing Monitoring Efforts to Determine the Extent and Magnitude of Macro- and Microplastic Contamination in the Southern California Bight. Society of Toxicology and Environmental Chemistry North America 45th Annual Meeting. October 24, 2024. Fort Worth, TX.

Thornton Hampton LM, Kennedy S, Barrick A, Birggs Wyler D,[…], Mehinto A. The Toxicity of Microplastics Explorer 2.0 – Are We Moving The Needle Forward On Microplastics Toxicity Research? Society of Toxicology and Environmental Chemistry North America 45th Annual Meeting. October 24, 2024. Fort Worth, TX.

Hataley EK, Kidd K, Rooney R, Thornton Hampton LM, Hoffman MJ,[…], Rochman CM. Evaluating the Alignment Between Proposed Risk Assessments for Microplastics and Whole Ecosystem Mesocosm Experiments. Society of Toxicology and Environmental Chemistry North America 45th Annual Meeting. October 24, 2024. Fort Worth, TX.

Kennedy S, Doyle D, Coffin S, Mair MM,[…], Thornton Hampton LM et al. Trends in Quality and Risk Assessment Applicability of Microplastic Ecotoxicity Studies. Society of Toxicology and Environmental Chemistry North America 45th Annual Meeting. October 24, 2024. Fort Worth, TX.

Thornton Hampton LM. ToMEx: Toxicity of Microplastics Explorer. Federal-State Toxicology Risk Analysis Committee. 16 May 2024. Virtual.

Thornton Hampton LM. California Microplastic Monitoring Strategy. International Joint Commission Workshop: Towards a Monitoring Program for Microplastics in the Laurentian Great Lakes – Informing Field Methods. September 13, 2023. Ann Arbor, MI.

Thornton Hampton LM. California Microplastic Method Standardization. International Joint Commission Workshop: Towards a Monitoring Program for Microplastics in the Laurentian Great Lakes – Informing Field Methods. September 12, 2023. Ann Arbor, MI.

Thornton Hampton LM. Current Research Initiatives & Strategies for Microplastic Management in California. 2023 ICCA MARII Workshop. June 12, 2023. Seattle, WA.

Thornton Hampton LM. Microplastic Hazard Characterization. Microfibre Consortium. July 27, 2022. Virtual.

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

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

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

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

Journal Articles

Thornton Hampton, L.M., D.B. Wyler, B.C. Almroth, S. Coffin, W. Cowger, D. Doyle, E.D. Hataley, S.J. Hutton, M.M. Mair, E.L. Miller, L. Monclus, E.E. Sharpe, S. Samreen, K.T. Ahmed, Q.P.V. Allamby, A.L. Antonio Vital, D. Asnicar, J.L. Bare, A. Barrick, K. Berreman, L. Bertrand, V. Boone, A. Bour, J. Brehm, V. Carrasco-Navarro, T. Cook, G.A. Covernton, P. Cubanski, P.M.C. Da Silva, L. de Souza Leite, S.M. Gene, L. Hermabessiere, A. Hooge, Y. Iwasaki, N. Klasios, C.M. Knauss, A.K. Kardgar, P. Kropf, I.B. Kudu, A. Kukkola, C. Laforsch, S.B. Kennedy, F.D.L. Leusch, L.W. Li, H.C. Lu, J. Mahan, U.D. Saif, S. Mondellini, J.P. Norman, Z. Pandelides, T. Petersson, D.A. Philibert, E. Kvist, A.F.R.M. Ramsperger, G. Rigutto, S. Ritschar, M.H. Sandgaard, J. Schmitt, M. Schott, M.

Schwarzer, K.J. Seabrook, T.M. Seifried, R. Sepahi, M. Sina, A.N. Testoff, M. Vercauteren, C.M. Wardlaw, A. Yeh, M. Zajac-Fay, A.C. Mehinto. 2025. The Toxicity of Microplastics Explorer (ToMEx) 2.0. *Microplastics and Nanoplastics* DOI:10.1186/s43591-025-00145-6.

