

Brief Biography

Jamie DeWitt, PhD, DABT

Jamie DeWitt is an Associate Professor in the Department of Pharmacology & Toxicology of the Brody School of Medicine at East Carolina University and an Adjunct Associate Professor in the Toxicology Program of the Department of Biological Sciences at North Carolina State University. Her laboratory's research program explores relationships between biological organisms and their responses after exposure to environmental contaminants with a specific focus on the immune system and its interactions with the nervous system during development and adulthood. A particular focus of the research program is on emerging aquatic contaminants, especially per- and polyfluoroalkyl substances (PFAS). Dr. DeWitt has published extensively on their toxicity as well as editing a book on their toxicity. She has served as an external reviewer for the U.S. Environmental Protection Agency health effects assessment of perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS), the U.S. National Toxicology Program's immune effects assessment of PFOA and PFOS, the U.S. Agency for Toxic Substances and Disease Registry toxicological profile for PFASs, and was a member of the International Agency for Research on Cancer working group for the assessment of the carcinogenicity of PFOA. Her laboratory is currently assessing the immunotoxicity of emerging PFAS that have been designed to replace those that have been phased out of production and that are of concern in North Carolina. Dr. DeWitt double-majored in Environmental Science and Biology for her bachelor's degree from Michigan State University and has doctoral degrees in Environmental Science and Neural Science from Indiana University- Bloomington. She completed postdoctoral training in ecotoxicology at Indiana University- Bloomington and in immunotoxicology at the US Environmental Protection Agency in partnership with the University of North Carolina at Chapel Hill.

Jamie C. DeWitt

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EDUCATION & CERTIFICATIONS

Diplomate, American Board of Toxicology. 2017.

Ph.D., Environmental Science and Neural Science.

School of Public and Environmental Affairs and Program in Neural Science. Indiana University, Bloomington, IN. 2004.

Concentrations: Environmental and developmental neurotoxicology and risk assessment

Dissertation title: Developmental intoxication of dioxins and polychlorinated biphenyls in an avian model: Correlations of brain asymmetry, behavior, and related developmental effects

B.S., Environmental Science and Biology.

Lyman Briggs College. 1992. Michigan State University, East Lansing, MI. 1992.

PROFESSIONAL EXPERIENCE

Adjunct Associate Professor

Toxicology Program, Biological Sciences, North Carolina State University, Raleigh, NC.
March 2018-present.

Associate Professor of Pharmacology and Toxicology

Department of Pharmacology and Toxicology, Brody School of Medicine, East Carolina University, Greenville, NC.
July 2015-present.

Adjunct Associate Professor of Public Health

Department of Public Health, Brody School of Medicine, East Carolina University, Greenville, NC.
July 2015-July 2017.

Adjunct Assistant Professor of Public Health

Department of Public Health, Brody School of Medicine, East Carolina University, Greenville, NC.
July 2012-July 2014.

Affiliated Member

The Harriet and John Wooten Laboratory for Alzheimer's and Neurodegenerative Disease Research, East Carolina University, Greenville, NC.

July 2011-present.

Assistant Professor of Pharmacology and Toxicology

Department of Pharmacology and Toxicology, Brody School of Medicine, East Carolina University, Greenville, NC.

July 2008-July 2015.

Postdoctoral Trainee in Immunotoxicology

University of North Carolina at Chapel Hill in cooperation with the U.S. Environmental Protection Agency (Training Agreement CT829472), National Health and Environmental Effects Research Laboratory, Experimental Toxicology Division, Immunotoxicology Branch, Research Triangle Park, NC (Advisor: Dr. Robert Luebke). Evaluation of immune function and exploration of immunotoxic mechanisms, including use of knock-out models and molecular techniques, of various xenobiotics (organotin and perfluoroalkyl acids) in rodent models.

June 2004-June 2008.

Postdoctoral Research Associate in Environmental and Ecotoxicology

Developmental Neurobiology and Environmental Toxicology Laboratory, School of Public and Environmental Affairs, Indiana University, in cooperation with the U.S. Fish and Wildlife Service Bloomington Ecological Services Field Office, Bloomington, IN (Advisors: Dr. Diane Henshel and Daniel Sparks). Cardiotoxic effects in wild passerine birds developmentally exposed to PCBs.

September 2003-May 2004.

Research Assistant in Environmental and Ecotoxicology

Developmental Neurobiology and Environmental Toxicology Laboratory, School of Public and Environmental Affairs, Indiana University, Bloomington, IN (Advisor: Dr. Diane Henshel).

Toxicological effects of dioxin and polychlorinated biphenyls after developmental exposure in an avian model, wild birds, and wild fish.

August 1995-August 2003.

Field Assistant in Limnology

Lake Lemon Conservancy District, Unionville, IN. Canada goose control, littoral zone revegetation, and monitoring of native and exotic aquatic plant populations.

June 2000-May 2003.

Field Assistant in Ecotoxicology

U.S. Fish and Wildlife Service-Bloomington Ecological Services Field Office, Bloomington, IN.

Wild bird and macroinvertebrate population monitoring in a metal-contaminated lake, including assessment of fertile eggs for embryonic abnormalities.

April 1997-October 1997.

Research Associate in Entomology

Landscape Entomology Division, Department of Entomology, Michigan State University, East Lansing, MI. Research and efficacy tests for forest, ornamental and turf entomological studies for the Michigan Department of Agriculture and Turf Foundation.

September 1992-August 1995.

Research Assistant in Entomology

Medical Entomology Division, Department of Entomology, Michigan State University, East Lansing, MI. Assessment of Lyme disease prevalence in deer and dog ticks collected from a Lyme disease endemic area in Michigan.
May 1992-May 1993.

PUBLICATIONS

Primary Research Manuscripts

Jiang Q, Xu X, **DeWitt JC**, Zheng Y. Using chicken embryo as a powerful tool in assessment of developmental cardiotoxicities. Under review by the *Journal of Visualized Experiments*.

McDonough C, Ward C, Hu Q, Vance S, Higgins C, **DeWitt J**. 2020. Immunotoxicity of an electrochemically fluorinated aqueous film-forming foam. *Toxicological Sciences*, 178:104-114.

vonderEmbse A, Hu Q, **DeWitt J**. 2020. Postnatal toxicant exposure in 3xTgAD mice promotes gene x environment-related early alterations to neuroimmune epigenetic profiles. *Neuroimmunology and Neuroinflammation*, 7(online first): DOI: 10.20517/2347-8659.2019.29.

Kotlarz N, McCord J, Collier D, Lea CS, Strynar M, Lindstrom AB, Wilkie AA, Islam JY, Matney K, Tarte P, Polera ME, Burdette K, **DeWitt J**, May K, Smart RC, Knappe DRU, Hoppin JA. 2020. Poorly understood PFAS generated as byproducts of fluorochemical manufacturing are in the blood of children and adults living in Wilmington, North Carolina. *Environmental Health Perspectives*, 128: <https://doi.org/10.1289/EHP6837>.

McDonough C, Choyke S, Ferguson PL, **DeWitt J**, Higgins C. 2020. Bioaccumulation of novel per- and polyfluoroalkyl substances (PFASs) in mice dosed with an aqueous film-forming foam (AFFF). 2020. *Environmental Science & Technology*. 54:5700-5709.

vonderEmbse AN, Hu Q, **DeWitt JC**. 2019. Dysfunctional microglia:neuron interactions with significant female bias in a developmental gene x environment rodent model of Alzheimer's disease. *International Immunopharmacology*. 71:241-250.

Keil DE, Buck B, Goossens D, McLaurin B, Murphy L, Leetham-Spencer M, Teng Y, Pollard J, Gerads R, and **DeWitt JC**. 2018. Nevada desert dust with heavy metals suppresses IgM antibody production. *Toxicology Reports*. 5:258-269.

vonderEmbse AN, Hu Q, and **DeWitt JC**. 2017. Developmental toxicant exposure in a mouse model of Alzheimer's disease induces differential sex-associated microglial activation and increased susceptibility to amyloid accumulation. *Journal of Developmental Origins of Health and Disease*. 2:1-9.

Meadows JR, Parker C, Gilbert KM, Blossom SJ, and **DeWitt JC**. 2017. A single dose of trichloroethylene given during development does not substantially alter markers of neuroinflammation in brains of adult mice. *Journal of Immunotoxicology*. 14:95-109.

DeWitt JC, Buck BJ, Goossens D, Teng Y, Pollard J, McLaurin B, Gerads R, and DE Keil. 2017. Health effects following subacute exposure to geogenic dust collected from active drainage surfaces (Nellis Dunes Recreation Area, Las Vegas, NV). *Toxicology Reports*. 4:19-31.

- Rushing BR, Hu Q, Franklin JN, McMahan R, Dagnino S, Higgins CP, Strynar MJ, and **DeWitt JC**. 2017. Evaluation of the immunomodulatory effects of 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoate in C57BL/6 mice. *Toxicological Sciences*. 156:179-189.
- Keil DE, Buck B, Goossens D, Teng Y, Pollard J, McLaurin B, Gerads R, **DeWitt JC**. 2016. Health effects from exposure to atmospheric mineral dust near Las Vegas, NV, USA. *Toxicology Reports*. 3:785-795.
- Jusko TA, Oktapoda M, Murinová LP, Babjaková J, Verner M-A, **DeWitt JC**, Babinská, Thevenet-Morrison K, Conka K, Drobná B, Thurston SW, Lawrence BP, Dozier AM, Jarvinene-Seppo KM, Patayová H, Trnovec T, Legler J, Hertz-Picciotto I, and Lamoree MH. 2016. Demographic, reproductive, and dietary determinants of perfluorooctane sulfonic (PFOS) and perfluorooctanoic acid (PFOA) concentrations in human colostrum. *Environmental Science & Technology*. 50:7152-7162.
- DeWitt JC**, Buck B, Goossens D, Hu Q, Chow R, David W, Young S, Teng Y, Leetham-Spencer M, Murphy L, Pollard J, McLaurin B, Gerads R, and Keil D. 2016. Health effects following subacute exposure to dusts from arsenic-rich sediment at the Nellis Dunes Recreation Area, Las Vegas, NV. *Toxicology and Applied Pharmacology*. 304:79-89.
- Leetham M, **DeWitt J**, Buck B, Goossens D, Teng Y, Pollard J, McLaurin B, Gerads R, and Keil D. 2016. Oxidative stress and lung pathology following geogenic dust exposure. *Journal of Applied Toxicology*. 36:1276-1283.
- Keil D, Buck B, Goossens D, Teng Y, Spencer M, Murphy L, Pollard J, Eggers M, Gerards R, and **DeWitt J**. 2016. Immunotoxicological and neurotoxicological profile of health effects following subacute exposure to geogenic dust from sand dunes at the Nellis Dunes Recreation Area, Las Vegas, NV. *Toxicology and Applied Pharmacology*, 291:1-12.
- DeWitt JC**, Williams W, Creech NJ, and RW Luebke. 2016. Suppression of antigen-specific antibody responses in mice exposed to perfluorooctanoic acid: Role of PPAR α and B cell targeting. *Journal of Immunotoxicology*. 13:38-45.
- Jiang Q, Ma W, Wu J, Wingard CJ, and **DeWitt JC**. 2016. Perfluorooctanoic acid-induced toxicity in primary cultures of chicken embryo cardiomyocytes. *Environmental Toxicology*. 31:1580-1590.
- Khalil N, Chen A, Lee M, Czerwinski SA, Ebert JR, **DeWitt JC**, and Kannan K. 2016. Association of perfluoroalkyl substances, bone mineral density, and osteoporosis in the US population in NHANES 2009-2010. *Environmental Health Perspectives*. 124:81-87.
- Wambaugh JF, Setzer W, Pitruzzello AM, Liu J, Reif D, Kleinstreuer N, Ching N, Wang Y, Sipes N, Martin M, Das K, **DeWitt J**, Strynar M, Judson R, Houck K, and Lau C. 2013. Dosimetric anchoring of in vivo and in vitro studies for perfluorooctanoate and perfluorooctanesulfonate. *Toxicological Sciences*. 136:308-327.
- Jiang Q, Lust R, and **DeWitt JC**. 2013. Perfluorooctanoic acid induced-developmental cardiotoxicity: Are peroxisome proliferator activated receptor α (PPAR α) and bone morphogenic protein 2 (BMP2) pathways involved? *Journal of Toxicology and Environmental Health Part A*. 76:635-650.

