JESSICA H. HARTMAN, PH.D.

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EDUCATION

University of Arkansas at Little Rock (2012)
Department: *Chemistry*
Major: Chemistry (Physics Minor)
Degree Conferred: B.S.

University of Arkansas for Medical Sciences (2016)
School: Graduate School
Department: *Biochemistry*
Degree Conferred: Ph.D.

HISTORY

2012-2016	University of Arkansas for Medical Sciences *Funded by NSF Graduate Research Fellowship*	*Graduate Research Assistant* Biochemistry and Molecular Biology Advisor: Grover P. Miller, Ph.D.
2016-2020	Duke University *Funded by NIH NRSA F32 Postdoctoral Fellowship and NIH K99 Transition to Independence Award*	*Postdoctoral Fellow* Nicholas School of the Environment Advisor: Joel N. Meyer, Ph.D.
2017-2020	National Institutes of Health *Guest position granted in collaborator's lab*	*Guest Researcher* National Institute on Drug Abuse Lab: Brandon K. Harvey, Ph.D.
2020-present	Medical University of South Carolina	*Tenure-Track Assistant Professor* Biochemistry & Molecular Biology Regenerative Medicine & Cell Biology

RESEARCH INTERESTS AND ACTIVITIES

- Toxicological consequences of xenobiotic metabolism by human mitochondrial cytochrome P450 2E1 and its endogenous role in fatty acid/ketone metabolism in liver health and disease (biochemistry).
- Physical exercise as a modifier of exposure risk to environmental contaminants (exercise physiology).
- CYP2E1 role in the pharmacological and neurotoxic effects of alcohol in the brain (neurobiology/addiction).
- Polyploidy as a conserved stress responsive mechanism in *C. elegans* and mammalian liver (genomics).

EXTRAMURAL RESEARCH SUPPORT (IN PROGRESS)

8/1/2023 – 6/30/2028	1R35 GM150843-01, Maximizing Investigators' Research Award (PI) *Regulation and Consequences of Cytochrome P450 2E1* National Institute of General Medical Sciences
9/20/2023 – 6/30/2028	1R01 AA029664-01A1, Steven Katz ESI Research Project Grant (PI) *Subcellular-targeted CYP2E1 and alcohol in the brain* National Institute on Alcohol Abuse and Alcoholism
10/1/2024 – 9/30/2027	2416714, NSF Standard Grant (Co-I, PI: Josh Gray) *StressCURE: A Course-Based Undergraduate Research Experience Toolkit* National Science Foundation

EXTRAMURAL RESEARCH SUPPORT (RECENTLY COMPLETED)

09/2019 – 10/2023	1K99/R00 ES029552-01A1, NIH Pathway to Independence Award (PI)

Exercise, MANF, and chemical-induced neurodegeneration
National Institute of Environmental Health Sciences

PILOT AND FEASIBILITY INTRAMURAL RESEARCH SUPPORT (IN PROGRESS AND RECENTLY COMPLETED)

1/1/2021 – 12/31/2023 IRG-19-137-20, ACS Institutional Research Grant Pilot Award (PI) (2 years)
The effects of tetraploidy on sphingolipid metabolism and chemosensitivity in C. elegans
American Cancer Society and MUSC Hollings Cancer Center

7/1/2021 – 6/30/2024 Digestive Disease Research Center Pilot and Feasibility Award (PI) (2 years)
Subcellular Targeting of CYP2E1 in Non-Alcoholic Fatty Liver Disease
MUSC/NIDDK Digestive Disease Research Core Center

SELECTED AWARDS AND HONORS

2013 Student Research Week Bhuvan Award Recipient (Univ. of Arkansas for Medical Sciences)
2013 Travel Award for 10th International ISSX Meeting (Univ. of Arkansas for Medical Sciences)
2014 1st Place in Graduate Oral Presentations at the Arkansas Academy of Science Meeting
2014 PhRMA Foundation Predoctoral Fellowship in Informatics (Alternate)
2014 National Science Foundation Graduate Student Research Fellowship
**Only 2,000 of >14,000 applicants were awarded the prestigious 3-year NSF GRFP fellowship*
2014 Student Research Week Bhuvan Award Recipient (Univ. of Arkansas for Medical Sciences)
2014 ACS Chemical Toxicology Student Travel Award to attend the 248th National Meeting
2014 ISSX Student Travel Award to attend the 19th North American ISSX Meeting
2015 Excellence Award for Oral Presentation (Runner-up, Junior Division) – IBS Symposium, UAMS
2016 Excellence Award for Oral Presentation (First place, Senior Division) – IBS Symposium, UAMS
2016 Dean's Distinguished Scholar Award (University of Arkansas for Medical Sciences)
2016 Alan D. Elbein Award for Research Excellence (University of Arkansas for Medical Sciences)
2017 First Place Postdoc Poster, North Carolina Society of Toxicology Meeting (Durham, NC)
2018 First Place Gabriel Plaa Education Award, Mechanisms SS, SOT Meeting (San Antonio, TX)
2018 Best Platform Presentation, GEMS Fall Meeting (Durham, NC)
2019 Postdoctoral Research Award, Molecular and Systems Biology SS, SOT Meeting (Baltimore, MD)

PRE-PRINTS (PUBLICATIONS IN REVIEW)

