Haley L. Moyer, Ph.D.

SCIENTIST III

CONTACT INFORMATION

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PROFESSIONAL PROFILE

Dr. Haley Moyer is a toxicologist in ToxStrategies' Causation Analysis practice. She recently completed her doctorate in toxicology at Texas A&M University, where her research focused on characterizing the ability of *in vitro* models to mimic *in vivo* systems. Her dissertation focused specifically on evaluating the ability of organ-on-chip (OOC) devices to replicate key characteristics of barrier tissues, and on understanding the robustness and reproducibility of these models. Her specific research goals included a comparative chemical analysis of intestinal permeability using various OOC systems and using a placental OOC model to evaluate the transport and inflammatory response resulting from environmental toxicant exposure. Dr. Moyer is proficient at using liquid chromatography-mass spectrometry (LC-MS) methods, and her skill set also includes isothermal analysis, Graphpad Prism, aseptic techniques, cytokine analysis, colorimetric plate assays, and literature review and analysis.

In addition, Dr. Moyer has published in the peer-reviewed literature and presented award-winning posters at academic conferences on topics relating to microphysiological systems and toxicological assessment. Before joining ToxStrategies, Dr. Moyer interned at a risk assessment consulting firm, where she prepared litigation support materials and conducted literature reviews and research for client presentations and deliverables.

EDUCATION AND DEGREES EARNED

2025	Ph.D., Interdisciplinary Toxicology Texas A&M University, College Station, TX
2020	B.S., Biology (Biology/Chemistry concentration; Environmental Studies minor), *with honors* Lock Haven University of Pennsylvania, Lock Haven, PA

CERTIFICATIONS AND TRAINING

2025	Hazardous Waste Operations (HAZWOPER); 8-hour refresher completed May 2025 / 40-hour certification completed May 2022
2023	Disaster Research Training Workshop, Texas A&M Superfund Research Center; 16-hour workshop completed December 2023 / Previous participation 2021

PROFESSIONAL ASSOCIATIONS

2020-Present	Society of Toxicology (SOT)
2019-Present	Society of Environmental Toxicology and Chemistry (SETAC)

HONORS/AWARDS

2023-2024	SOT Reproductive and Developmental Toxicology Specialty Section Poster Award
	Graduate Recruitment, Enhancement and Travel (GREAT) Program (Graduate Professional School, Texas A&M University)
2022-2023	Perry J. Gehring Risk Assessment Award (*for scientific excellence in risk assessment by a graduate student member of the Society of Toxicology at the annual meeting*)
	Regulatory Science in Environmental Health and Toxicology T32 Institutional Training Grant (NIEHS)
	Graduate Recruitment, Enhancement and Travel (GREAT) Program (Graduate and Professional School, Texas A&M University)
2020-2021	Lechner Scholar, Texas A&M University, College of Agriculture and Life Sciences
	Initiative to Maximize Student Development T32 Institutional Training Grant (NIGMS)

PROFESSIONAL DEVELOPMENT AND SERVICE

2021-2025	Outreach Committee Member/Volunteer, Women in Science and Engineering
2021-2025	Member, Texas A&M Tissue Chip Validation Consortium (TEX-VAL)
2021-2025	Participant and Trainee, Texas A&M Superfund Research Center (project: develop a translational *in vitro*-to-*in vivo* testing strategy for evaluating inter-tissue and inter-individual variability in responses to complex environmental exposures)
2023-2024	Outreach Committee Chair, Women in Science and Engineering

PUBLICATIONS

Moyer HL, Vergara L, Stephan C, Sakolish C, Ford LC, Tsai HD, Lin HC, Chiu WA, et al. 2025. Comparative analysis of caco-2 cells and human jejunal and duodenal enteroid-derived cells in gel- and membrane-based barrier models of intestinal permeability. Toxicol Sci 204(2):181-197; doi: 10.1093/toxsci/kfaf011. PMID: 39886939.

Moyer HL, Vergara L, Stephan C, Sakolish C, Lin HC, Chiu WA, Villenave R, Hewitt P, et al. 2025. Human small intestinal tissue models to assess barrier permeability: Comparative analysis of caco-2 cells, jejunal and duodenal enteroid-derived cells, and EpiIntestinal™ tissues in membrane-based cultures with and without flow. Bioengineering (Basel). 12(8):809; doi: 10.3390/bioengineering12080809. PMID: 40868322; PMCID: PMC12384003.

Sakolish C, **Moyer HL**, Tsai HD, Ford LC, Dickey AN, Bajaj P, Villenave R, Hewitt P, et al. 2025. Comparative analysis of the physiological and transport functions of various sources of renal proximal tubule cells under static and fluidic conditions in PhysioMimix T12 platform. Drug Metab Dispos 53(1):10001; doi: 10.1124/dmd.124.001488. PMID: 39884810.