- Hu Q, Franklin JN, Bryan I, Morris E, Wood A, and **DeWitt JC**. 2012. Does developmental exposure to perfluorooctanoic acid (PFOA) induce immunopathologies commonly observed in neurodevelopmental disorders? *NeuroToxicology*. 33:1491-1498.
- Jiang Q, Lust R, Strynar MJ, and **DeWitt JC**. 2012. Perfluorooctanoic acid induces developmental cardiotoxicity in chicken embryos and hatchlings. *Toxicology*. 293:97-106.
- Fair PA, Stavros H-C, Mollenhauer MAM, **DeWitt JC**, Henry N, Kannan K, Mitchum G, Y SH, Bossart GD, Keil DE, and Peden-Adams MM. 2012. Immune function in female B6C3F1 mice is modulated by DE-71, a commercial polybrominated diphenyl ether mixture. *Journal of Immunotoxicology*. 9:96-107.
- Hu Q, Strynar MJ, and **DeWitt JC**. 2010. Are developmentally exposed C57BL/6 mice insensitive to suppression of TDAR by PFOA? *Journal of Immunotoxicology*. 7:344-349.
- DeWitt JC**, Copeland CB, and Luebke RW. 2009. Suppression of humoral immunity by perfluorooctanoic acid is independent of elevated serum corticosterone concentration in mice. *Toxicological Sciences*. 109:106-112.
- Peden-Adams MM, Stuckey JE, Gaworecki K, Berger-Ritchie J, Bryant K, Jodice PG, Scott TR, Boone S, McGuinn WD, **DeWitt JC**, and Keil DE. 2009. Developmental toxicity in white leghorn chickens following in ovo exposure to perfluorooctane sulfonate (PFOS). *Reproductive Toxicology*. 27:307-318.
- Whalen MM, **DeWitt JC**, Luebke RW. 2008. Serum supplementation modulates the effects of dibutyltin on human natural killer cell function. *Toxicological Sciences*. 104:312-319.
- DeWitt JC**, Copeland CB, Strynar MJ, and Luebke RW. 2008. Perfluorooctanoic acid-induced immunomodulation in adult C57BL/6J or C57BL/6N female mice. *Environmental Health Perspectives*. 116:644-650.
- DeWitt JC**, Copeland CB, and Luebke RW. 2008. An organotin mixture found in polyvinyl chloride (PVC) pipe is not immunotoxic to adult Sprague-Dawley rats. *Journal of Toxicology and Environmental Health Part A*. 71:276-282.
- DeWitt JC**, Copeland CB, and Luebke RW. 2007. Immune function is not impaired in Sprague-Dawley rats exposed to dimethyltin dichloride (DMTC) during development or adulthood. *Toxicology*. 232:303-310.
- Lim J, **DeWitt JC**, Sanders RA, Watkins JB III, and Henshel DS. 2007. Suppression of endogenous anti-oxidant enzymes by 2,3,7,8-tetrachlorodibenzo-*p*-dioxin-Induced oxidative stress in chicken liver during development. *Archives of Environmental Contamination and Toxicology*. 52:590-595.
- DeWitt JC**, Copeland CB, and Luebke RW. 2006. Developmental exposure to 1.0 or 2.5 mg/kg of dibutyltin dichloride does not impair immune function in Sprague-Dawley rats. *Journal of Immunotoxicology*. 3:245-252.

- DeWitt JC**, Millsap DS, Yeager RL, Heise SS, Sparks DW, and Henshel, DS. 2006. External heart deformities in passerine birds exposed to environmental mixtures of polychlorinated biphenyls during development. *Environmental Toxicology and Chemistry*. 25:541-551.
- DeWitt JC**, Copeland CB, and Luebke RW. 2005. Immune responses in Sprague-Dawley rats exposed to dibutyltin dichloride in drinking water as adults. *Journal of Immunotoxicology*. 2:151-160.
- DeWitt JC**, Meyer EB, and Henshel DS. 2005. Environmental toxicity studies using chickens as surrogates for wildlife: Effects of vehicle volume. *Archives of Environmental Contamination and Toxicology*. 48:260-269.
- DeWitt JC**, Meyer EB, Watkins JB, and Henshel DS. 2005. Environmental toxicity studies using chickens as surrogates for wildlife: Effects of day of injection. *Archives of Environmental Contamination and Toxicology*. 48:270-277.
- Stanton B, **DeWitt J**, Henshel D, Watkins S, and Lasley B. 2003. Fatty acid metabolism in neonatal chickens (*Gallus domesticus*) treated with 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) or 3,3',4,4',5-pentachlorobiphenyl (PCB-126) *in ovo*. *Comparative Biochemistry and Physiology C - Pharmacology and Toxicology*, 136(1):73-84.
- Henshel DS, **DeWitt JC**, and Troutman, A. 2002. Using chicken embryos for teratology studies. In: *Current Protocols in Toxicology* (M.D. Maines, L.G. Costa, E. Hodgson, D.J. Reed, and I.G. Sipes, Eds.), Supplement 14, pp. 13.4.1-13.4.19.
- Henshel DS, Martin JW and **DeWitt JC**. 1997. Brain asymmetry as a potential biomarker for developmental TCDD intoxication: A dose-response study. *Environmental Health Perspectives*. 105:718-725.
- Henshel DS, Martin JW, Norstrom RJ, Elliot J, Cheng KM and **DeWitt JC**. 1997. Morphometric brain abnormalities in double-crested cormorant chicks exposed to polychlorinated dibenzo-*p*-dioxins, dibenzofurans, and biphenyls. *Journal of Great Lakes Research*. 23:11-26.
- Walker ED, Smith TW, **DeWitt J**, Beaudou DC, McLean RG. 1994. Prevalence of *Borrelia burgdorferi* in host-seeking ticks (Acari: Ixodidae) from a Lyme disease endemic area in northern Michigan. *Journal of Medical Entomology*. 31(4):524-8.

Reviews/Commentaries

- Cousins IT, **DeWitt JC**, Lohmann R, Glüge J, Goldenman G, Herzke D, Ng CA, Scheringer M, Wang Z. 2020. The high persistence of PFAS is sufficient for their management as a chemical class. *Environmental Science: Processes & Impacts*, 22:2307-2312.
- Lohman R, Cousins I, **DeWitt J**, Glüge J, Goldenman G, Herzke D, Lindstrom A, Miller M, Ng C, Patton S, Scheringer M, Trier X, Wang Z. 2020. Are fluoropolymers really of low concern for human and environmental health and separate from other PFAS? *Environmental Science & Technology*, 54:12820-12828.
- Glüge J, Scheringer S, Cousins IT, **DeWitt JC**, Goldenman G, Herzke D, Lindstrom AB, Lohmann R, Ng CA, Trier X, Wang Z. 2020. An overview of the uses of per- and polyfluoroalkyl substances (PFAS). Accepted by *Environmental Science: Processes & Impacts*, 22:2345-2373.

- Fenton SE, Ducatman A, Boobis A, **DeWitt JC**, Lau C, Ng C, Smith JS, and Roberts SM. 2020. Per- and polyfluoroalkyl substance toxicity and human health review: Current state of knowledge and strategies for informing future research. *Environmental Toxicology and Chemistry*, <https://doi.org/10.1002/etc.4890>.
- Kwiatkowski C, Andrews D, Birnbaum L, Bruton T, **DeWitt J**, Knappe D, Maffini M, Miller M, Pelch K, Reade A, Soehl A, Trier X, Venier M, Wagner C, Wang Z, and Blum A. 2020. The scientific basis for managing PFAS as a chemical class. *Environmental Science & Technology Letters*, 7:532-543.
- Cousins IT, **DeWitt JC**, Glüge J, Goldenman G, Herzke D, Lohmann R, Miller M, Ng CA, Scheringer M, Vierke L, and Wang Z. 2020. Strategies for grouping per- and polyfluoroalkyl substances (PFAS) to protect human and environmental health. *Environmental Science: Processes & Impacts*, 22:1444-1460.
- Cousins IT, Goldenman G, Herzke D, Lohmann R, Miller M, Ng CA, Patton S, Scheringer M, Trier X, Vierke L, Wang Z, **DeWitt JC**. 2019. The concept of essential use for determining when uses of PFASs can be phased out. *Environmental Science: Processes & Impacts*. 21:1803-1815.
- DeWitt JC**, Blossom SJ, and Schaidler L. 2019. Exposure to per- and polyfluoroalkyl substances leads to immunotoxicity: Epidemiological and toxicological evidence. *Journal of Exposure Science and Environmental Epidemiology*. 29:148-156.
- Hopkins Z, Sun M, **DeWitt J**, and Knappe D. 2018. Recently detected drinking water contaminants: GenX and other per- and polyfluoroalkyl ether acids. *Journal of the American Water Works Association*. 110:13-28.
- DeWitt JC** and Patisaul HB. 2018. Endocrine disruptors and the developing immune system. *Current Opinion in Toxicology*. 10:31-36.
- Ritscher A, Wang Z, Scheringer M, Boucher JM, Ahrens L, Berger U, et al. 2018. Zürich statement on future actions on per- and polyfluoroalkyl substances (PFASs). *Environmental Health Perspectives*. 126: <https://doi.org/10.1289/EHP4158>.
- Wang Z, **DeWitt JC**, Higgins CP, and Cousins IT. 2017. A never-ending story of per- and polyfluoroalkyl substances (PFASs)? *Environmental Science & Technology*. 51:2508-2518.
- Hessel EVS, Ezendam J, van Broekhuizen FA, Hakkert B, **DeWitt JC**, Granum B, Guzylack L, Lawrence BP, Penninks A, Rooney AA, Piersma AH, and van Loveren H. 2016. Assessment of recent developmental immunotoxicity studies with bisphenol A in the context of the 2015 EFSA t-TDI. *Reproductive Toxicology*. 65:448-456.
- Corsini E, Luebke RW, Germolec DR, and **DeWitt JC**. 2014. Perfluorinated compounds: emerging POPs with potential immunotoxicity. *Toxicology Letters*, 230:263-270.
- DeWitt J**, Peden-Adams M, Keller J, and Germolec D. 2012. The immunotoxicity of perfluorinated compounds: Recent developments. *Toxicologic Pathology*, 40:300-311.
- DeWitt J**, Peden-Adams M, Keil D, and Dietert R. 2012. Current status of developmental immunotoxicity: Early-life patterns and testing. *Toxicologic Pathology*, 40:230-236.