PEER-REVIEWED PUBLICATIONS

1. Ameyaa-Sakyi A, Harris TR, Clarke CE, McMullin DR, Gordon KL, Sherwood D, **Hartman JH**, Rand AA. (2025) "Human mitochondrial CYP2E1-mediated styrene metabolism increases oxidative stress and impairs antioxidant rescue in *Caenorhabditis elegans*." *Computational and Biochemical Physiology Part C: Toxicology and Pharmacology, in press*.
2. Jiang H, Fu D, Pasupuleti SK, Ramdas B, Long A, Ramadan AM, Yang J, Kumar R, **Hartman JH**, Kendrick BJ, Simpson E, Gao H, Liu Y, Moore D, Subramanian S, Berto S, Gopalakrishnapillai A, Barwe SP, Guo H, Cheung NV, Kapur R, Paczesny S. (2025) "ST2/IL-33 axis blockade inhibits regulatory T cell cytotoxicity towards CD8 T cells in the leukemic niche" *Nature Communications* 16(1):6580.
3. Oleinik NV, Atilgan FC, Kassir MF, Lee HG, Janneh AH, Wofford W, Walton C, Szulc ZM, Hill EG, Alekseyenko AV, Cimen H, **Hartman JH**, Voelkel-Johnson C, Lilly MB, Lemasters JJ, Frizzell N, Yu XZ, Mehrotra S, Ogretmen B. (2025) "Ceramide-Induced Metabolic Stress Depletes Fumarate and Drives Mitophagy to Mediate Tumor Suppression" *Cancer Research, in press*.
4. Yan J, Bhanshali F, Shuzenji C, Mendenhall TT, Taylor SKB, Ermakova G, Cheng X, Bai P, Diwan G, Seraj D, Meyer JN, Sorensen PH, **Hartman JH**, Taubert S. (2025) "Eukaryotic Elongation Factor 2 Kinase EFK-1/eEF2K promotes starvation resistance by preventing oxidative damage in *C. elegans*." *Nature Communications* 16(1):1752.
5. Killingsworth ZK, Misare KR, Ryan AS, Ampolini EA, Mendenhall TT, Engevik MA, **Hartman JH.** (2024) "Subcellular expression of CYP2E1 in HepG2 cells impacts response to free oleic and palmitic acid" *Current Research in Toxicology* 7:100195.
6. Taylor SKB, **Hartman JH**, Gupta BP. (2024) "The neurotrophic factor MANF regulates autophagy and lysosome function to promote proteostasis in *Caenorhabditis elegans." Proceedings of the National Academy of Sciences* 121(43):e2403906121.