Singh, S., A.B. Gray, C. Murphy-Hagan, H. Hapich, W. Cowger, J. Perna, T. Le, H. Nogi, B. Badwal, K. McLaughlin, F. Kessouri, C. Moore, G. Lattin, L.M. Thornton Hampton, C.S. Wong, M. Sutula. 2025. Microplastic pollution in the water column and benthic sediment of the San Pedro Bay, California, USA. *Environmental Research* 269:120866.

Sherrod, H., N. Leong, H. Hapich, F. Gomez, S. Moore, B. Maurer, S. Coffin, L.M. Thornton Hampton, T. Hale, R. Nelson, C. Murphy-Hagan, O.O. Fadare, A. Kukkola, H.C. Lu, L. Markley, W. Cowger. 2024. One4All: An Open Source Portal to Validate and Share Microplastics Data and Beyond. *The Journal of Open Source Software* 9:6715.

Mayer, P.M., K.D. Moran, E.L. Miller, S.M. Brander, S. Harper, M. Garcia-Jaramillo, V. Carrasco-Navarro, K.T. Ho, R.M. Burgess, L.M. Thornton Hampton, E.F. Granek, M. McCauley, J.K. McIntyre, E.P. Kolodziej, X. Hu, A.J. Williams, B.A. Beckingham, M.E. Jackson, R.D. Sanders-Smith, C.L. Fender, G.A. King, M. Bollman, S.S. Kaushal, B.E. Cunningham, S.J. Hutton, J. Lang, H.V. Goss, S. Siddiqui, R. Sutton, D. Lin, M. Mendez. 2024. Where the rubber meets the road: Emerging environmental impacts of tire wear particles and their chemical cocktails. *Science of the Total Environment* 927:171153.

Thornton Hampton, L.M., H. De Frond, K. Gesulga, S. Kotar, W. Lao, C. Matuch, S.B. Weisberg, C.S. Wong, S. Brander, S. Christansen, C.R. Cook, F. Du, S. Ghosal, A.B. Gray, J. Hankett, P.A. Helm, K.T. Ho, T. Kefela, G. Lattin, A. Lusher, L. Mai, R.E. McNeish, O. Mina, E.C. Minor, S. Primpke, K. Rickabaugh, V.C. Renick, S. Singh, B.V. Bavel, F. Vollnhals, C.M. Rochman. 2023. The influence of complex matrices on method performance in extracting and monitoring for microplastics. *Chemosphere* 334:138875.

Thornton Hampton, L.M., S.M. Brander, S. Coffin, M. Cole, L. Hermabessiere, A.A. Koelmans, C.M. Rochman. 2022. Characterizing microplastic hazards: which concentration metrics and particle characteristics are most informative for understanding toxicity in aquatic organisms?. *Microplastics and Nanoplastics* 2:20.

Kotar, S., R. McNeish, C. Murphy-Hagan, V. Renick, C.T. Lee, C. Steele, A. Lusher, C. Moore, E. Minor, J. Schroeder, P. Helm, K. Rickabaugh, H.D. Frond, K. Gesulga, W. Lao, K. Munno, L.M. Thornton Hampton, S.B. Weisberg, C.S. Wong, G. Amarpuri, R.C. Andrews, S.M. Barnett, S. Christiansen W Cowgeri, K. Crampond, F. Du, A.B. Gray, J. Hankett, K. Ho, J. Jaeger, C. Lilley, L. Mai, O. Mina, E. Lee, S. Primpke, S. Singh, J. Skovly, T. Slifko, S. Sukumaran, B. Bavel, J.V. Brocklin, F. Vollnhals, C. Wu, C.M. Rochman . 2022. Quantitative assessment of visual microscopy as a tool for microplastic research: Recommendations for improving methods and reporting. *Chemosphere* 308:1-9.

Thornton Hampton, L.M., H. Bouwmeester, S.M. Brander, S. Coffin, M. Cole, L. Hermabessiere, A.C. Mehinto, E. Miller, C.M. Rochman, S.B. Weisberg. 2022. Research recommendations to better understand the potential health impacts of microplastics to humans and aquatic ecosystems. *Microplastics and Nanoplastics* 2:18.