Lin HC, Sakolish C, **Moyer HL**, Carmichael PL, Baltazar MT, Ferguson SS, Stanko JP, Hewitt P, et al. 2024. An *in vitro-in silico* workflow for predicting renal clearance of PFAS. Toxicol Appl Pharmacol 489(Aug):117015; doi: 10.1016/j.taap.2024.117015. PMID: 38917890.

Sakolish C, **Moyer HL**, Tsai HD, Ford LC, Dickey AN, Wright FA, Han G, Bajaj P, et al. 2023. Analysis of reproducibility and robustness of a renal proximal tubule microphysiological system OrganoPlate 3-lane 40 for *in vitro* studies of drug transport and toxicity. Toxicol Sci 196(1):52-70; doi: 10.1093/toxsci/kfad080. PMID: 37555834.

Hearon SE, Orr AA, **Moyer H**, Wang M, Tamamis P, Phillips TD. 2022. Montmorillonite clay-based sorbents decrease the bioavailability of per- and polyfluoralkyl substances (PFAS) from soil and their translocation to plants. Environ Res 205(Apr 1):112433; doi: 10.1016/j.envres.2021.112433. PMID: 34875259.

Kato Y, Lim AY, Sakolish C, Valdiviezo A, **Moyer HL**, Hewitt P, Bajaj P, Han G, Rusyn I. 2022. Analysis of reproducibility and robustness of OrganoPlate® 2-lane 96, a liver microphysiological system for studies of pharmacokinetics and toxicological assessment of drugs. Toxicol in Vitro 85(Dec):105464; doi: 10.1016/j.tiv.2022.105464. PMID: 36057418.

ABSTRACTS AND PRESENTATIONS

Moyer H, Vergara L, Sakolish C, Stephan C, Barlow N, Roe H, Hewitt P, Villenave R, Rusyn I. Comparative analysis of drug permeability and toxicity in intestinal segment-specific membrane-based barrier model using Caco-2 and human jejunal and duodenal enteroid-derived cells. Abstract 3217, Society of Toxicology 64th Annual Meeting, Orlando, FL, March 2025.

Sakolish C, **Moyer H**, Barlow N, Roe H, Tsai H, Ford L, Bajaj P, Villenave R, et al. Microphysiological systems as predictive tools for kidney nephrotoxicants: A comparison across four platforms. Abstract 3216, Society of Toxicology 64th Annual Meeting, Orlando, FL, March 2025.

Lin H, Sakolish C, **Moyer HL**, Ferguson SS, Stanko JP, Carmichael PL, Hewitt P, Hoffmann S, et al. Predicting renal clearance of PFAS with a human kidney proximal tubule tissue chip and a novel physiologically-based kidney model. Abstract 3508, Society of Toxicology 63rd Annual Meeting, Salt Lake City, UT, March 2024.

Moyer H, Kim S, Lam BP, Richardson L, Menon R, Rusyn I, Han A. Fetal response to maternal exposures: Utility of a four-cell human organ-on-chip device to transport and effects of environmental chemicals. Abstract 4236, Society of Toxicology 63rd Annual Meeting, Salt Lake City, UT, March 2024. *Winner, Reproductive and Developmental Toxicology Specialty Section Poster Award.*

Moyer HL, Vergara L, Sakolish C, Lin HC, Hewitt P, Chiu WA, Stephan C, Rusyn I. Comparative analysis of caco-2 cells and human enteroids (jejeunal or duodenal) in gel- and membrane-based barrier models of intestinal permeability. Abstract 461, Microphysiological Systems (MPS) 3rd World Summit, Seattle, WA, June 2024.

Moyer HL, Kim S, Lam BP, Valdiviezo A, Richardson L, Menon R, Rusyn I, Han A. Evaluating mechanistic underpinnings of environmental chemical effects on feto-maternal interface using a human organ-on-chip model. Abstract 3007, Society of Toxicology 62nd Annual Meeting, Nashville, TN, March 2023. *Winner, Perry J. Gehring Best Graduate Student Abstract Award, Risk Assessment Specialty Section.*

Sakolish C, **Moyer H**, Fergusson SS, Chiu WA, Rusyn I. Analysis of reproducibility and robustness of PhysioMimix T12, a proximal renal tubule microphysiological system for studies of pharmacokinetics and toxicological assessment of drugs and chemicals. Abstract 3635, Society of Toxicology 62nd Annual Meeting, Nashville, TN, March 2023.

Moyer H, Kim S, Lam BP, Valdiviezo A, Richardson L, Menon R, Rusyn I, Han A. Evaluating mechanistic underpinnings of environmental chemical effects on feto-maternal interface using a human organ-on-chip model. Lonestar Society of Toxicology Meeting, Houston, TX, December 2023.