7. Gonzalez HC, Misare KR, Mendenhall TT, Wolf BJ, Mulholland PJ, Gordon KL, **Hartman JH.** (2024) "Transgenic expression of human cytochrome P450 2E1 in C. elegans and rat PC-12 cells sensitizes to ethanol-induced locomotor and mitochondrial effects." *Biochemical and Biophysical Research Communications* 734: 150735.
8. Zuo X, Winkler B, Lerner K, Ilatovskaya DV, Zamaro AS, Dang Y, Su Y, Deng P, Fitzgibbon W, **Hartman J**, Park KM, Lipschutz JH (2024) "Cilia-deficient renal tubule cells are primed for injury with mitochondrial defects and aberrant tryptophan metabolism." *American Journal of Physiology: Renal Physiology* 327(1):F61-F76.
9. Morton KS, **Hartman JH**, Heffernan N, Ryde IT, Kenny-Ganzert IW, Meng L, Sherwood DR, Meyer JN. (2023) "Chronic high-sugar diet in adulthood protects *Caenorhabditis elegans* from 6-OHDA induced dopaminergic neurodegeneration" *BMC Biology* 21(1):252.
10. Misare KR*, Ampolini EA*, Gonzalez HC, Sullivan KA, Li X, Miller C, Sosseh B, Dunne JB, Voelkel-Johnson C, Gordon KL, **Hartman JH** (2023) "The consequences of tetraploidy on *Caenorhabditis elegans* physiology and sensitivity to chemotherapeutics." *Scientific Reports* 13(1):18125. *equal contributions
11. Clark AS, Kalmanson Z, Morton K, **Hartman JH,** Meyer J, San-Miguel A (2023) "An unbiased, automated platform for scoring dopaminergic neurodegeneration in *C. elegans*." *PLoS One* 18(7): e0281797.
12. Markovich ZR*, **Hartman JH***, Ryde IT, Hershberger KA, Joyce AS, Ferguson PL, Meyer JN (2022) "Mild pentachlorophenol-mediated uncoupling of mitochondria depletes ATP but does not cause an oxidized redox state or dopaminergic neurodegeneration in *Caenorhabditis elegans*." *Current Research in Toxicology* 3: 100084. *equal contributions.
13. Massart J, Begriche K, **Hartman JH**, Fromenty B (2022) "Role of Mitochondrial Cytochrome P450 2E1 in Healthy and Diseased Liver" *Cells* 11(2): 288.
14. Maeso-Díaz R, Dalton GD, Oh S, Du K, Tang L, Chen T, Dutta RK, **Hartman JH**, Meyer JN, Diehl AM (2022) "Aging reduces liver resiliency by dysregulating Hedgehog signaling." *Aging Cell* e13530.
15. Leuthner TC, **Hartman JH**, Ryde IT, Meyer JN (2021) "PCR-based determination of mitochondrial DNA copy number in multiple species." *Methods Mol Biol* 2310: 91-111.
16. Yadav J, El Hassani M, Sodhi J, Lauschke VM, **Hartman JH**, Russell LE (2021) "Recent developments in in vitro and in vivo models for improved translation of preclinical pharmacokinetics and pharmacodynamics data." *Drug Metabolism Reviews* 53(2): 207-233.
17. **Hartman JH**, Widmayer SJ, Bergemann CM, King DE, Morton KS, Romersi RF, Jameson LE, Leung MCK, Andersen EC, Taubert S, Meyer JN (2021) "Xenobiotic metabolism and transport in Caenorhabditis elegans" *Journal of Toxicology and Environmental Health B: Critical Reviews* 24(2): 51-94.
18. Ketkar A, Smith L, Johnson C, Richey A, Berry M, **Hartman JH**, Maddukuri L, Reed MR, Gunderson JEC, Leung JWC, Eoff RL (2021) "Human Rev1 relies on insert-2 to promote selective binding and accurate replication of stabilized G-quadruplex motifs" *Nucleic Acids Research* 49(4): 2065-2084.
19. Russell LE, Schleiff MA, Gonzalez E, Bart AG, Broccatelli F, **Hartman JH,** Humphreys WG, Lauschke VM, Martin I, Nwabufo C, Prasad B, Scott EE, Segall M, Takahashi R, Taub ME, Sodhi JK. (2020) "Advances in the study of drug metabolism - symposium report of the 12th Meeting of the International Society for the Study of Xenobiotics (ISSX)" *Drug Metabolism Reviews* 52(3): 395-407.
20. Harris JB, **Hartman JH**, Luz AL, Wilson JY, Dinyari A, Meyer JN (2020) "Zebrafish CYP1A expression in transgenic Caenorhabditis elegans protects from exposures to benzo[a]pyrene and a complex polycyclic aromatic hydrocarbon mixture" *Toxicology* 440: 152473.
21. Zhang J, **Hartman JH**, Chen C, Yang S, Li Q, Tian Z, Huang PH, Wang L, Meyer JN, Huang TJ (2020) "Fluorescence-based sorting of Caenorhabditis elegans via acoustofluidics" *Lab on a Chip* 20(10) 1729-1739.
22. Phillips AL, Herkert NJ, Ulrich JC, **Hartman JH**, Ruis MT, Cooper EM, Ferguson PL, Stapleton HM (2020) "In Vitro Metabolism of Isopropylated and tert-Butylated Triarylphosphate Esters Using Human Liver Subcellular Fractions" *Chemical Research in Toxicology,* 33(6): 1428-1441.
23. Laranjeiro R, Harinath G, Hewitt JE, **Hartman JH**, Royal MA, Meyer JN, Vanapalli SA, Driscoll M (2019) "Swim exercise in C. elegans extends neuromuscular and gut healthspan, enhances learning ability, and protects against neurodegeneration" *Proceedings of the National Academy of Sciences,* 116(47): 23829-23839.
24. Smith LL, Ryde IT, **Hartman JH**, Romersi RF, Markovich Z, Meyer JN (2019) "Strengths and limitations of morphological and behavioral analyses in detecting dopaminergic deficiency in *Caenorhabditis elegans*" *Neurotoxicology,* 74:209-220.
25. **Hartman JH***, Gonzalez-Hunt C*, Ryde I, Hall SM, Caldwell GA, Caldwell KA, Meyer JN (2019) "Genetic defects in mitochondrial dynamics in *Caenorhabditis elegans* impact UV- and toxicant-induced neurodegeneration," *International Journal of Molecular Sciences,* 20(13). *equal contributions