Dietert RR, Dietert J, and **DeWitt JC**. 2011. Environmental risk factors for autism. *Emerging Health Threats Journal* (invited review). 4:7111.

Dietert RR, **DeWitt JC**, Germolec DR, and Zelikoff JT. 2010. Breaking patterns of environmentally influenced disease for health risk reduction: Immune perspectives. *Environmental Health Perspectives* 118:1091-1099.

DeWitt JC, Shnyra A, Badr MZ, Loveless SE, Hoban D, Frame SR, Cunard R, Anderson SE, Meade BJ, Peden-Adams MM, Luebke RW, and Luster MI. 2009. Immunotoxicity of perfluorooctanoic acid and perfluorooctane sulfonate and the role of peroxisome proliferator activated receptor alpha. *Critical Reviews in Toxicology* 39:76-94.

Edited Books

DeWitt JC, Rockwell CE, and Bowman CC (eds). 2018. *Immunotoxicity Testing: Methods and Protocols*, Methods in Molecular Biology Series. Springer Science + Business Media, LLC (Invited).

DeWitt JC (ed). 2015. *Toxicological Effects of Perfluoroalkyl and Polyfluoroalkyl Substances*. Springer Science + Business Media, LLC (Invited).

Book Chapters

Meadows JR, **DeWitt JC**, and Rooney AA. 2018. Ecoimmunotoxicology – An overview. In: *Comprehensive Toxicology* (McQueen CA, ed) 3rd edition. Elsevier Ltd., Oxford.

DeWitt JC and Keil DE. 2017. Current issues in developmental immunotoxicity. In: *Immunopathology in Toxicology and Drug Development* (Parker GA, ed). Springer International Publishing, Switzerland.

DeWitt JC, Germolec DR, Luebke RW, and Johnson, VJ. 2016. Associating changes in the immune system with clinical diseases for interpretation of risk assessment. In: *Current Protocols in Toxicology*. 67:18.1.1-18.1.22.

DeWitt JC, Peden-Adams MM, and Keil DE. 2015. Immunotoxic effects of perfluoroalkylated compounds: Mechanisms of action. In: *Molecular Immunotoxicology* (Corsini E and van Loveren H, eds). Wiley-VCH GmbH & Co., Weinheim.

DeWitt JC and Dietert RR. 2014. Immunotoxicity in autism spectrum disorders. In: *The Comprehensive Guide to Autism* (Patel VB, Martin CR, Preedy V, and Preedy VR, eds). Springer Reference, New York, NY.

Dietert RR, **DeWitt JC**, and Luebke RW. 2012. Reducing the prevalence of immune-based chronic disease. In: *Immunotoxicity, Immune Dysfunction, and Chronic Diseases* (Dietert RR and Luebke RW, eds), Molecular and Integrative Toxicology, Springer Science + Business Media, LLC. pp 419-440.

DeWitt J, Peden-Adams M, Keil D, and Dietert R. 2012. Developmental immunotoxicity (DIT): Assays for evaluating effects of exogenous agents on development of the immune system. In: *Current Protocols in Toxicology*. Chapter 18: Unit 18.15.

Luebke RW, **DeWitt JC**, Germolec DR, Salazar KD, and Kerkvliet NI. 2012. Immunomodulation by persistent organic pollutants. In: *Dioxins and Health, Including Other Persistent Organic*

Pollutants and Endocrine Disruptors, 3rd Edition (Schechter A, ed), John Wiley and Sons, Inc., Hoboken, NJ. pp 171-192.

DeWitt JC and Dietert RR. 2012. Postnatal immune dysfunction and its impact on growth parameters. In: *Handbook of Growth and Growth Monitoring in Health and Disease* (Preedy VR, ed), Springer, New York, NY. pp 741-755.

DeWitt JC and Luebke RW. 2010. Immunological Aging. In: *Comprehensive Toxicology, 2nd Edition*, Volume 5 (Lawrence D, ed), Elsevier Limited, Oxford, UK. pp 455-465.

Dietert RR and **DeWitt J**. 2010. Developmental immunotoxicity (DIT): The why, where and how of DIT testing. In: *Immunotoxicity Testing: Methods and Protocols* (Dietert RR, ed), Methods in Molecular Biology. Humana Press, Inc., Totowa, NJ. 598:17-25.

Luebke RW, Beamer CA, Bowman C, **DeWitt JC**, Gowdy K, Johnson VJ, Shepherd DM, and Germolec DR. 2009. Immunotoxicology (developmental immunotoxicology section). In: *General and Applied Toxicology, 3rd Edition* (Marrs T, Ballantyne B, Syversen T, eds.), John Wiley & Sons, Ltd., Chichester, UK, pp 1561-1583.

Other Scholarly Contributions

Portier CJ et al. (90+ co-authors). 2016. Differences in the carcinogenic evaluation of glyphosate between the International Agency for Research on Cancer (IARC) and the European Food Safety Authority (EFSA). *Journal of Epidemiology and Community Health*. 70:741-745.

DeWitt JC and Luebke RW. 2014. Immunological Aging. *Online Reference Database Biomedical Science*.

Benbrahim-Tallaa L, Lauby-Secretan B, Loomis D, Guyton KZ, Grosse Y, El Ghissassi F, Bouvard V, Guha N, Mattock H, and Straif K *on behalf of the International Agency for Research on Cancer Monograph Working Group* (**DeWitt JC**, Mechanisms Subgroup Member). 2014. Carcinogenicity of perfluorooctanoic acid, tetrafluoroethylene, dichloromethane, 1,2-dichloropropane, and 1,3-propane sultone. *The Lancet Oncology*. 15:924-925.

IARC. 2014 Perfluoro-octanoic acid, Tetrafluoroethylene, Dichloromethane, 1,2-Dichloropropane, and 1,3-Propane sultone. *IARC Monogr Eval Carcinog Risks Hum* (**DeWitt JC**, Mechanisms Subgroup Member). *Monograph 110*.

DeWitt JC and Dietert RR. 2011. Response to “Theoretical aspects of autism: Causes - a review” by Ratajczak, HV (*Journal of Immunotoxicology* 8:68-79, 2011). *Journal of Immunotoxicology*. 8:195-197.

Non-Refereed Articles

DeWitt JC, Brown P, Carignan C, Kasper S, Schaidler L, Osimo C, Fitzstevens M. Op-ed: PFAS chemicals – the other immune system threat. *Environmental Health News*. July 6, 2020.

“Toxicant induced brain asymmetry: More than just a bird-brained scheme?” Learned Discourses, *SETAC Globe*, Jan/Feb 2001 (invited).

RESEARCH FUNDING

- North Carolina Policy Collaboratory 1 year
Per- and Polyfluoroalkyl Substances (PFAS) in North Carolina: Descriptive Toxicological Needs
Role on project: Principle Investigator
Status: Award notification August 2020. Direct costs: \$83,446
- Center for Human Health and the Environment at North Carolina State University 1 year
Uncovering PFOA-Induced Metabolic Changes and their Association with B-cell Metabolic Function
Role on project: Principle Investigator of Record (Mentor to Postdoctoral Scholar, Dr. Tracey Woodlief, who wrote and received award)
Status: Award notification April 2020. Direct costs: \$25,000
- Brody Brothers Endowment Foundation 1 year
Do Per- and Polyfluoroalkyl Substances found in the Cape Fear River of North Carolina Pose a Risk to the Immune System?
Role on project: Principal Investigator
Status: Award notification December 2019. Direct costs: \$32,000
- National Institute of Environmental Health Sciences Superfund Research Program (P42) via subcontract from North Carolina State University 5 years
Center for Environmental and Health Effects of PFAS. BMRP2: Uncovering the Mechanisms of PFAS-Induced Immunotoxicity: An Important Public Health endpoint
Role on project: Co-Principal Investigator (C. Mattingly and D. Knappe, PIs, NCSU)
Status: Award notification December 2019. Direct costs to ECU: \$684,005
- Department of Defense 3 years
New Approaches for the Treatment of Neuroinflammatory and Behavioral Consequences of Exposure to Gulf War Illness Chemicals
Role on project: Principal Investigator
Status: Award notification March 2019. Direct costs: \$699,564.
- United States Environmental Protection Agency via subcontract from Oregon State University 3 years
System Toxicological Approaches to Define and Predict Toxicity of Per- and Polyfluoroalkyl Substances
Role on project: Co-Principal Investigator (R. Tanguay, PI, OSU)
Status: Award notification September 2018. Direct costs to ECU: \$465,000.
- North Carolina Policy Collaboratory 2 years
Per- and Polyfluoroalkyl Substance Testing (PFAST) Network: Effects of novel PFASs on immune function
Role on project: Co-Principal Investigator and Team Co-Lead (with R. Fry, UNC-CH)
Status: Award notification September 2018. Direct costs to ECU: \$168,068.
- North Carolina Policy Collaboratory 6 months
Emerging contaminants in North Carolina, including PFASs, 1,4-dioxane, and bromide, in air and water

Role on project: Co- Principal Investigator

Status: Award notification July 2018. Direct costs to ECU: \$12,000.

National Institutes of Health/National Institute of Environmental Health Sciences via subcontract
with North Carolina State University 2 years

Assessing Impact of Drinking Water Exposure to GenX in the Cape Fear River Basin

Role on project: Co-Investigator (J. Hoppin, NCSU, PI)

Status: Award notification November 2017. Direct costs to ECU: \$20,000

Brody Brothers Endowment Foundation 1 year

Immunomodulatory Effects of Aqueous Film Forming Foam (AFFF): An Effective Fire Suppressant or a Persistent Environmental Contaminant with Unknown Health Consequences?

Role on project: Principal Investigator

Status: Award notification November 2016. Direct costs: \$20,000

Center for Human Health and Environment at NCSU Pilot Project Program 1 year

Discovery of Biomarkers of Effect following Environmentally-Relevant Exposure to Pharmaceutical Pollutants

Role on project: Co-Principal Investigator (E. Hvastkovs and K. McCoy, ECU, co-PIs)

Status: Award notification August 2015. Direct costs: \$25,000

Brody School of Medicine Internal Seed/Bridge Grant Program 1 year

Post-translational Modifications to Potassium Channels in Alzheimer's Disease: Triggers of Onset and Progression?