Jenkins, T., B.D. Persaud, W. Cowger, K. Szigeti, D.G. Roche, E. Clary, S. Slowinski, B. Lei, A. Abeynayaka, E.S. Nyadjro, T. Maes, L.M. Thornton Hampton, M. Bergmann, J. Aherne, A.S. Mason, J.F. Honek, F. Rezanezhad, A.L. Lusher, A.M. Booth, R.D.L. Smith, P. Van Cappellan. 2022. Current State of Microplastic Pollution Research Data: Trends in Availability and Sources of Open Data. *Frontiers in Environmental Science* 10:912107.

Mehinto, A.C., S. Coffin, A.A. Koelmans, S.M. Brander, M. Wagner, L.M. Thornton Hampton, A.G. Burton, E. Miller, T. Gouin, S.B. Weisberg, C.M. Rochman. 2022. Risk-based management framework for microplastics in aquatic ecosystems. *Microplastics and Nanoplastics* 2:17.

Thornton Hampton, L.M., H. Lowman, S. Coffin, E. Darin, H. De Frond, L. Hermabessiere, E. Miller, V.N. de Ruijter, A. Faltynkova, S. Kotar, L. Monclus, S. Siddiqui, J. Volker, S. Brander, A.A. Koelmans, C.M. Rochman, M. Wagner, A.C. Mehinto. 2022. A living tool for the continued exploration of microplastic toxicity. *Microplastics and Nanoplastics* 2:13.

De Frond, H., L.M. Thornton Hampton, S. Kotar, K. Gesulga, C. Matuch, W. Lao, S.B. Weisberg, C.S. Wong, C.M. Rochman . 2022. Monitoring microplastics in drinking water: An interlaboratory study to inform effective methods for quantifying and characterizing microplastics. *Chemosphere* 298:134282.

Gouin, T., R. Ellis-Hutchings, L.M. Thornton Hampton, C.L. Lemieux, S.L. Wright. 2022. Screening and prioritization of nano- and microplastic particle toxicity studies for evaluating human health risks – development and application of a toxicity study assessment tool. *Microplastics and Nanoplastics* 2:2.

Thornton Hampton, L.M., M.G. Finch, C.J. Martyniuk, B.J. Venables, M.K. Sellin-Jeffries. 2021. Developmental thyroid disruption causes long-term impacts on immune cell function and transcriptional responses to pathogen in a small fish model. *Scientific Reports* DOI:10.1038/s41598-021-93929-8.

Mehinto, A.C., L.M. Thornton Hampton, D.E. Vidal-Dorsch, N. Garcia-Reyero, M.A. Arick, K.A. Maruya, W. Lao, C.D. Vulpe, M. Brown-Augustine, A. Loguinov, S.M. Bay. 2021. Transcriptomic response patterns of hornyhead turbot (Pleuronichthys verticalis) dosed with polychlorinated biphenyls and polybrominated diphenyl ethers. *Comparative Biochemistry and Physiology - Part D: Genomics and Proteomics* DOI:10.1016/j.cbd.2021.100822.

Snow DD, Chakraborty P, Uralbekov B, Satybaldiev B, Sallach JB, Thornton Hampton LM, Sellin

Jeffries MK, Kolok AS, Bartlet-Hunt SB. Legacy and current pesticide residues in Syr Darya, Kazakhstan: Contamination status, seasonal variation and preliminary ecological risk assessment. Water Research 2020, 184, 116141, DOI: 10.1016/j.watres.2020.116141.

Thornton Hampton LM, Martyniuk CJ, Sellin Jeffries MK, Venables BJ. Advancing the fathead minnow (Pimephales promelas) as a model for immunotoxicity testing: Characterizing the renal transcriptome following Yersinia ruckeri infection. Fish and Shellfish Immunology 2020, 103, 472-480, DOI: 10.1016/j.fsi.2020.05.008.

Thornton Hampton LM, Sellin Jeffries MK, Venables BJ. A practical guide for assessing respiratory burst and phagocytic cells activity in the fathead minnow, an emerging model for immunotoxicity. MethodsX 2020, 7, 100992. DOI: 10.1016/j.mex.2020.100992.

Thornton LM, Path EM, Nystrom GS, Venables BJ, Sellin Jeffries MK. Embryo-larval BDE-47 exposure causes decreased pathogen resistance in fathead minnows (Pimephales promelas). Fish and Shellfish Immunology 2018, 80, 80-87. DOI: 10.1016/j.fsi.2018.05.059.