Moyer HL, Kim S, Lam BP, Valdiviezo A, Richardson L, Menon R, Rusyn I, Han A. Evaluating mechanistic underpinnings of environmental chemical effects on feto-maternal interface using a human organ-on-chip model. Texas A&M University Superfund External Advisory Board Meeting, College Station, TX, October 2023.

Moyer HL, Kim S, Lam BP, Valdiviezo A, Richardson L, Menon R, Rusyn I, Han A. Evaluating mechanistic underpinnings of environmental chemical effects on feto-maternal interface using a human organ-on-chip model. Texas A&M University Toxicology Annual Retreat, College Station, TX, August 2023.

Hearon SE, Orr AA, **Moyer H**, Wang M, Tamamis P, Phillips TD. Montmorillonite clay-based sorbents decrease the bioavailability of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) from soil and their translocation to plants. Abstract 3113, Society of Toxicology 61st Annual Meeting, San Diego, CA, March 2022.

Kato Y, Lim A, Sakolish C, Valdiviezo A, **Moyer H**, Rusyn I. Testing of reproducibility of a high-throughput liver microphysiological system (OrganoPlate 2-lane plate) for studies of pharmacokinetics and toxicological assessment of drugs. Abstract 4639, Society of Toxicology 61st Annual Meeting, San Diego, CA, March 2022.

Moyer H, Valdiviezo A, Sakolish C, Chiu WA, Vergara L, Stephan C. A comparative analysis of chemical permeability between microphysiological tissue chip models. Abstract 3559, Society of Toxicology 61st Annual Meeting, San Diego, CA, March 2022.

Moyer H, Vergara, L, Valdiviezo A, Sakolish C, Chiu WA, Stephan C, Rusyn I. Investigation of intestinal permeability in three microphysiological systems. FutureTox V, Chapel Hill, NC, May 2022.

Moyer H, Vergara, L, Valdiviezo A, Sakolish C, Chiu WA, Stephan C, Rusyn I. Investigation of intestinal permeability in three microphysiological systems. Texas A&M University Annual Retreat, College Station, TX, August 2022.

Moyer H, Vergara, L, Valdiviezo A, Sakolish C, Chiu WA, Stephan C, Rusyn I. Investigation of intestinal permeability in three microphysiological systems. Texas A&M University Superfund External Advisory Board Meeting, College Station, TX, October 2022.

Moyer H, Vergara, L, Valdiviezo A, Sakolish C, Chiu WA, Stephan C, Rusyn I. Investigation of intestinal permeability in three microphysiological systems. Lonestar Society of Toxicology Meeting, Waco, TX, December 2022.

Moyer H, Valdiviezo A, Sakolish C, Chiu WA, McDonald, T, Vergara, L, Stephan C, Rusyn I. Analysis of chemical permeability in a mimetas 3-lane microphysiological tissue chip model. Texas A&M University Toxicology Retreat, College Station, TX, August 2021.

Moyer H, Valdiviezo A, Sakolish C, Chiu WA, Vergara L, Stephan C, Rusyn I. A comparative analysis of chemical permeability between microphysiological tissue chip models. Texas A&M Superfund External Advisory Board Meeting, College Station, TX, November 2021.

Moyer H, Valdiviezo A, Sakolish C, Chiu WA, Vergara L, Stephan C, Rusyn I. A comparative analysis of chemical permeability between microphysiological tissue chip models. Texas A&M Center for Environmental Health and Research Meeting, College Station, TX, December 2021.

Moyer H, Valdiviezo A, Sakolish C, Chiu WA, Vergara L, Stephan C, Rusyn I. A comparative analysis of chemical permeability between microphysiological tissue chip models. Lonestar Society of Toxicology Meeting, College Station, TX, December 2021.

Moyer H, Kutay A. Cytochrome P450 reductase induction in fathead minnows due to potassium hydroxide in the Marcellus Shale Region in Pennsylvania. Society of Environmental Toxicology and Chemistry 9th Young Environmental Scientists Meeting, Waco, TX, March 2020.

Krueger AJ, **Moyer H**, Spencer T, Velez A, Weissling T, Anderson T. Toxicology of two pyrethroid insecticides in the monarch butterfly (Danaus plexippus) and interactions with host plant defense chemicals. Abstract WP266, Society of Environmental Toxicology and Chemistry (SETAC) North America Meeting, Toronto, Canada, November 2019.

Moyer H, Bross J, Dukmen C, Mileto A, Welch O, Calabrese JP, Overton BE. Elucidation of an unknown pathophysiology associated with Myotis lucifugus (little brown bat). Commonwealth of Pennsylvania University Biologists Annual Meeting, Edinboro, PA, April 2019.