Role on project: Co-Principal Investigator (R. Schwalbe, ECU, co-PI)

Status: Award notification August 2015. Direct costs: \$25,000

The Harriet and John Wooten Laboratory for Alzheimer's and
Neurodegenerative Disease Research 1 year

Microglia as a Target of Environment x Gene Interactions Part II: Digging into the Biochemistry of Alzheimer's Disease

Role on project: Principal Investigator (R. Schwalbe, ECU, co-PI)

Status: Award notification November 2014. Direct costs: \$12,000

Interdisciplinary Research Collaboration Award (East Carolina University) 6 months

Pharmaceutical and Personal Care Product Contaminants in Fresh Water

Role on Project: Corresponding Faculty PI

Status: Award notification August 2014. Direct costs: \$23,000

Alzheimer's North Carolina 1 year

A Multidisciplinary Approach to Fight Senior Dementia

Role on Project: Co-Investigator (Q. Lu, ECU, PI)

Status: Award notification February 2014. Direct costs: \$50,000

East-West Research Collaboration Award (East Carolina University) 6 months

Pharmaceutical and Personal Care Product Contaminants in Fresh Water

Role on Project: Corresponding Faculty PI

Status: Award notification December 2013. Direct costs: \$23,000

The Harriet and John Wooten Laboratory for Alzheimer's and 1 year

Neurodegenerative Disease Research

Microglia as a Target of Environment x Gene Interactions: Exacerbation of Alzheimer's Pathology by Early-life Exposure to Lead

Role on project: Principal Investigator

Status: Award notification April 2013. Direct costs: \$12,000

Bureau of Land Management via subcontract from University of Nevada-LV

3 years

Nellis Dunes Recreation Area Dust Exposure and Human Health Risk Assessment

Role on project: Co-Principal Investigator (B. Buck, UNLV, PI)

Status: Award notification March 2011. Direct costs to ECU: \$105,699

Department of Defense

1 year

Immunopathogenesis in autism: Regulatory T cells and autoimmunity in neurodevelopment

Role on project: Principal Investigator

Status: Award notification December 2009. Direct costs: \$75,000

School of Public and Environmental Affairs, Indiana University. Ph.D. Student Travel Award and Graduate Student Organization Travel Award. 2001. Funded amount: \$500.00

Ohio Valley Chapter of the Society of Environmental Toxicology and Chemistry. Student Travel Grant. 1997, 1998, 2001. Funded amounts: \$300.00 each year

EDITORIAL BOARDS/AD HOC MANUSCRIPT REVIEWER

Editorial Board Member, *Journal of Immunotoxicology*. 2010-

Editorial Board Member, *Journal of Toxicology and Environmental Health Part A*. 2013-

Associate Editor, *Toxicology and Applied Pharmacology*. 2016-

Series co-Editor (with Sarah Blossom), *Molecular and Integrative Toxicology*. 2016-

Editorial Board Member, *Environmental Health Perspectives*. 2017-

Editorial Board Member, *NeuroToxicology*. 2018-

Editorial Board Member, *PLoS One*. 2018-

Editorial Board Member, *Reproductive Toxicology*, 2019-

Ad Hoc Reviewer:

Advances in Physiology Education

Archives of Toxicology

Chemosphere

Environmental Health Perspectives

Environmental Research

Environmental Science & Technology

Food and Chemical Toxicology

Human & Experimental Toxicology

International Immunopharmacology

International Journal of Tropical Biology

Journal of Toxicology & Environmental Health

Pharmacological Research

Regulatory Toxicology & Pharmacology

Science of the Total Environment

Toxicology & Applied Pharmacology

Toxicology Reports

Archives of Environmental Contamination & Toxicology

Chemical Research in Toxicology

Drug and Chemical Toxicology

Environment International

Environmental Science & Pollution Research

Epidemiology

GENE

International Aquatic Research

Journal of Environmental Immunology & Toxicology

Journal of Immunotoxicology

NeuroToxicology

PLoS One

Reproductive Toxicology

Southeastern Naturalist

Toxicology Letters

Toxicological Sciences

GRANT REVIEWER & REVIEW PANEL CHAIR

National Institute of Environmental Health Sciences, 2020
University of North Carolina at Chapel Hill pilot funding programs, 2020
Wisconsin SeaGrant, 2019
Hudson River Foundation, 2019
Department of Defense Congressionally Directed Medical Research Programs, Review Panel Chair, 2018, 2019, 2020
CORIS, Consorzio per la Ricerca Sanitaria, 2018
Department of Defense Congressionally Directed Medical Research Programs, 2013-2020
Graduate Women in Science Graduate Fellowships, 2011, 2014-2018
CDC-NIOSH, 2010, 2013, 2016

EXTERNAL REVIEWER

California Environmental Protection Agency (product), 2019, 2020
US Environmental Protection Agency (product), 2019
ATSDR, 2017-2020 (manuscripts and Toxicological Profile)
New York State Department of Public Health, 2017 (Cancer incidence investigation: Village of Hoosick Falls, Rensselaer County, New York)

ORAL PRESENTATIONS (Invited)

“Forever Chemicals.” *Tell me about it Tuesdays, Sound Rivers Science Series*. Virtual Talk. 2020.

“Why Uncovering Immunotoxicological Impacts of Understudied PFAS are Public Health Protective.” *PharmTox Seminar, Michigan State University*, Virtual Seminar. 2020.

“Let’s not Forget about the T in the PBMT of PFAS: An Overview of what we know about PFAS Toxicity.” *EHSC 8030 Environmental Health Science, College of Public Health, University of Georgia*, Virtual Seminar. 2020.

“What can Science tell us about Potential Health Effects of PFAS found in NC: Why Understanding Effects of PFAS on the Immune System is Important.” *PFAST Network Webinar*. 2020.

“PFAS 101: A 10-minute Primer on Per- and Polyfluoroalkyl Substances.” *NAS Virtual Workshop on Federal Government Human Health PFAS Research*. 2020.

“Immune Investigations of some of the Understudied PFAS found in the Cape Fear River.” *NC Coastal Federation Emerging Contaminants in North Carolina Waters*, Virtual Seminar. 2020.

“Immunotoxicological Evaluation of Understudied Per- and Polyfluoroalkyl Substances found in North Carolina.” *WVU Microbiology & Women in Biomedical Science Seminar*, Virtual Seminar. 2020.

“PFAS: Why Immune Effects are Relevant Points of Departure for these Multisystem Toxicants.” *M-LEEd Virtual Mini-Symposium on Per- and Polyfluoroalkyl Substances (PFAS): Exposure, Toxicity, and Policy at the University of Michigan*, Virtual Seminar. 2020.

“Why Uncovering Immunotoxic Outcomes of PFAS can be a Health Protective Strategy.” *Department of Environmental Medicine, NIEHS Environmental Health Sciences Center Seminar Series, University of Rochester*, Virtual Seminar. 2020.

“From Inert to Adverse: What we’ve learned about PFAS Toxicity in the Past Two Decades.” *VME4906 Intro to Water Analysis, University of Florida Gainesville, Virtual Lecture.* 2020.

“Immunotoxicity of PFAS: Functional Toxicological Outcomes to Support Decision-Making.” *Air & Waste Management Association, The Science of PFAS, Chemistry, Health and Multimedia Measurements, Virtual Conference.* 2020.

“(Eco)toxicology of PFAS: A few Highlights.” *Europe’s PFAS Problem: Situation Briefings by Independent Experts, European Environmental Bureau, Virtual Webinar.* 2020.

“What are PFAS and why should you care about them?” *Climate Action NC, Virtual Public Meeting.* 2020.

“Mechanisms of Toxicity for Per- and Polyfluoroalkyl Substances: Are we there yet?” *Chemical Exposures and Impact on Health, ACS Fall 2020 Virtual Meeting & Expo, Virtual Meeting.* 2020.

“Biomarkers of Immunotoxicity and Applicability to PFAS and other Environmental Toxicants,” *Predicting Human Health Effects from Environmental Exposures: Applying Translatable and Accessible Biomarkers of Effect – A NAS Workshop, National Academies of Science, Virtual Workshop.* 2020.

“Developmental Immunotoxicology.” *Society for Birth Defects Research and Prevention Annual Meeting, Virtual Meeting.* 2020.

“Bringing Scientific Evidence to Meet Local Policy Challenges,” Session Panelist, *American Association of the Advancement of Science Annual Meeting, Seattle, WA.* 2020.

“Approaches to Understand Health Risks of Understudied PFAS.” *Environmental Health Collaborative 2019 Summit on “PFAS: Integrating Science and Solutions in NC.”* Durham, NC. 2019.

“An Overview of how PFAS are Toxic with the Immune System as a Specific Example.” *Michigan Society of Toxicology Fall 2019 Meeting on “PFAS Exposure and Toxicology in Michigan and Beyond.”* Ann Arbor, MI. 2019

“Addressing Public Health Concerns about PFAS: Focus on Immunotoxicology.” *Purdue University, Chemical Exposure Research Area, Center for the Environment and School of Health Sciences Seminar Series.* Lafayette, IN. 2019.

“Immunotoxicological Findings of PFAS: Consistency of Effects between Humans and Rodent Models.” *SETAC North America Focused Topic Meeting: Environmental Risk Assessment of PFAS.* Durham, NC. 2019.

“Per- and Polyfluoroalkyl Substances (PFAS): A Lifecycle Perspective.” *The Toxicology Forum Summer Meeting.* Alexandria, VA. 2019.

“What can PFAS do to our Health?” *North Carolina Museum of Natural Sciences Science Café: “Toxic Chemicals and Human Health.”* Raleigh, NC. 2019.

“Immunotoxicological Findings of PFAS: Consistency of Effects between Rodent Models and Humans.” *2019 Per- and Polyfluoroalkyl Substances: Second National Conference*. Northeastern University. Boston, MA. 2019.

“PFAS Testing Network: Team #5: Other Applied R&D.” *What’s in our Water? A Public Forum on Emerging Contaminants*. NC Coastal Federation. Wilmington, NC. 2019.

“Per- and Polyfluoroalkyl Substances are Immunotoxic: What does this mean for Public Health Protection?” *Environmental and Molecular Toxicology Seminar Series*, Oregon State University. Corvallis, OR. 2019.

“An Overview of what we know about PFAS Toxicology.” *PFAS and Other Emerging Contaminants Conference*. American Council of Engineering Companies of North Carolina and Groundwater Professionals of North Carolina. Raleigh, NC. 2019.

“Developmental Immunotoxicology.” *American College of Toxicology and Teratology Society Practical Reproductive and Developmental Toxicology*. Gaithersburg, MD. 2019.

“PFAS Toxicity.” *North Carolina Waterworks Operators Association Lab Technology Day*. Raleigh, NC. 2019.

“PFAS and Health: What we’ve learned in the Past Two Years.” *Center for Human Health and the Environment Third Annual Symposium*. North Carolina State University, Raleigh, NC. 2019.

“Three Reasons that Per- and Polyfluoroalkyl Substances do not belong in our Bodies.” *University of North Carolina Wilmington Department of Chemistry and Biochemistry Seminar*, Wilmington, NC. 2019.

“PFAS Exposure: What are the Health Implications?” *Cape Fear Public Utility Authority Board Workshop*, Wilmington, NC. 2018.

“Impact of Early-Life Environmental Factors on the Developing Immune system.” *PPTOX VI*, Faroe Islands. 2018.

“Health Effects of GenX: What do we know and what do we need to know to Protect Public Health?” *45th Annual Meeting of the Cape Fear River Assembly*, Wilmington, NC. 2018.

“How do we know Whether a Chemical is Toxic?” *Osher Lifelong Learning Institute Sea & Coffee Series*, University of North Carolina at Wilmington, Wilmington, NC. 2018.

“PFASs, AFFFs, PFAAs: An Alphabet Soup of Emerging Aquatic Contaminants with Immunotoxic Potential.” *NCSU Toxicology Program Seminar Series*, North Carolina State University, Raleigh, NC. 2018.

“How Per- and Polyfluoroalkyl Substances (PFASs), as EDCs, can Fool the Developing Brain’s Immune System.” *EDC-NC Annual Meeting*. RTP, NC. 2018.

“Research Challenges Associated with PFASs: Ubiquitous Multisystem Toxicants.” *The Toxicology Forum Winter Meeting*. Washington DC. 2018.