26. Bachman H, Fu H, Huang PH, Tian Z, Embry-Seckler J, Rufo J, Xie Z, **Hartman JH**, Zhao S, Yang S, Meyer JN, Huang TJ (2019) "Open Source Acoustofluidics" *Lab on a Chip,* 19(14): 2404-2414.
27. **Hartman JH**[*], Richie CT[*], Mello DF, Castillo P, Zhu A, Wang Y, Hoffer BJ, Meyer JN, Harvey BK (2019) "MANF deletion abrogates *Caenorhabditis elegans* larval response to tunicamycin and *Pseudomonas aeruginosa*" *European Journal of Cell Biology,* 98(5-8). Pii: S0171-9334(18)30348-0. [*]equal contributions
28. Zhang J, Yang S, Chen C, **Hartman JH**, Huang PH, Wang L, Tian Z, Zhang P, Faulkenberry D, Meyer JN, Huang TJ (2019) *Lab on a Chip,* 19(6): 984-992.
29. Cothren SD, Meyer JN, **Hartman JH** (2018) "Blinded visual scoring of images using the freely-available software Blinder." *Bio-protocol,* 8(23) pii: e3103.
30. Pouncey D, **Hartman JH**, Moore PC, Dillinger DJ, Dickerson KW, Sappington DR, Smith ES, Boysen G, Miller GP (2018) "Novel isomeric metabolite profiles correlate with warfarin metabolism phenotype during maintenance dosing in a pilot study of 29 patients." *Blood Coagulation & Fibrinolysis,* 29(7): 602-612.
31. **Hartman JH**, Smith LL, Gordon KL, Laranjeiro R, Driscoll M, Sherwood DR, Meyer JN (2018) "Swimming exercise and transient food deprivation in Caenorhabditis elegans promote mitochondrial maintenance and protect against chemical-induced mitotoxicity" *Scientific Reports* 8(1):8359.
32. Meyer JN, **Hartman JH**, Mello DF (2018) "Mitochondrial Toxicity" *Toxicological Sciences* 162(1):15-23.
33. **Hartman JH**, Kozal JS, Di Giulio RT, Meyer JN (2017) "Zebrafish have an ethanol-inducible hepatic 4-nitrophenol hydroxylase that is not CYP2E1-like." *Environmental Toxicology and Pharmacology* 54: 142-145.
34. **Hartman JH**, Miller GP, Caro AA, Byrum SD, Orr LM, Mackintosh SG, Tackett AJ, MacMillan-Crow LA, Hallberg LM, Ameredes BT, Boysen G (2017) "1,3-Butadiene-induced mitochondrial dysfunction is correlated with mitochondrial CYP2E1 activity in Collaborative Cross mice." *Toxicology* 378: 114-124.
35. **Hartman JH**, Miller GP, Meyer JN. (2017) "Toxicological Implications of Mitochondrial Localization of CYP2E1." *Toxicological Research* 6(3): 273-289.
36. Bostian AC, Maddukuri L, Reed MR, Savenka T, **Hartman JH**, Davis L, Pouncey DL, Miller GP, Eoff RL (2016) "Kynurenine Signaling Increases DNA Polymerase Kappa Expression and Promotes Genomic Instability in Glioblastoma Cells." *Chemical Research in Toxicology* 29(1):101-8.
37. **Hartman JH**, Martin HC, Caro AA, Pearce AR, Miller GP (2015) "Subcellular Localization of Rat CYP2E1 Impacts Metabolic Efficiency toward Common Substrates" *Toxicology* 338: 47-58.
38. **Hartman JH**, Letzig LG, Roberts D, James LP, Miller GP (2015) "Cooperativity in CYP2E1 Metabolism of Acetaminophen and Styrene Mixtures" *Biochemical Pharmacology* 97(3):341-9.
39. Levy JW, **Hartman JH**, Perry MD Jr, Miller GP (2015) "Structural basis for cooperative binding of azoles to CYP2E1 as interpreted through guided molecular dynamics simulations." *Journal of Molecular Graphics and Modeling* 56:43-52.
40. Pugh CP, Pouncey DL, **Hartman JH**, Nshimiyimana R, Desrochers LP, Goodwin TE, Miller GP (2014) "Glucuronidation of R- and S-7-Hydroxywarfarin by Multiple UDP- Glucuronosyltransferases in Human Liver Microsomes Yields Two Metabolites." *Archives of Biochemistry and Biophysics* 564:244-53.
41. **Hartman JH,** Miller GP, Boysen G (2014) "Inhibitory potency of 4-carbon alkanes and alkenes toward CYP2E1 activity." *Toxicology,* 318:51-8.
42. **Hartman JH**, Knott AK, Miller GP (2014) "CYP2E1 Hydroxylation of Aniline Involves Negative Cooperativity," *Biochemical Pharmacology,* 87(3):523-33.
43. Pianalto K, **Hartman JH**, Boysen G, Miller GP (2013) "No difference in Butadiene Metabolite Inhibition of CYP2E1 Activity between Rats and Mice," *Toxicology Letters,* 223(2):221-7.
44. **Hartman JH**, Burch AM, Laddusaw RM, Perry Jr MD, Miller GP (2013) "Structure of Pyrazole Derivatives Impact their Affinity, Stoichiometry, and Cooperative Interactions for CYP2E1 Complexes," *Archives of Biochemistry and Biophysics,* 537(1):12-20.
45. **Hartman JH**, Cothren SD, Park SH, Yun CH, Darsey JA, Miller GP (2013) "Predicting CYP2C19 Catalytic Parameters for Enantioselective Oxidations Using Artificial Neural Networks and a Chirality Code," *Bioorganic and Medicinal Chemistry* 21(13):3749-59.
46. Coggins GE, Maddukuri L, Penthala NR, **Hartman JH**, Eddy S, Ketkar A, Crooks PA, Eoff RL (2013) "N-Aroyl Indole Thiobarbituric Acids as Inhibitors of DNA Repair and Replication Stress Response Polymerases," *ACS Chemical Biology* 8(8):1722-9.
47. **Hartman JH**, Boysen G, Miller GP (2013) "Cooperative Effects for CYP2E1 Differ between Styrene and its Metabolites," *Xenobiotica* 43(9):755-64.
48. Kim SY, Kang JY, **Hartman JH**, Park SH, Jones DR, Yun CH, Boysen G, Miller GP. (2012) "CYP2E1 Metabolism of R- and S-warfarin by CYP2C19 into four hydroxywarfarins." *Drug Metabolism Letters* 6(3):157-64.

49. **Hartman JH**, Boysen G, Miller GP (2012) "CYP2E1 Metabolism of Styrene Involves Allostery," *Drug Metabolism and Disposition* 40(10):1976-1983.

