**W. Michael Caudle, PhD**

Rollins School of Public Health

Emory University

Department of Environmental Health (primary appointment)

Graduate Division of Biomedical and Biological Sciences, Neuroscience Program (secondary appointment)

1518 Clifton Rd, NE

Atlanta, Georgia 30322

william.m.caudle@emory.edu

404-712-8432

­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**EDUCATION**

June 2007 **Emory University**, Atlanta, GA. PhD in Neuroscience

Aug 1998 **Colorado State University**, Fort Collins, CO. Bachelor of Science in Psychology, Minor: Human Anatomy and Neurobiology

**PROFESSIONAL EXPERIENCE**

Aug 2017-Present **Associate Professor (Research), Department of Environmental Health, Emory University, Atlanta, GA.**

 Jointly appointed in the Graduate Division of Biomedical and Biological Sciences (Neuroscience Program), The Center for Neurodegenerative Disease, and the Neuroscience and Behavioral Biology Program (undergraduate college)

Aug 2010-July 2017 **Assistant Professor, Department of Environmental Health, Emory University, Atlanta, GA**.

 Jointly appointed in the Graduate Division of Biomedical and Biological Sciences (Neuroscience Program), The Center for Neurodegenerative Disease, and the Neuroscience and Behavioral Biology Program (undergraduate college)

July 2007-Aug 2010 **Senior Research Fellow, Department of Neuropathology, University of Washington**, Seattle, WA.

Sept 2002-June 2007 **Graduate Research Associate, Neuroscience Program, Emory University,** Atlanta, GA.

Sept 1999-Sept 2002 **Research Technician, Department of Pharmacology and Toxicology, University of Texas,** Austin, TX.

**AWARDS AND HONORS (Research)**

2015 NIEHS Paper of the Month (March 2015): JR Richardson et al. Developmental pesticide exposure reproduces features of attention deficit hyperactivity disorder. FASEB 2015, May; 29:1960-72.

2013 NIEHS Paper of the Month (April 2013): JM Bradner et al. Exposure to the polybrominated diphenyl ether mixture, DE-71 damages the nigrostriatal dopamine system: role of dopamine handling in neurotoxicity. Experimental Neurology 2013, Mar;241:138-47.

2008 NIEHS Paper of the Year (2007): WM Caudle et al. Reduced vesicular storage of dopamine causes progressive nigrostriatal neurodegeneration. The Journal of Neuroscience 2007,Jul 25;27(30): 8138-8148.

2006 Finalist for Novartis Graduate Student Fellowship Award.

2004 International Neurotoxicology Conference Travel Award.

2002 Program in Neuroscience, Emory University Travel Award to Society for Neuroscience annual meeting.

2002 Graduate Division of Biological and Biomedical Sciences, Emory University, Travel Award to Society for Neuroscience annual meeting.

**HONORS AND AWARDS (Teaching)**

2018 Professor of the Year, Rollins School of Public Health

2017 Department of Environmental Health, Rollins School of Public Health Excellence in Teaching Award

2015 Emory University Center for Faculty Development and Excellence (CFDE) Classroom Mini Grant

**PEER-REVIEWED PUBLICATIONS**

1. Kline EM, Butkovich LM, Bradner JM, Jiang J, Gelbard H, Goodfellow V, **Caudle WM**, Tansey MG. The second generation mixed-lineage kinase-3 (MLK3) inhibitor CLFB-1134 protects against neurotoxin-induced nigral dopaminergic neuron loss. Experimental Neurology. Accepted.

2. Zhang Q, **Caudle WM**, Pi J, Bhattacharya S, Andersen ME, Kaminski NE, Conolly RB. Embracing Systems Toxicology at Single-Cell Resolution. Current Opinion in Toxicology. Accepted.

3. \*Vester A, \*Chen M, Marsit C, **Caudle WM.** A Neurodevelopmental Model of Combined Pyrethroid and Chronic Stress Exposure. Toxics. Accepted.

**\*Denotes contributions by student trainees from my lab**

4. \*Vester A, Hermetz K, Burt A, Everson T, Marsit C, **Caudle WM.** Combined neurodevelopmental exposure to deltamethrin and corticosterone is associated with Nr3c1 hypermethylation in the midbrain of male mice. Environmental Epigenetics. Accepted.