“Environmental Triggers of Underlying Neuroimmune Susceptibilities: Critical Events in Development.” *Webinar*, Autism Research Institute. 2018.

“Are Replacements for the Legacy PFASs Indisputably Safe Alternatives?” *Webinar*, Toxic-Free Future. 2018.

“Per and Polyfluoroalkyl Substances: Complex Chemicals that Challenge Policies for Environmental Health Protection and Risk Communication.” *Brown Bag Lunch*, RTI International, RTP, NC. 2018.

“From Legacies to Alternatives: What we know and what we need to know about the Toxicity of Per- and Polyfluoroalkyl Substances.” *Weekly Seminar*, NC Department of Health and Human Services, Raleigh, NC. 2017.

“The Never-Ending Story of Per- and Polyfluoroalkyl Substances: Immunotoxicity from Legacies to Alternatives.” *Mid Atlantic Society of Toxicology Annual Meeting*, Edison, NJ. 2017.

“A Potential Never-Ending Story of Chemical Water Pollution in LMICs: Proliferation of Legacy and Replacement PFASs.” *International Society of Exposure Science*, Research Triangle Park, NC. 2017.

“The Science behind GenX.” *Water Wednesday*, Clean Cape Fear, Wilmington, NC. 2017.

“Is it Possible to Untangle Underlying Developmental Susceptibilities from Exogenous Triggers in ASD?” *Autism Think Tank*, Autism Research Institute, Dallas-Fort Worth, TX. 2017.

“Urgent Research Needs for Better Understanding the Toxicity of PFASs.” *Northeast Superfund Research Program Meeting*, Northeastern University, Boston, MA. 2017.

“Emerging Toxicological Knowledge and Data Gaps for “Novel” PFASs.” *Public Workshop on Perfluoroalkyl and Polyfluoroalkyl Substances (PFASs) in Carpets, Rugs, Indoor Upholstered Furniture, and Their Care and Treatment Products*, Safer Consumer Products Program, Department of Toxic Substances Control, California Environmental Protection Agency, Sacramento, CA. 2017.

“Pharmaceuticals and Personal Care Products as Emerging Pollutants in Coastal Waters (with Dr. Siddhartha Mitra). *Science on the Sound Symposium*, Coastal Studies Institute, Wanchese, NC. 2017.

“Emerging Aquatic Contaminants and Health: Finding Solutions with Transdisciplinary Teams.” Coastal Health Initiative, East Carolina University, Greenville, NC. 2016.

“Water Pollution: Is seeing believing?” *Love a Sea Turtle Second Annual Environmental Symposium*, River Park North, Greenville, NC. 2016.

“Developmental Immunotoxicology.” *Middle Atlantic Reproduction and Teratology Association*, Covance Research Products, Inc., Denver, PA. 2015.

“A Little Bit of this and a Little Bit of that...How do we Understand Risks of Agents in just a Drop of Water?” *Love a Sea Turtle First Annual Environmental Symposium*, River Park North, Greenville, NC. 2015.

“Updates on Alzheimer’s Disease Research in the DeWitt Lab at East Carolina University” (with Annalise vanderEmbse). *Senior Services Community Health Program*, Vidant Medical Center, Greenville, NC. 2015.

“Immunomodulatory Effects of Perfluoroalkyl Substances in Rodents and Humans.” *Immunotoxicology in Food and Ingredient Safety Assessment: Approaches and Case Studies, SOT FDA Colloquia on Emerging Toxicological Science Challenges in Food and Ingredient Safety*, Washington, DC. 2015.

“Updates on Alzheimer’s Disease Research in the DeWitt Lab at East Carolina University” (with Annalise vanderEmbse). *Alzheimer’s Professional Partnership-Greenville*, Greenville, NC. 2015.

“From Sink to Sea: Evaluating Health Impacts of Pills and Perfumes after we Wash them away” (with Krista McCoy). *FaculTea Seminar*, East Carolina University, Greenville NC. 2014.

“Better Living through Chemistry: A Tale of Two Toxicants.” *Department of Chemistry Seminar*, East Carolina University, Greenville, NC. 2014.

“The Nuts and Bolts of Interdisciplinary Toxicological Research” (with Christie Sayes). *Western Carolina University Department of Biology Spring Seminar Series*. Cullowhee, NC. 2014.

“Alzheimer’s Disease and Neurodegenerative Disorders Research at East Carolina University” (with Annalise vanderEmbse). *Alzheimer’s Professional Partnership-Goldsboro*, Goldsboro, NC. 2015.

“Endocrine Disruption of the Neuro-immune Interface.” *The Collaborative on Health and the Environment Partnership Call* (Teleseminar). 2014

“Contaminated Drinking Water: A Case Study of Perfluorinated Compounds.” *Coastal Water Resources Center*, East Carolina University, Greenville, NC. 2013.

“Villains and Heroes in the Battle for Clean Water” (with Siddhartha Mitra and Anthony Cannon). *STEM at Starlight*, Greenville, NC. 2013.

“The Nuts and Bolts of Alzheimer’s Disease Research at East Carolina University.” *Senior Services Community Health Program*, Vidant Medical Center, Greenville, NC. 2013.

“Alzheimer’s Disease and Neurodegenerative Disorders Research at East Carolina University.” *Alzheimer’s Professional Partnership-Greenville*, Greenville, NC. 2013.

“A Neuroimmune Investigation of an Endocrine-Disrupting Compound”. *Department of Biology Seminar*, East Carolina University, Greenville, NC. 2013.

“A Neuroimmune Investigation of an Endocrine-Disrupting Compound: How Bisphenol A may Disrupt Learning and Memory through Immunomodulation.” *Endocrine Disrupting Chemicals Forum*, Research Triangle Park, NC. 2013.

“Undecafluoro-2-methyl-3-oxahexanoic Acid Versus Perfluorooctanoic Acid: Is Polyfluorination a Less Immunotoxic Option than Perfluorination?” *Department of Environmental and Molecular Toxicology Seminar*, North Carolina State University, Raleigh, NC. 2013.

"Early Life Triggers of Developmental Immunotoxicity." *Society for Toxicologic Pathology*, Annual Meeting, Denver, CO. 2011.

"Is the Pathway to Autism Paved with Environmental Chemicals?" *Department of Comparative Medicine seminar*. East Carolina University, Greenville, NC. 2011.

"PPAR Involvement in PFAA Immunotoxicity." *U.S. EPA PFAA Days III Workshop*, U.S. Environmental Protection Agency, Research Triangle Park, NC. 2010.

"Are Environmental Contaminants (Developmental) Immunotoxicants? A Case Study of a Fluorinated Compound." *Department of Microbiology and Immunology Seminar*, East Carolina University, Greenville, NC. 2010.

"Developmental Immunotoxicity of PFOA, an Emerging Contaminant." *Department of Biology Seminar*, East Carolina University, Greenville, NC. 2009.

"The Immunotoxicity of Perfluorooctanoic Acid (PFOA)." *Department of Physiology Seminar*, Brody School of Medicine, East Carolina University, Greenville, NC. 2008.

"Immunotoxic Potentials of PFOA." *U.S. EPA PFAA Days II Workshop*, U.S. Environmental Protection Agency, Research Triangle Park, NC. 2008.

"Chasing Down the Mechanism of Perfluorooctanoic Acid-Induced Immunomodulation: Knock-outs and Adrenalectomies." *National Health and Environmental Effects Research Laboratory Work in Progress*, U.S. Environmental Protection Agency, Research Triangle Park, NC. 2007.

"Wildlife Immunotoxicology." Immunotoxicology course. College of Veterinary Medicine, North Carolina State University. 2006.

"Immunotoxicity of Individual Organotin Compounds in Sprague-Dawley Rats." *Society for Risk Analysis 25th Annual Meeting*, Orlando, FL. 2005.

"Immune Function in Rats Exposed to Organotins as Adults or During Development." *National Health and Environmental Effects Research Laboratory Work in Progress*, U.S. Environmental Protection Agency, Research Triangle Park, NC. 2005.

"Brain Asymmetry in Domestic Hatchling Chickens Developmentally Exposed to TCDD: A Histological Examination." *Society of Environmental Toxicology and Chemistry 24th Annual Meeting*, Austin, TX. 2003.

"Service Learning and Scientific Research." Indiana University Community Outreach and Partnerships in Service-Learning Workshop, Indiana University, Bloomington, IN. 2004.

"Toxic Effects of Mercury." Clean Air Indiana Speak out on the Clear Skies Initiative, Indiana University, Bloomington, IN. 2003.

"Environmental Health Concerns for Toxics in Indiana Superfund Sites." Indiana Public Interest Research Group (INPIRG) Teach-In on Indiana Superfund Issues, Indiana University, Bloomington, IN. 2002.

"Introduction to Environmental Toxicology." Techniques in Environmental Science and Environmental and People courses. School of Public and Environmental Affairs, Indiana University-Bloomington. 2000, 2001, 2003.

"Bioaccumulation and Biomagnification of Environmental Chemicals in Colonial Fish-eating Waterbirds." Introduction to Environmental Sciences course. School of Public and Environmental Affairs, Indiana University-Bloomington. 2000 and 2001.

"Women in the Sciences: Abolishing Gender Apartheid." IU Skills for Leadership Conference, Office of Women's Affairs, Indiana University, Bloomington, IN. 1999.

ORAL PRESENTATIONS

"Developing an Understanding of the Effects of PFAS on the Immature Immune System." *Symposium on Developmental toxicity of per- and polyfluoroalkyl substances (PFAS): Current in vivo approaches and application to human health risk assessment, Society of Toxicology Annual Meeting, Virtual Meeting.* 2020.

"Immunotoxicity Evaluation as a Tool for Protecting Public and Environmental Health from PFAS." *Society of Environmental Toxicology and Chemistry 40th Annual Meeting, Toronto, Ontario.* 2019.

"Immunotoxicological Findings of an Aqueous Film-Forming Foam Formulation." *Society of Environmental Toxicology and Chemistry annual meeting, Sacramento, CA.* 2018.

"Perspectives from the AAMC Mid-Career Women Faculty Professional Development Seminar "MIDWIMS"). *Brody Women Faculty Committee.* Greenville, NC. 2017.

"Immunopathogenesis in Autism: Regulatory T Cells and Markers of Autoimmunity in Mice Developmentally Exposed to Perfluorooctanoic Acid (PFOA). *27th Annual NeuroToxicology Conference, Annual Meeting, Durham, NC.* 2011.

"PFOA-induced Immunomodulation in mice: An Overview." *Society of Toxicology 48th Annual Meeting, Baltimore, MD.* 2009.

"Pathways of PFOA-mediated Immunosuppression." *Society of Toxicology 48th Annual Meeting, Baltimore, MD.* 2009.

"Dose-response of Perfluorooctanoic Acid-Induced Immunomodulation in Adult C57BL/6 Mice." *Society of Toxicology 46th Annual Meeting, Charlotte, NC.* 2007.

"Immune Function in Rats Developmentally Exposed to Dibutyltin Dichloride." *Society of Toxicology 45th Annual Meeting, San Diego, CA.* 2006.

"Neurotoxic Effects in Avian Species: Implications for Human and Ecological Health." School of Public and Environmental Affairs *2nd Annual Young Researchers Conference, Indiana University, Bloomington, IN.* 2002.