SELECTED PRESENTATIONS

INVITED PLATFORM PRESENTATIONS

1. *University of Pennsylvania Center for Molecular Studies in Digestive and Liver Diseases Seminar Series, Philadelphia, PA,* "CYP2E1 in the liver and beyond," May 2025.
2. *Pittsburgh Liver Research Center Seminar Series, Pittsburgh, PA* "Cytochrome p450 2E1 at the intersection of endogenous and exogenous metabolism in the liver", October 2024.
3. *University of Kansas Medical Center Pharmacology, Toxicology & Therapeutics Seminar Series, Kansas City, KS "*The role of cytochrome P450 2E1 in healthy and diseased liver," April 2024.
4. *Wayne State University Pharmacology Seminar Series, Detroit, MI* "CYP2E1 at the intersection of endogenous metabolism and pollutant toxicity," December 2023
5. *Tissue, Matrix, and Pathobiology Joint Meeting of ASMB, HCS, and ASIP, Salt Lake City, UT* "*C. elegans* as a model for host-pathogen interactions," October 2023.
6. *Coastal Carolina University Chemistry Seminar Series, Conway, SC* "The role of metabolism in *C. elegans* stress response", March 2023.
7. *Saint Louis University Biochemistry Seminar Series, St. Louis, MO* "The role of CYP2E1 in NAFLD," February 2023.
8. *Clemson University Biological Sciences Seminar Series, Anderson, SC* "The role of mitochondrial cytochrome P450 2E1 in non-alcoholic fatty liver disease," April 2022.
9. *ISSX Webinar Series, Virtual Format:* "Mitochondrial-targeted CYP2E1: An Accident, a Liability, or a Critical Metabolic Hub?" March 2022.
10. *60th Annual Society of Toxicology Meeting, Virtual Format: "*Transgenic Caenorhabditis elegans models for studying drug- and toxicant-induced toxicity," March 2021
11. *HEEDS Young EDC Scientists Showcase (YESS) Invited Seminar, Virtual Format:* "Endocrine Disrupting Chemicals: Effects on Mothers, and Interactions with Lifestyle," March 2021
12. *Carleton University Chemical and Environmental Toxicology Seminar Series, Virtual Format:* "Exercise and diet effects on chemical-induced mitochondrial and neuronal toxicity," February 2021
13. *University of Arkansas for Medical Sciences Biochemistry and Molecular Biology Seminar Series, Little Rock, AR* "Toward Precision Toxicology: Mechanisms Underlying Metabolic Effects on Chemical Toxicity," February 2020
14. *University of Arkansas for Medical Sciences Biochemistry and Molecular Biology Seminar Series, Little Rock, AR* "Applying for Fellowships as an Academic Trainee: Timelines, Resources, and Pitfalls," February 2020
15. *Genetics and Environmental Mutagenesis Society Fall Meeting, Durham, NC:* "Long-Term Swimming Exercise in *C. elegans* Improves Mitochondrial Health and Protects Animals from Age- and Toxicant-Induced Degeneration," November 2018
16. *GSA 21st International C. elegans Conference, Los Angeles, CA*: "Exercise in *Caenorhabditis elegans* promotes mitochondrial maintenance and protects against chemical-induced mitotoxicity," June 2017

POSTER

1. *GSA Metabolism, Aging, Stress, and Pathogenesis in C. elegans Conference, Madison, WI:* "Consequences of polyploidy in *C. elegans*," July 2022.
2. *GSA 22nd International C. elegans Conferences, Los Angeles, CA: "*Swim exercise in *Caenhorhabditis elegans* protects dopaminergic neurons from age- and rotenone-induced degeneration," June 2019.
3. *57th Annual Society of Toxicology Meeting, Baltimore, MD:* "Long-term swimming exercise in *Caenorhabditis elegans* improves mitochondrial health and protects animals from age- and toxicant-induced degeneration," March 2019.
4. *Integrative Physiology of Exercise Conference, San Diego, CA:* "Swimming Exercise in the Nematode Caenorhabditis elegans Promotes Mitochondrial Maintenance and Protects from Mitotoxicant Exposures," September 2018
5. *56th Annual Society of Toxicology Meeting, San Antonio, TX:* "Humanized, Transgenic Worms to Study CYP2E1-Induced Toxicity," March 2018
6. *30th Annual NIEHS Superfund Meeting, Philadelphia, PA*: "Humanized, Transgenic Caenorhabditis elegans to Study CYP2E1-Induced Mitochondrial and Neurotoxicity," December 2017

7. *20th North American 21st North American ISSX Meeting, Providence, RI:* "Humanized, Transgenic Worms to Study the Role of Mitochondrial CYP2E1 in Toxicant-Induced Mitochondrial Dysfunction and Neurodegeneration," September 2017

TRAINEE PRESENTATIONS

1. Stayer KM*, Killingsworth ZK, Tomasevich AT, Rockey D, **Hartman JH**. *Mitochondria in Health and Disease Gordon Research Conference, Ventura, CA:* "Sex-specific effects of CYP2E1 deletion on liver mitochondria," March 2025, *presenter, PhD student

2. Deaton BR*, Ekuban F, Mendenhall TT, Driggers KR, Cave MC, **Hartman JH**. *64th Annual Society of Toxicology Conference, Orlando, FL:* "The effects of PFOS on CYP2E1 expression and HepaRG mitochondrial respiration," March 2025. *presenter, undergraduate student

3. Gonzalez HC*, Deaton BR, Mendenhall TT, **Hartman JH**. *64th Annual Society of Toxicology Conference, Orlando, FL:* "Use of transgenic *Caenorhabditis elegans* to investigate impacts of subcellular localization of CYP2E1 on alcohol metabolism," March 2025. *presenter, PhD student

4. Stayer KM*, Killingsworth ZK, Tomasevich AT, Rockey D, **Hartman JH**. *64th Annual Society of Toxicology Conference, Orlando, FL:* "Sex-specific effects of CYP2E1 deletion in mice," March 2025, oral presentation selected from abstracts *presenter, Ph.D.

5. Mendenhall, TT*, Gonzalez HC, Caro A, Mulholland PJ, **Hartman JH**. *63rd Annual Society of Toxicology Conference, Salt Lake City, UT:* "Acute ethanol induction, zonation, and subcellular localization of hepatic CYP2E1," March 2024. *presenter: technician.