Thornton LM, LeSueur MC, Yost AT, Stephens DA, Oris JT, Sellin Jeffries MK. Characterization of basic immune function parameters in the fathead minnow (Pimephales promelas), a common model in environmental toxicity testing. Fish and Shellfish Immunology 2017, 61,163-172. DOI: 10.1016/j.fsi.2016.12.033.

Yost AT, Thornton LM, Venables BJ, Sellin Jeffries MK. 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 2016, 48, 237-244. DOI: 10.1016/j.etap.2016.11.002.

Thornton LM, Path EM, Nystrom GS, Venables BJ, Sellin Jeffries MK. 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 2016, 50, 7834-7841. DOI: 10.1021/acs.est.6b02147.

Thornton LM, Path EM, Venables BJ, Sellin Jeffries MK. The endocrine effects of dietary BDE-47 exposure, measured across multiple levels of biological organization, in breeding fathead minnows. Environmental Toxicology and Chemistry 2016, 35, 2048-2057, DOI: 10.1002/etc.3351.

Thornton LM, Path EM, Nystrom GS, Venables BJ, Sellin Jeffries MK. Embryo-larval BDE-47 exposure causes decreased pathogen resistance in fathead minnows (*Pimephales promelas*). Fish and Shellfish Immunology 2018, 80, 80-87. DOI: 10.1016/j.fsi.2018.05.059.

Thornton LM, Lesueur MC, Yost AT, Stephens DA, Oris JT, Sellin Jeffries MK. Characterization of basic immune function parameters in the fathead minnow (*Pimephales promelas*), a common

model in environmental toxicity testing. Fish and Shellfish Immunology 2017, 61,163-172. DOI: 10.1016/j.fsi.2016.12.033.

Yost AT, Thornton LM, Venables BJ, Sellin Jeffries MK. 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 2016, 48, 237-244. DOI: 10.1016/j.etap.2016.11.002.

Thornton LM, Path EM, Nystrom GS, Venables BJ, Sellin Jeffries MK. 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 2016, 50, 7834-7841. DOI: 10.1021/acs.est.6b02147.

Thornton LM, Path EM, Venables BJ, Sellin Jeffries MK. The endocrine effects of dietary BDE-47 exposure, measured across multiple levels of biological organization, in breeding fathead minnows. Environmental Toxicology and Chemistry 2016, 35, 2048-2057, DOI: 10.1002/etc.3351.

Book Chapters

Brander, S.M., A. Konig, B.C. Almroth, L.M. Thornton Hampton. 2024. The Potential for Toxicity to Fishes from Micro- and Nanoplastics, and Their Additives. in: K.L. Willett, N. Aluru (eds.), *Toxicology of Fishes (2nd ed.)* pp. 362-391. CRC Press. Boca Raton, FL.

Technical Reports

Thornton Hampton, L.M., V. McGruer, A.C. Mehinto, W. Cowger, R. McNeish, K.C. Schiff. 2026. Southern California Bight 2023 Regional Monitoring Program: Volume V. Trash and Marine Debris. Technical Report 1473. Southern California Coastal Water Research Project. Costa Mesa, CA.

Thornton Hampton, L.M., A.C. Mehinto, S.B. Weisberg. 2025. Standard Operating Procedures for the Collection of Samples for Microplastics Analysis Part 1: Surface Sediment and Aquatic Biota. Technical Report 1410.A. Southern California Coastal Water Research Project. Costa Mesa, CA.

Wong, C.S., W. Lao, S. Sauers, D. Nguyen, L.M. Thornton Hampton. 2024. Multimedia investigations of microplastic concentrations in the Los Angeles and San Gabriel Rivers. Technical Report 1389. Southern California Coastal Water Research Project. Costa Mesa, CA.

McLaughlin, K., R.D. Mazor, K.C. Schiff, L.M. Thornton Hampton. 2022. Southern California Bight 2018 Regional Monitoring Program: Volume IX. Trash and Marine Debris. Technical Report 1263. Southern California Coastal Water Research Project. Costa Mesa, CA.