"TCDD-Induced Brain Asymmetry and Behavior: What do Individual Chicks Have to Say?" *Ohio Valley Chapter of the Society of Environmental Toxicology and Chemistry, Hueston Woods State Park, College Corner, OH.* 2000.

"Behavioral and Morphological Changes in Domestic Chicks Exposed to TCDD or PCB-126 at Embryonic Day 0 or Embryonic Day 4." *Ohio Valley Chapter of the Society of Environmental Toxicology and Chemistry*, Indiana University, Bloomington, IN. 1997.

"Behavioral Changes in Domestic Hatchling Chicks Exposed to 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) *in ovo*." *Conference on Chlorine in the Environment*, Massachusetts Institute of Technology, Boston, MA. 1996.

"Behavioral Assessment of Hatchling Chicks Exposed to TCDD *in ovo*: Preliminary Results." *Great Lakes Bioeffects Workgroup*. Wright State University, Dayton, OH and *Ohio Valley Chapter of the Society of Environmental Toxicology and Chemistry*, Eastern Kentucky University, Richmond, KY. 1996.

CONTINUING EDUCATION COURSES

Mid-Career Women Faculty Leadership Development Seminar
Stress as a Confounding Factor in Toxicology Studies
Rodent Pathology (Immunopathology)
Basic Embryology and Developmental Toxicology
Grants 101: Professional Grant Writing Workshop
Immunology for Toxicologists
Risk Communication for the General Public
Estrogen Mimics in Health and Disease
Methods for Assessment of Neurotoxicity

PROFESSIONAL ORGANIZATIONS

2019-present	The Toxicology Forum
2017-2018	International Society of Exposure Science
2009-Present	Carolinas Society of Environmental Toxicology and Chemistry
2005-Present	Society of Toxicology (SOT)
2005-Present	North Carolina Chapter of the Society of Toxicology
1997-Present	Society of Environmental Toxicology and Chemistry (SETAC)
1996-2004	Ohio Valley Chapter of the Society of Environmental Toxicology and Chemistry
1996-2004	Great Lakes Bioeffects Workgroup

AWARDS AND HONORS

- *Engagement and Outreach Scholars Academy Scholar*, East Carolina University, Office of Community Engagement and Research. 2019-2020.
- *The Faculty Mentor Award*, East Carolina University Honors College. 2017.
- *Outstanding Young Investigator Award*, Immunotoxicology Specialty Section, Society of Toxicology. 2013.
- *Outstanding Teaching Award*, School of Public and Environmental Affairs, Indiana University. 1999 and 2002.
- *Future Faculty Teaching Fellowship*, Preparing Future Faculty program, Indiana University. 2002.
- *Marian Vinegar Award*, Outstanding Student Presentation at the annual meeting, Ohio Valley Chapter of the Society of Environmental Toxicology and Chemistry. 2000.
- *Outstanding Educational Volunteer*, Monroe County Humane Association, Bloomington, IN. 2000.
- *Outstanding Student Poster Award*, Society of Environmental Toxicology and Chemistry 19th Annual Meeting (3rd place). 1998.

- *Teaching Excellence Recognition Award*, School of Public and Environmental Affairs, Indiana University. 1998.

PROFESSIONAL PRACTICE

North Carolina Secretaries Science Advisory Board Member, NC Department of Environmental Quality (DEQ) and NC Department of Health and Human Services (DHHS). 2019-present.

- Charged with advising the DEQ and DHHS on toxicological effects of contaminants and levels of control necessary for protection of human health and the environment.

North Carolina Cancer Advisory Research Panel Member, NC Policy Collaboratory. 2019-2020.

- Charged by the NC General Assembly with recommending strategies for assessing cancer incidence and mortality rates with respect to temporal and spatial patterns within NC.

Tennessee PFAS External Advisory Group Member, Tennessee Departments of Environment and Conservation and Health. 2019-present.

- Charged with informing the state of Tennessee about PFAS, including compound characteristics, identification, sampling and measurement, remediation, etc.

U.S. House of Representatives Congressional Testimony. 2019.

- Committee on Energy and Commerce, *Subcommittee on Environment and Climate Change*, “Protecting Americans at Risk of PFAS Contamination and Exposure.” May 15, 2019.
- Committee on Oversight and Reform, *Subcommittee on Environment*, “The Devil they Knew – PFAS Contamination and the Need for Corporate Accountability.” July 24, 2019.

Michigan Science Advisory Workgroup Member, Michigan PFAS Action Response Team (MPART). 2019.

- Charged with advising the state of Michigan on Maximum Contaminant Level recommendations for PFAS.

PFAS Testing Network Executive Advisory Committee Member and Team 5 Co-Lead, NC Policy Collaboratory. 2018-present.

- Responsible for advising the Network on addressing occurrence and effects of PFAS in drinking water resources in the state of NC.
- Responsible for co-leading Team 5 (with Dr. Rebecca Fry from University of North Carolina at Chapel Hill) charged with addressing “other research opportunities” for understanding PFAS in NC.

Workshop Participant, Sustainability consequences of chemical exposures: connecting environment, health, and economic assessments. Organized by the European Environmental Agency, Copenhagen, Denmark. June 2018.

- Panelist representing the toxicological sciences.

Global PFAS Science Panel Member. Established from the co-authors of the Zurich Statement (Ritscher et al., 2018). 2017-present.

- Group of academic and government scientists dedicated to fostering development of high-quality scientific research, stewarding information exchange, and coordinating advancement of science and policy to address the class of per- and polyfluoroalkyl substances (PFASs) as a global concern.

Plaintiff Expert Witness, various organizations, to provide toxicological expertise regarding per- and polyfluoroalkyl substances (PFAS).

- Natural Resource Damage Assessment (NRDA) claim by the state of Minnesota against a major corporate entity. November 2016-February 2018. Claim for \$5 billion; settled for \$850 million. Third largest NRDA claim in U.S. history. Deposed but did not testify.
- Involved in several other ongoing cases.

Pro-bono Consultation, various environmental protection and advocacy organizations, 2015-present.

- Provide scientific interpretation and opinion regarding toxicity of per- and polyfluoroalkyl substances to individual community members as well as organizations.
- Organizations include *California Environmental Protection Agency, Cape Fear Public Utility Authority, Center for Environmental Health, Green Science Policy Institute, Massachusetts Toxic Use Reduction Program, Silent Spring Institute, and Toxic Free Future.*

Workshop Participant, Is the European Food Safety Authority (EFSA) standard for bisphenol A sufficiently protective of the immune system and should the Dutch government consider a different standard? Organized by representatives of RIVM (National Institute for Public Health and the Environment), Amsterdam, The Netherlands. September 2015.

- Provided immunotoxicological guidance for regulatory consideration of bisphenol A (BPA).

Consultant, CZR Incorporated, Wilmington, NC. May-July, 2014-2019.

- Provided toxicological interpretation of stream water quality monitoring data for heavy metals.

Technical Advisor, Office of Health Assessment and Translation (OHAT), National Toxicology Program, National Institute of Environmental Health Sciences. March 2013. March 2015. April 2016.

- Evaluated OHAT protocol for evaluation of PFOS-PFOA immunotoxicity.

External Peer Reviewer, U.S. Environmental Protection Agency, External peer review of EPA's Draft Health Effects Documents for Perfluorooctanoic acid (PFOA) and Perfluorooctane Sulfonate (PFOS). 2014.

- Scientific peer reviewer of the health effects documents. Nominated and selected.

Working Group Member, International Agency for Research on Cancer (IARC), IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 110: Perfluorooctanoic acid, Tetrafluoroethylene, Dichloromethane, 1,2-Dichloropropane, and 1,3-Propane sultone. 2014.

- Member of Mechanistic and Other Relevant Data Working Group for perfluorooctanoic acid and tetrafluoroethylene. Invited.

Consultant, Constella Group, LLC, Durham, NC. October 2004-December 2005.

- Summarized immunotoxicology of atrazine for the National Toxicology Program's Report on Carcinogens.

Consultant, Henshel EnviroComm, Bloomington, IN. June 1999-May 2004.

- Representative of the Restoration Advisory Board for Jefferson Proving Ground (Department of Defense) through the Technical Assistance for Public Participation program.
- Interpreted risk assessment documents associated with base clean-up for the general public.

Consultant, Dinosaur Inc., Bloomington, IN. June 2000-September 2000.

- Summarized the potential health and environmental effects of land-applied paper mill sludge.

Consultant, Integrated Pest Management in Schools and Childcare Centers, School of Public and Environmental Affairs Information Clearinghouse, Bloomington, IN. April 2000-September 2000.

- Summarized the potential health effects of pesticides commonly used in schools and childcare centers.

Co-Director, *Summer Program for Exploration of Complex Issues in Environmental Science for Teachers (SPECIES-Teachers) and Environmental Education 99*, School of Public and Environmental Affairs, Indiana University, Bloomington, IN. Summer 1999 and 2001.

- Directed hands-on environmental science summer field workshop for Indiana teachers.

Consultant, Brownstown Elementary Fourth Grade, Brownstown, IN. September 1999-May 2000.

- Served as environmental science expert during weekly videoconferences in a “students as environmental scientists” program.

Associate Director, *Research Experience for High School Students*, College of Arts and Sciences, Indiana University, Bloomington, IN. February 1999-October 1999.

- Mentored high school students participating in research in university laboratories, provided weekly counseling, and oversaw development of final research reports and presentations.

Co-Director, *Environment 98 and Environment 99*, School of Public and Environmental Affairs, Indiana University, Bloomington, IN. Summer 1998 and 1999.

- Directed hands-on environmental science summer field workshop for Indiana students.

Chemical Safety Assistant, Office of Radiation, Chemical and Biological Safety, Michigan State University, East Lansing, MI. August 1993-June 1995.

- Developed Michigan State University’s Chemical Hygiene Plan, performed university-wide laboratory safety inspections, and trained new science employees in chemical and laboratory safety.

TEACHING EXPERIENCE

Instructor, East Carolina University

- Pandemic Crisis Management. Third year medical students (small group facilitator). 2020.
- Practical Problems in Biometry. Graduate (course director). 2010-present.
- General Toxicology. Graduate (course co-director). 2009-present.
- Advanced Toxicology. Graduate (course co-director). 2016-present.
- Medical Pharmacology. Graduate physician assistant students (topical: endocrine pharmacology, toxicology). 2010-2018.
- Medical Pharmacology. Second year medical students (topical: endocrine pharmacology, toxicology). 2012-present.
- Pharmacology Mini-Course. First and second year dental students (topical: toxicology, management of poisoned patients, endocrine pharmacology, pharmacokinetics I & II; variable and shared among other instructors). 2012-present.
- Foundations of Medicine/Problem Based Learning Mini-Course. First and second year medical students (small group facilitator). 2011-2013.

- Foundations of Medicine/PirateMD. First and second year medical students (small group facilitator). 2013-2019.

Instructor, Indiana University

- Analytical Problem Solving (statistics). Undergraduate, honors, 2 semesters.
- Environment and People. Undergraduate (co-instructor), 1 semester.
- Introduction to Statistical Techniques. Undergraduate, 1 semester.
- Introduction to Environmental Sciences. Undergraduate, 1 semester.
- Environmental Risk Analysis. Graduate, 1 semester.
- Outdoor Environmental Awareness (Public land management). Undergraduate recruitment course, 6 semesters.
- Introduction to Risk Assessment and Risk Communication. Undergraduate, 1 semester.
- Environmental Toxicology. Combined undergraduate/graduate, 1 semester.
- Techniques in Environmental Science (field/lab techniques). Undergraduate, 3 semesters.