6. Stayer KM*, Mendenhall TT, Gonzalez HC, Engevik MA, **Hartman JH**. *63rd Annual Society of Toxicology Conference, Salt Lake City, UT:* "The impact of CYP2E1 inhibition of diet and carbon tetrachloride-induced hepatic steatosis and fibrosis," March 2024. *presenter: PhD student.

7. Gonzalez HC*, Misare KM, Glorioso KE, Mulholland PJ, **Hartman JH**. *63rd Annual Society of Toxicology Conference, Salt Lake City, UT:* "CYP2E1 deletion impacts alcohol-related behaviors in mice" March 2024. *presenter: PhD student.

8. Killingsworth ZK*, Stayer KM, Gonzalez HC, Mendenhall TT, Tomasevich AT, Misare KM, Engevik ME, **Hartman JH**. *63rd Annual Society of Toxicology Conference, Salt Lake City, UT:* "Sex differences in hepatic CYP2E1 gene expression and function" March 2024. *presenter: Undergraduate student.

9. Gonzalez HC*, Misare KM, Glorioso KE, Mulholland PJ, **Hartman JH**. *2024 Alcohol and the Nervous System Gordon Research Conference, Galveston, TX:* "CYP2E1 deletion impacts alcohol-related behaviors in mice" Jan 2024. *presenter: PhD student.

10. Ryan AS*, Misare KR, Hollis F, McQuail J, **Hartman JH**. *AASLD: The Liver Meeting, Boston, MA:* "The impact of medium-chain triglyceride ketogenic diet on liver mitochondria and CYP2E1," November 2023. *presenter, undergraduate student.

11. Mendenhall, TT*, Gonzalez HC, Caro A, Mulholland PJ, **Hartman JH**. *AASLD: The Liver Meeting, Boston, MA:* "Acute ethanol induction and subcellular localization of hepatic CYP2E1," November 2023. *presenter: technician.

12. Sullivan KA*, Glover J, Engevik M, **Hartman JH**. *Tissue, Matrix, and Pathobiology Joint Meeting of ASMB, HCS, and ASIP, Salt Lake City, UT:* "Pathogenicity of Acinetobacter calcoaceticus," October 2023. *presenter, MS student

13. Sullivan KA*, Glover J, Engevik M, **Hartman JH**. *American Society of Microbiology South Carolina Chapter Meeting, Columbia, SC:* "Pathogenicity of Acinetobacter calcoaceticus," April 2023. *presenter, MS student, **won 3rd place in graduate student poster presentations**

14. Glorioso KE*, Romersi RF, Meyer JN, **Hartman JH**. *62nd Annual Society of Toxicology Conference, Nashville, TN:* "The role of MANF in coordinating ER and Mitochondrial stress with toxicant exposures in *C. elegans*," March 2023. *presenter, technician.

15. Killingsworth ZK*, Ampolini EA, Misare KR, **Hartman JH**. *62nd Annual Society of Toxicology Conference, Nashville, TN: "*CYP2E1 expression in liver cells impacts lipid storage and utilization of free fatty acids," March 2023. *presenter, undergraduate student, **awarded 1st Place Undergraduate Award from MSBSS and gave a lightning talk during the MSBSS Reception**

16. Sullivan KA*, Glover J, Engevik M, Hartman JH. *Medical University of South Carolina Microbiology and Immunology Retreat, Charleston, SC:* "Pathogenicity of Acinetobacter calcoaceticus," February 2023. *presenter, MS student, **won 3rd place in student poster presentations**

17. Sullivan KA*, Glover J, Engevik M, **Hartman JH**. *Medical University of South Carolina Research Day, Charleston, SC:* "Pathogenicity of *Acinetobacter calcoaceticus*," November 2022. *presenter, MS student

18. Sullivan KA*, Glover J, Engevik M, **Hartman JH**. *GSA Metabolism, Aging, Stress, and Pathogenesis in C. elegans Conference, Madison, WI:* "Consequences of polyploidy in *C. elegans*," July 2022. *presenter, MS student

19. Gonzalez HC*, Westbury BC, Gordon KL, Mulholland PJ, **Hartman JH**. *61st Annual Society of Toxicology Conference, San Diego, CA:* "Subcellular targeting of CYP2E1 in the brain during alcohol use," March 2022. *presenter, post-baccalaureate PREP scholar, **won 2nd place prize for her poster presentation from MSBSS**
20. Ampolini EA*, Misare KR, Dunne JB, Voelkel-Johnson C, **Hartman JH**. *61st Annual Society of Toxicology Conference, San Diego, CA:* "Polyploidy confers protection from chemotherapy drug toxicity in *C. elegans*," March 2022. *presenter, undergraduate student, **awarded highly competitive SOT Undergraduate Research Award**
21. Johnson J*, Misare KR, **Hartman JH**. *61st Annual Society of Toxicology Conference, San Diego, CA:* "The effect of exercise on neurotoxicity of mitochondrial toxicants in *Caenorhabditis elegans*," March 2022. *presenter, post-baccalaureate scholar, **awarded honorable mention for her poster presentation from MSBSS**
22. Misare KR*, **Hartman JH**. *61st Annual Society of Toxicology Conference, San Diego, CA:* "Mitochondrial CYP2E1 levels and consequences in nonalcoholic fatty liver disease," March 2022. *presenter, technician.