Teaching Assistant/Coordinator, Indiana University

- Aquatic Habitat Analysis (field techniques). Combined undergraduate/graduate, 3 semesters.
- Terrestrial Habitat Analysis (field techniques). Combined undergraduate/graduate, 3 semesters.
- Environmental Toxicology. Undergraduate and graduate, 3 semesters.
- Teaching Assistant and Undergraduate Teaching Intern Training Workshop. Combined undergraduate and graduate, 6 sessions.

Laboratory Mentor, East Carolina University

High school students

- Abigail Yoon and Andrew Gallagher, Medical Honors Program (high school laboratory research). Project: Body and liver weight changes in rodents exposed to a binary PFAS mixture (virtual). 2020-2021.
- Javier Limon and John Mallett, Medical Honors Program (high school laboratory research). Project: Liver lipid accumulation in livers from rodents exposed to PFAS. 2019-2020.
- Catherine Wondra and Anushka Nandy, Summer Ventures Program (high school laboratory research). Project: Liver lipid accumulation in livers from rodents exposed to PFAS. 2019.
- Alex Beaver and Margarita Anayiotou, Summer Ventures Program (high school laboratory research). Project: Neuroinflammation in a rodent model of Gulf War Illness. 2018.
- Allison Gallagher and Sophie Villani, Medical Honors Program (high school laboratory research). Project: Developmental effects of pharmaceutical pollutants in an avian model. 2017-2018.
- Sunnie Li and Alex Reulbach, Summer Ventures Program (high school laboratory research). Project: Neuroinflammation in a rodent model of Gulf War Illness. 2017.
- Matthew Clayton, high school laboratory research for the NC Science Fair. Project: Developmental effects of pharmaceutical pollutants in an avian model. 2016.
- Virginia Billings, Summer Ventures Program (high school laboratory research). Project: Developmental effects of pharmaceutical pollutants in an avian model. 2016.
- Jaemin Yoon, Medical Honors Program (high school laboratory research). Project: Developmental effects of pharmaceutical pollutants in an avian model. 2015-2016.
- Chevonne Parker, Summer Ventures Program (high school laboratory research). Project: Neuronal T-cell infiltration following developmental trichloroethylene exposure. 2015.
- Catherine Taylor and Jessi Zhou, Medical Honors Program (high school laboratory research). Project: Microglial responses in an Alzheimer's mouse model developmentally exposed to lead. 2014-2015.

- Janelle Neal, Summer Ventures Program (high school laboratory research). Project: Microglial responses following inhalation exposure to natural dusts. 2014.
- Brian Alloway, Medical Honors Program (high school laboratory research). Project: Peroxisome proliferation in livers of C57BL/6 mice exposed to undecafluoro-2-methyl-oxahexanoic acid (U2M3-OHxA) gavage. 2013-2014.
- Kortney Wager, Summer Ventures Program (high school laboratory research). Project: Developmental effects of BPA on immune responses. 2013.
- Brian Ennis and Jonathan Reed, Medical Honors Program (high school laboratory research). Project: Teratogenicity of PFOS in early chicken embryos. 2012-2013.
- Willa Chen, Summer Ventures Program (high school laboratory research). Project: Developmental effects of PFOA in primary cardiomyocyte cultures from chickens. 2012.
- Elizabeth Fox and Samantha Rouse, Medical Honors Program (high school laboratory research). Project: Teratogenicity of PFOS in early chicken embryos. 2011-2012.
- Pranavi Sanka, Summer Ventures Program (high school laboratory research). Project: Developmental effects of PFOS: T cell infiltration into mouse brains. 2011.
- Erin Morris and Andrew Wood, Medical Honors Program (high school laboratory research). Project: Developmental effects of PFOA on T cell infiltration and myelin basic protein levels in mouse brains. 2010-2011.
- Jillian Loftis, Summer Ventures Program (high school laboratory research). Project: Developmental effects of PFOA on glycogen deposition in a chicken model. 2010.
- Clarissa Morrissey, Medical Honors Program (high school laboratory research). Project: Teratogenicity of PFOA in early chicken embryos. 2009-2010.
- Taylor Brundage, Summer Ventures Program (high school laboratory research). Project: Developmental teratogenic effects of PFOA in a chicken model. 2009.
- Ian Bryan, Medical Honors Program (high school laboratory research). Project: Developmental effects of PFOA on liver glucocorticoid receptor levels, and pancreatic alpha and beta cells in a mouse model. 2008-2009.

Undergraduate students

- Elizabeth Suter, Biology (undergraduate laboratory research): Cellularity of wing webs of two-week old chickens developmentally treated with fluoxetine. 2020.
- Jasmine Clark, University Studies (undergraduate laboratory research): PFAS as air pollutants. 2019-.
- Jeffery Ayala, and Mark Ibrahim, Program in Neuroscience (undergraduate laboratory research): Microglial morphology in a rodent model of Alzheimer's disease. 2018-.
- Payton Anders, Jeffery Ayala, and Mark Ibrahim, Program in Neuroscience (undergraduate laboratory research): Microglial morphology in a rodent model of Alzheimer's disease. 2018.
- Alexis Liberatore, Program in Neuroscience (undergraduate laboratory research): Glucocorticoid receptor expression in avian brains following developmental exposure to pharmaceutical pollutants. 2018-2019.
- Kathleen Ferris, Biology (undergraduate laboratory research): Peroxisome proliferation in livers of rodents exposed to aqueous film forming foam. 2018-2019.
- Robert Strickland, General Studies/Program in Neuroscience (undergraduate laboratory research). Project: Neuroinflammation in a rodent model of Gulf War Illness. 2017.
- Chastity Ward, Summer Biomedical Research Program (undergraduate laboratory research). Project: Immunotoxic effects of AFFF in a rodent model. 2017.
- Christopher Hamby, Multidisciplinary Studies Program in Neuroscience (undergraduate laboratory research/senior thesis advisor). Project: Microglial morphology in a rodent model of Gulf War Illness. 2016-2017.

- Ishmael Gomez, Summer Biomedical Research Program (undergraduate laboratory research). Project: DAP12 microglial signaling in a rodent model of Alzheimer's disease. 2016.
- Brianna Davidson, Multidisciplinary Studies Program in Neuroscience (undergraduate laboratory research). Project: Synaptic degeneration in a rodent model of Alzheimer's disease. 2016.
- Samuel Vance, Mutidisciplinary Studies Program in Neuroscience (undergraduate laboratory research/senior thesis advisor). Project: Project: Post-translational modifications and Alzheimer's pathology. 2015-2017.
- Waeya Lin, Summer Biomedical Research Program (undergraduate laboratory research). Project: Exacerbation of Alzheimer's pathology by prenatal exposure to lead; Dystrophic microglia. 2015.
- Giovana Fernanda Cosi Bento, Brazil Scientific Mobility Program (undergraduate laboratory research). Project: Exacerbation of Alzheimer's pathology by prenatal exposure to lead; Synaptosomes. 2015.
- Zoe Hinton, Mutidisciplinary Studies Program in Neuroscience (undergraduate laboratory research/senior thesis advisor). Project I: Exacerbation of Alzheimer's pathology by prenatal exposure to lead; Synaptosomes. 2015. Project II: Microglial morphology in a rodent model of Gulf War Illness. 2016-2017.
- Andrew Wood, Biology (undergraduate honors thesis advisor). Project: Exacerbation of Alzheimer's pathology by prenatal exposure to lead; Measurement of amyloid beta. 2014-2015.
- Dakota Johnson, Biology (undergraduate honors thesis advisor). Project: Exacerbation of Alzheimer's pathology by early-life exposure to lead; Measurement of amyloid beta. 2013-2014.
- Sydney Henry, Summer Biomedical Research Program (undergraduate laboratory research). Project: Neurotoxic effects of dust collected from the Nellis Dunes Recreation Area. 2014.
- Andrew Wood, Biology undergraduate student. Project: Developmental effects of BPA on serum IL-4 and IgG. 2013.
- Dominique Baldwin, Biology undergraduate student. Project: Neurotoxic effects of dust collected from the Nellis Dunes Recreation Area. 2013.
- Megan Biller, Summer Biomedical Research Program (undergraduate laboratory research). Project: Microglia in Alzheimer's-prone triple transgenic mice. 2013.
- Blake Rushing, Summer Biomedical Research Program (undergraduate laboratory research). Project: Blood distribution, urinary excretion, and T cell-dependent immunotoxicity of undecafluoro-2-methyl-oxahexanoic acid (U2M3-OHxA) in C57BL/6 mice exposed via gavage. 2012.
- Alvin-Ming-Yun Tsang, Psychology (undergraduate honors thesis advisor). Project: Developmental effects of nanoparticles in a rodent model. 2011-2012.
- Nick Creech, Summer Biomedical Research Program (undergraduate laboratory research). Project: Immunological effects of PFOA on a T-cell independent antigen (DNP-Ficcol) in an adult mouse model. 2010-2011.
- Hatel Patel, Biochemistry undergraduate student. Project 1: Developmental effects of PFOA on liver peroxisomes proliferation in a chicken model. Project 2: Effects of PFOA on myelin basic protein levels in the brains of developmentally-exposed mice. 2009.
- Ian Bryan, Biology and Chemistry undergraduate student. Project: Developmental effects of PFOA and PROS in a chicken model, including early embryo teratogenesis and hatchling glycogen levels. 2009-2012.

Master's students

- Erica Stewart, Biomedical Sciences Master's Student. Project: Developmental immunotoxicological effects of PFAS. 2020-.
- Emma Tobin, Biomedical Sciences Master's Student. Project: Immunotoxicological effects of PFAS of emerging concern in the Cape Fear River. 2019-.

- Samuel Vance, Biomedical Sciences Master's Student. Project: Immunotoxicological effects of PFMOAA, a contaminant of emerging concern in the Cape Fear River. 2018-2019.
- Carmen Davis, Environmental Health Master's Student. Project: Developmental effects of Triclosan in an avian model. 2015-2016.
- Cory Boles, Biomedical Sciences Master's Student. Project: Exacerbation of Alzheimer's pathology by early-life exposure to lead. 2013-2015.
- Annalise vonderEmbse, Biomedical Sciences Master's Student. Project: Exacerbation of Alzheimer's pathology by early-life exposure to lead; Effects on microglia. 2012-2014.

Doctoral students

- Krystal Taylor, Pharmacology and Toxicology Ph.D. Student. Project: Mechanisms of B-cell directed immunotoxicity of PFAS. 2020-.
- Jacqueline Meadows, Pharmacology and Toxicology Ph.D. Student. Project: Developmental effects of pharmaceutical pollutants in an avian model. 2015-2019.
- Annalise vonderEmbse, Pharmacology and Toxicology Ph.D. Student. Project: Exacerbation of Alzheimer's pathology by early-life exposure to lead; Effects on microglia. 2014-2017. Currently a postdoctoral trainee with Dr. Pam Lein at the University of California-Davis.
- Jason Franklin, Pharmacology and Toxicology Ph.D. Student. Project: Developmental neuroimmunotoxicity of bisphenol a in a rodent model. 2010-2014. Currently a postdoctoral trainee in neurotoxicology at the U.S. Environmental Protection Agency.
- Qixiao Jiang. Pharmacology and Toxicology Ph.D. Student. Project: Developmental cardiotoxicity of perfluorinated compounds in an avian model. 2009-2013. Currently an assistant professor at Qingdo University.

Medical students

- Amie McPherson and Danesh Ghiassi, Medical students. Project: Isolation and stimulation of regulatory T cells from spleens of PFOA-exposed mice. 2009.

Postdoctoral Scholars

- Dr. Tracey Woodlief. Project: Immunotoxicological mechanisms of PFAS. 2019-2020.

Research Instructor

- Dr. Tracey Woodlief. 2020-.

Advisory, East Carolina University

- Rebecca Nickle, Microbiology and Immunology Master's Student (Thesis committee; Advisor: Mark Mannie). 2020-.
- Christopher Norton, Microbiology and Immunology Master's Student (Thesis committee; Advisor: Isabelle Lemasson). 2019-2020.
- Heidi Knecht and Danielle Carter, Public Health Ph.D. Students (Dissertation committee; Advisor: Stephanie Richards). 2018-2020.
- Megan Rhyne, Environmental Health and Health Education & Promotion Master's Student (Thesis committee; Advisor: Stephanie Richards). 2018.
- Dariel Hoppersberger, Microbiology and Immunology Ph.D. Student (Dissertation committee; Advisor: Marty Roop). 2018-
- Alexandra Hayes, Microbiology and Immunology Master's Student (Thesis committee; Advisor: Rachel Roper). 2018-2019.
- Kayla DeOca, Microbiology and Immunology Ph.D. Student (Dissertation committee; Advisor: Mark Mannie). 2018-

- Henry Raab, Coastal Resource Management Ph.D. Student (Dissertation committee; Advisor: Joe Luczkovich). 2017-2020.
- Ariel Myers, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Rukiyah Van Dross). 2017-
- Khoa Do, Biomedical Sciences Master's Student (Thesis committee; Advisor: Hu Huang). 2016-2017.
- John Atkinson, Biology Master's Student (Thesis committee; Advisor: David Rudell). 2015-2016.
- Blake Rushing, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Mustafa Selim). 2015-2018.
- Ahmed Aldhafiri, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Ken Soderstrom). 2014-2019.
- Jason Hoggard, Biomedical Sciences Master's Student (Thesis committee; Advisor: Lance Bridges). 2014-2015.
- Matthew Edwards, Biology Master's Student (Thesis committee; Advisor: Krista McCoy). 2014-2015.
- Bevin Blake, Biology Master's Student (Thesis committee; Advisor: Krista McCoy). 2013-2015.
- Anastasia Weeks, Microbiology and Immunology Master's Student (Thesis committee; Advisor: Mark Mannie). 2013-2017.
- Samar Rezaq, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Abdel Abdel-Rahman). 2013-2016.
- Partha Nagchowdhuri, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Brian McMillen). 2013-2018.
- Suelen Demor, Biology Ph.D. Student (Dissertation committee; Advisor: David Chalcraft). 2013-2017.
- Tessa Holland, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Ken Soderstrom). 2013-2019.
- Samantha Sellers, Anatomy and Cell Biology Ph.D. Student (Dissertation committee). 2013.
- Alvin Ming-Yun Tsang, Psychology Undergraduate Student (Honors Thesis Advisor). 2011-2012.
- Abdullah Aldossari, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Jared Brown). 2011-2018.
- Michael Smith, Biology Master's Student (Thesis committee; Advisor: Xiaoping Pan). 2010-2011.
- Pranita Katwa, Pharmacology and Toxicology Ph.D. Student (Dissertation committee; Advisor: Jared Brown). 2009-2012.

PROFESSIONAL SERVICE

Scientific Community

- Co-Chair, Timing is Everything: Developmental Exposure Alters the Path of Immune Cell Maturation and Function continuing education course. 2020 Annual Meeting, Society of Toxicology, Virtual.
- Society of Toxicology Faculty United for Toxicology Undergraduate Recruitment and Education (FUTURE) Committee. 2019-present.
- Past-President, Society of Toxicology Immunotoxicology Specialty Section. 2019-2020.
- Chair, Program Planning Committee, The Toxicology Forum 45th Annual Summer Meeting (2019), Alexandria, VA.
- Co-Chair, Advanced Immunotoxicity Testing continuing education course. 2019 Annual Meeting, Society of Toxicology, Baltimore, MD.
- President, Society of Toxicology Immunotoxicology Specialty Section. 2018-2019.

- Co-Chair, Introduction to Immunotoxicity Testing continuing education course. 2018 Annual Meeting, Society of Toxicology, San Antonio, TX.
- Society of Toxicology Career Resource and Development Committee. 2018-2019.
- Society of Toxicology Specialty Section Collaboration and Communication Group. 2017-2019.
- Vice-President, Society of Toxicology Immunotoxicology Specialty Section. 2017-2018.
- Program Planning Committee, Volunteers Sub-committee, 2017 Annual Meeting, Society of Environmental Toxicology and Chemistry. 2016-2017.
- Vice-President Elect, Society of Toxicology Immunotoxicology Specialty Section. 2016-2017.
- Program Committee, Society of Toxicology Immunotoxicology Specialty Section. 2015-2016.
- Moderator for Toxicology, Epidemiology, and Human Health session, FLUOROS 2015 meeting, Golden, CO. 2015.
- Program Planning Committee, 2015 Annual Meeting, Society of Environmental Toxicology and Chemistry. 2014-2015.
- Senior Councilor, Immunotoxicology Specialty Section Society of Toxicology. 2014-2015.
- Past-President, North Carolina Society of Toxicology. 2014-2015.
- Junior Councilor, Immunotoxicology Specialty Section Society of Toxicology. 2013-2014.
- President, North Carolina Society of Toxicology. 2013-2014.
- Research Funding Committee, Society of Toxicology. 2012-2014.
- Vice President, North Carolina Society of Toxicology. 2012-2013.
- Vice President-Elect, North Carolina Society of Toxicology. 2011-2012.
- Program Committee, Society of Toxicology Immunotoxicology Specialty Section. 2010-2011.
- Councilor, North Carolina Society of Toxicology. 2009-2011.
- Workshop co-chair and organizer, "Is Modulation of the Immune System by Perfluoroalkyl Acids a Human Health Concern?" Society of Toxicology Annual Meeting, Baltimore, MD. 2009.
- Symposium co-chair and organizer, "Immune Biomarkers in Alternative Species: Implications for Risk Assessment," Society of Toxicology Annual Meeting, Charlotte, NC. 2007.
- Platform session co-chair, "Immunotoxicology: Immune Modulation and Cell Specific Responses," Society of Toxicology Annual Meeting, Charlotte, NC. 2007.
- Postdoctoral Representative and Program Committee member, Immunotoxicology Specialty Section of the Society of Toxicology. 2005-2007.
- Mentor, Association of Women in Science Program (WISP) Mentoring Project, Office of Women's Affairs, Indiana University, Bloomington, IN. 2000-2002.
- Student Board Member, Ohio Valley Chapter of Environmental Toxicology and Chemistry. 2000-2001.

Workplace Community

- BSOM Promotion and Tenure Committee, 2020-present.
- Department of Comparative Medicine Promotion and Tenure Committee Chair, 2020-present.
- Department Pharmacology & Toxicology Personnel Committee Chair, 2019-present
- Faculty Research Advisory Committee, Division of Research, Economic Development and Engagement, 2019-present.
- Vice-Chair, Institutional Animal Care and Use Committee, 2019-present.
- BSOM Research Committee, 2019-present.
- Diversity and Equity Leadership Program, Division of Research, Economic Development and Engagement, 2019.
- My IDP Mentor, ECU Postdoctoral Training Program, Division of Research, Economic Development and Engagement, 2019.
- LCME Steering Committee and Co-Chair of Academic Environment Sub-Committee, Brody School of Medicine, 2018-2019.

- Department of Comparative Medicine Promotion and Tenure Committee, 2017-present.
- Coastal Strategic Planning Committee, 2016-2017.
- BSOM Promotion and Tenure Committee, 2015-2018.
- Secretary/Treasurer, Brody Women Faculty Committee, 2015-2017.
- Planning committee for the joint PhD program in Integrated Coastal and Marine Sciences, 2015-2017.
- School of Dental Medicine Admissions Committee, 2014-2018.
- BSOM Sustainability Committee, 2014-2016.
- Committee member, BSOM Research Committee, 2014-2015.
- Five-Year Review Committee for Dean Paul Cunningham, Dean of the Brody School of Medicine (appointed by the Vice Chancellor for Health Sciences). 2014.
- Institutional Animal Use and Care Committee. 2013-present.
- M1 Curriculum Committee, Brody School of Medicine, East Carolina University. 2013-2016.
- Master Educator Committee, Brody School of Medicine, East Carolina University. 2012-2016.
- Chair, Brody Women Faculty Committee. 2012-2013.
- Brody Vision, Innovation, Achievement (VIA) group. 2011-2015.
- Undergraduate Research and Creative Activity Biomedical Sciences Grant Review Committee. 2011-2018.
- Chair-elect, Brody Women Faculty Committee. 2011-2012.
- Coastal Maritime Council, East Carolina University. 2010-present.
- Five-Year Review Committee for Dr. David Taylor, Chair of the Department of Pharmacology and Toxicology (appointed by the Dean of the School of Medicine). 2010.
- Shared Resources Committee, Brody School of Medicine, East Carolina University. 2008-2012.
- Faculty of the Interdisciplinary Doctoral Program in Biological Sciences, East Carolina University. 2009-present.
- Brody Women Faculty Committee, East Carolina University. 2008-present.
- Graduate Faculty, Division of Research and Graduate Studies, East Carolina University. 2008-present.
- Vice-President and at-large member, EPA RTP Networking and Leadership Training Organization, USEPA. 2004-2008.
- Organizing Committee, 2007 NIEHS Biomedical Career Fair. 2006-2007.
- Vice-chair, Environmental Science program representative, Association of SPEA Ph.D. Students, School of Public and Environmental Affairs, Indiana University. 2001-2002.
- Environmental Science program representative, Dean's Student Advisory Committee, School of Public and Environmental Affairs, Indiana University. 1997-2002.

Other

- Science Olympiad (regional) Event C-Coordinator, "Potions and Poisons." 2018, 2019.
- Science Event Co-Coordinator, "ADdMe to Tox Town," Girl Scouts TechnoQuest Event. 2017.
- Science Event Co-Coordinator, "Biometry in Action," Brody Girl's STEM Day. 2016.
- Science Event Coordinator, "The Water Cycle," Youth Ocean Conservation Summit. 2016.
- STEM volunteer, various events, Love a Sea Turtle, NC Estuarium Sound Rivers. 2015-present.
- Science Event Coordinator, "Marshmallow Genetics" and "DNA Necklaces," ECU Girl's STEM Day. 2014-2016.
- Scientific Expert, Alzheimer's North Carolina fundraising walk, Washington, NC. 2014-2016.
- Über Judge, Blue Heron Bowl, Regional Competition for the National Ocean Sciences Bowl. 2012.
- Judge, North Carolina Region 1 Science and Engineering Fair. 2010. 2011.
- North Carolina Estuarium Docent. 2009-present.