TEACHING ACTIVITIES

Year (Semester)	Course Title, *"Lecture Title"*	Role	Class Profile	Lecture Hours
2017 (Sp)	ENV237S Population, Health, and Environment, "*Population Toxicology"*	Guest Lecturer	3 Undergraduates, 5 Grad Students at Duke University	2
2017 (Sp)	ENV819 Mechanisms in Environmental Toxicology, *"Regulation, activity, and toxicity of CYP2E1 metabolism"*	Guest Lecturer	8 Grad Students at Duke University	2
2019 (Sp)	ENV360 Environmental Toxicology & Chemistry, *"Phase I, II, and III Xenobiotic Metabolism"*	Guest Lecturer	8 Undergraduate Students at Duke University	2
2019 (Sp)	ENV819 Mechanisms in Environmental Toxicology, *"Mitochondrial CYP2E1 and Chemical Toxicity"*	Guest Lecturer	13 Graduate Students at Duke University	2
2021-25 (F)	TED, *"Introduction to Protein Function"*	Lecturer	35 Graduate Students at MUSC	2.25
2022 (Su)	SURP Program, *"Mitochondrial function in cancer vs. normal cells"*	Lecturer	~25 Summer Undergraduate Students	2
2022-25 (F)	Digestive Disease Course, *"The liver in health and disease"* lecture + paper discussion	Lecturer	13 PhD students at MUSC	4
2023 (Sp)	BMTRY 789 *"Toxicology for Environmental Health"*	Lecturer	17 MPH students at MUSC	2
2023-25 (Sp)	COM Block 5 *"Ethanol Metabolism I and II"* and *"Folate Metabolism"*	Lecturer	~150 MD students at MUSC	3

TRAINEE MENTORSHIP AND SUPERVISION

POSTDOCTORAL FELLOWS

- Kristy Thomas, *Postdoctoral Scholar*, MUSC — June 2024 – *current*

PHD STUDENTS

- Kristina Stayer, *Ph.D. Student*, MUSC — May 2023 – *current*
- Hyland Gonzalez, *Ph.D. Student,* MUSC — June 2023 – *current*
- Alexandra Tomasevich, *Ph.D. Student,* MUSC — June 2024 – *current*
- Tsultrim Mendenhall, *Ph.D. Student,* MUSC — May 2025 – *current*

MS STUDENTS

- Kaitlan Sullivan, *Masters Student,* MUSC — Jan. 2022 – Dec. 2023

PHD ROTATION STUDENTS

- Kameisha Rashford, *Ph.D. Rotation Student*, MUSC — Feb. 2023 – Apr. 2023
- Elizabeth Ampolini, *Ph.D. Rotation Student*, MUSC — Sep. 2022 – Nov. 2022
- Sarah Dooley, *Ph.D. Rotation Student,* MUSC — Feb. 2022 – Apr. 2022
- Douglas Johnson, *Ph.D. Rotation Student*, MUSC — Nov. 2021 – Feb. 2022
- Jaclyn Dunne, *Ph.D. Rotation Student*, MUSC — Sep. 2021 – Nov. 2021
- Alexa Corker, *Ph.D. Rotation Student*, MUSC — Feb. 2021 – Apr. 2021
- Baylee Westbury, *Ph.D. Rotation Student,* MUSC — Nov. 2020 – Feb 2021

POST-BACCALAUREATE SCHOLARS

- Hyland Gonzalez, *PREP Post-Baccalaureate Scholar,* MUSC — June 2021 – June 2022
- Jasmin Johnson, *Post-Baccalaureate Scholar,* MUSC — Feb. 2021 – May 2022

UNDERGRADUATES

- Kaley Byers, *Undergraduate Research Assistant*, MUSC — Dec. 2024 – *current*
- Lila Emery, *Undergraduate Research Assistant*, MUSC — Dec. 2024 – *current*
- Ryan Prescott, *Undergraduate Research Assistant*, MUSC — Dec. 2024 – *current*
- Reagan Roberts, *Undergraduate Research Assistant*, MUSC — Dec. 2024 – *current*
- Madison Thornton, *Undergraduate Research Assistant*, MUSC — Dec. 2024 – *current*
- Benjamin Deaton, *SURP Undergraduate Research Assistant, MUSC* — Summer 2023, 24, 25
- Abigail Ryan, *Undergraduate Research Assistant*, MUSC — Jan. 2022 – May 2024
- Zaria Killingsworth, *Undergraduate Research Assistant*, MUSC — Jan. 2022 – May 2024
- Elizabeth Ampolini, *SURP Undergraduate Research Assistant,* MUSC — May 2021 – Aug. 2021
- Jamie Harris, *Undergraduate Research Assistant,* Duke University — June 2017 – May 2020
- Ricky Romersi, *Undergraduate Research Assistant,* Duke University — Aug. 2018 – Sept. 2020
- Zachary Markovich, *Undergraduate Research Assistant,* Duke University — Sept. 2018 – May 2020
- Nathan Heffernan, *Undergraduate Research Assistant,* Duke University — Sept. 2018 – Sept. 2020
- Sanika Gupte, *Undergraduate Research Assistant,* Duke University — Sept. 2018 – May 2019
- Michael Saporito, *Undergraduate Research Assistant,* Duke University — Sept. 2018 – May 2019
- Kiersten Bell, *Undergraduate Research Assistant,* Duke University — Jan. 2017 – May 2018
- Trained 11 undergraduates during graduate school at UAMS — 2012-2016

STUDENT THESIS COMMITTEE SERVICE

- Julie Dickerson, *MD/PhD student,* MUSC (Long lab, committee chair) — Jan. 2023 – *current*
- Chase Walton, *MD/PhD student,* MUSC (Ogretmen lab, committee chair) — Mar. 2023 – *current*
- Annaka Westphal, *PhD student,* MUSC (Scofield lab) — Jan. 2024 – *current*
- Rachel Edens, *PhD student,* MUSC (A. Engevik lab, committee chair) — Feb. 2024 – *current*
- Elizabeth Ampolini, *PhD student,* MUSC (Long lab, committee chair) — Feb. 2024 – *current*
- Thomas Blouin, *PhD student,* MUSC (Saini lab, committee chair) — Feb. 2024 – *current*
- Alyssa Gutierrez, MD/*PhD student,* MUSC (M. Engevik lab) — Mar. 2024 – *current*
- Kendall Torres, *PhD student,* MUSC (Bouchard lab, committee chair) — June 2024 – *current*
- Emma Funk, *PhD student,* MUSC (Guttridge lab) — Sept. 2024 – *current*
- Anna Tingler, *PhD student,* MUSC (M. Engevik lab, qual committee chair) — Nov. 2024 – *current*
- Laney Kimble, *PhD student,* MUSC (Penrod-Martin lab) — Nov. 2024 – *current*
- Erin Chard, *MS student,* MUSC (M. Engevik lab, committee chair) — May 2025 – *current*
- Moriah Heifetz, *MD/PhD student,* MUSC (Long lab) — May 2025 – *current*

Former (graduated) students

- Piper McKee, M.S., MUSC (A. Engevik lab, committee chair) — Apr. 2024 – May 2025
- Sarah Dooley, Ph.D., MUSC (A. Engevik lab, committee chair) — Jan. 2023 – May 2025
- Jaclyn Dunne, Ph.D., MUSC (Angel lab, committee chair) — Jan. 2023 – May 2025
- Megan Sheridan, Ph.D., MUSC (Ogretmen lab) — Apr. 2022 – May 2024
- Kate Morton, Ph.D., Duke University (Meyer lab) — Dec. 2021 – Aug. 2024

- Brandon Johnson, M.S., MUSC (Long lab) June 2023 – May 2024

PROFESSIONAL MEMBERSHIPS

- 2011- Society of Toxicology (SOT), Full member
- 2012- International Society for the Study of Xenobiotics (ISSX), Full member
- 2017- Genetics Society of America (GSA), Full member
- 2023- American Association for the Study of Liver Disease (AASLD), Full Member
- 2016-2020 Genetics and Environmental Mutagenesis Society of NC, Postdoctoral member

PROFESSIONAL SERVICE

Editorial Board

- 2017-present: *Drug Metabolism Reviews*

Grant/Fellowship Review

- Ad Hoc Reviewer – BBSRC (UK) Sept 2020
- Invited Panel Member – CDMRP NETP panel, Department of Defense (2021)
- Invited Reviewer, NSF study section, January 2022, January 2023, January 2024
- Invited Panel Member – CDMRP Parkinson's Research Program, Department of Defense (2022, 2024)
- Ad Hoc Panel Member – DBDT Study Section, CSR (Nov. 2023, Feb. 2024, June 2024)
- Standing Member – DBDT Study Section, CSR (July 2024 – June 2028)

Independent Ad Hoc Reviewer

- *Chemico-Biological Interactions*
- *Acta Histachemica*
- *Clinical and Experimental Pharmacology and Physiology*
- *Environmental and Molecular Mutagenesis*
- *eLife*
- *Journal of Gerontology: Biological Sciences*
- *Toxicology*
- *Frontiers in Biochemistry*
- *Aquatic Toxicology*
- *RSC Advances*
- *Process Biochemistry*
- *Biology*
- *Neurotoxicology*
- *Toxicological Sciences*
- *Scientific Reports*
- *Frontiers in Pharmacology*
- *Frontiers in Cell and Developmental Biology*
- *British Journal of Pharmacology*
- *Journal of Neurochemistry*
- *GeroScience*
- *Neurochemical Research*
- *Drug Metabolism Reviews*
- *Toxicology Letters*
- *Science Advances*
- *Exploration of Medicine*
- *Clinical and Translational Discovery*
- *PharmaNutrition*
- *Toxicology Reports*
- *Current Research in Toxicology*

Professional Society Service

- 2023-27 Vice President/President, Molecular and Systems Biology Specialty Section, Society of Toxicology
- 2022-25 Voting Member, Committee on Diversity Initiatives, Society of Toxicology
- 2020-22 Invited Member, Environmental Health Perspectives Early Career Researcher Advisory Panel
- 2018-20 Treasurer, Genetics and Environmental Mutagenesis Society of NC
- 2016-19 Chair, ISSX New Investigator Committee
- 2016-19 Member, ISSX Membership Affairs Committee

University Service (MUSC)

- 2024-26 – Faculty Council Delegate
- 2023-24 – College of Medicine Enhancement of Team Science (COMETS) Committee
- 2023 Sept – IACUC Faculty Subject Matter Expert, eProtocol/Ordering RFP
- 2023-25 – College of Graduate Studies Representative, Behavioral Support and Intervention Team
- 2023 Spring – Co-organizer, Hollings Cancer Center Cancer Biology & Immunology Retreat
- 2021 May/June – Hollings Cancer Center Equipment and Technology Award Program Reviewer
- 2021 Feb – Hollings Cancer Center Predoctoral Fellowship Reviewer
- 2021 – Biochemistry and Molecular Biology Faculty Search Committee