**\*Denotes contributions by student trainees from my lab**

5. Bay AA, Hart AR, **Caudle WM,** Corcos DM, Hackney ME. The association between Parkinson's disease symptom side-of-onset and performance on the MDS-UPDRS scale part IV: Motor complications. J Neurol Sci. 2019 Jan 15; 396: 262-265. PMID: 30537631

6. Steves AN, Turry A, Gill B, Clarkson-Townsend D, Bradner JM, Bachli I, **Caudle WM**, Miller GW, Chan AWS, Easley CA 4th. Per- and polyfluoroalkyl substances impact human spermatogenesis in a stem-cell-derived model. Syst Biol Reprod Med. 2018 Aug;64(4):225-239. PMID: 29911897

7. Steves AN, Bradner JM, Fowler KL, Clarkson-Townsend D, Gill BJ, Turry AC, **Caudle WM**, Miller GW, Chan AWS, Easley CA 4th. Ubiquitous Flame-Retardant Toxicants Impair Spermatogenesis in a Human Stem Cell Model. iScience. 2018 May 25;3: 161-176. PMID: 29901031

8. \*Pham-Lake C, \*Aronoff EB, \*Camp CR, \*Vester A, \*Peters SJ, **Caudle WM**. Impairment in the mesohippocampal dopamine circuit following exposure to the brominated flame retardant, HBCDD. Environ Toxicol Pharmacol. 2017 Mar: 167-174. PMID: 28214749

**\*Denotes contributions by student trainees from my lab**

9. Dunn AR, Stout KA, Ozawa M, Lohr KM, Hoffman CA, Bernstein AI, Li Y, Wang MZ, Sgobio C, Sastry N, Cai H, **Caudle WM**, Miller GW. Synaptic vesicle glycoprotein 2C (SV2C) modulates dopamine release and is disrupted in Parkinson disease. Proc Natl Acad Sci USA. 2017 Mar: 114(11) E2253-62. PMID: 28246328

10. Cliburn RA, Dunn AR, Stout KA, Hoffman CA, Lohr KM, Bernstein AI, Winokur EJ, Burkett J, Schmitz Y, **Caudle WM**, Miller GW. Immunohistochemical localization of vesicular monoamine transporter 2 (VMAT2) in mouse brain. J Chem Neuroanat. 2016. Nov Epub. PMID: 27836486

11. \*Vester A and **Caudle WM.** The synapse as a central target for neurodevelopmental susceptibility to pesticides. Toxics. 2016. Aug: 4(3) PMID: 29051423

**\*Denotes contributions by student trainee from my lab**

12. **Caudle WM.** On the mark: Translating biomarker technology to clinical neurotoxicity. Psychiatric Times. 2016.

13. \*Patel R, Bradner JM, Stout KA, **Caudle WM.** Alteration to dopaminergic synapses following exposure to perfluorooctane sulfonate (PFOS), in vitro and in vivo. Medical Sciences. 2016. Aug: 4(3) PMID: 29083377

**\*Denotes contributions by student trainees from my lab**

14. Kraft KD, Aschner, M, Cory-Slechta DA, Bilbo SD, **Caudle WM**, Makris SL.Unmasking silent neurotoxicity following developmental exposure to environmental toxicants. Neurotoxicol Teratol. 2016 May-Jun: 38-44. PMID: 27049787

15. **Caudle WM.** This can’t be stressed enough: The contribution of select environmental toxicants to disruption of the stress circuitry and response. Physiology and Behavior. 2015 Sept: PMID: 26409212

16. Coughlin C, Walker DI, Lohr KM, Richardson JR, Saba LM, **Caudle WM**, Fritz KS, Roede JR. Comparative proteomic analysis of carbonylated proteins from the striatum and cortex of pesticide-treated mice. Parkinson’s Disease. 2015 May: 1-11. PMID: 26345149.

17. \*Genskow KR, Bradner JM, Hossain MM, Richardson JR, **Caudle WM**. Selective damage to dopaminergic transporters following exposure to the brominated flame retardant, HBCDD. Neurotoxicol Teratol. 2015 Jun: PMID: 26073293

 **\*Denotes contributions by student trainees from my lab**

18. **Caudle WM.** Vulnerability of synapses in the frontal cortex of mice developmentally exposed to an insecticide: Potential contribution to neuropsychiatric disease. Neurotransmitter 2015 June; 2(1). PMID: 26052547

19. Easley, CA 4th, Bradner JM, Moser A, Rickman CA, MacEachin ZT, Merritt MM, Hansen JM, **Caudle WM**. Assessing reproductive toxicity of two environmental toxicants with a novel in vitro human spermatogenic model. Stem Cell Research 2015 Mar; 14: 347-55. PMID: 25863443.

20. Richardson JR, Taylor MM, Shalat SL, Guillot TS, **Caudle WM**, Hossain MM, Mathews TA, Jones SR Cory-Slechta DA, Miller GW. Developmental pesticide exposure reproduces features of attention deficit hyperactivity disorder. FASEB 2015 May; 29: 1960-72. PMID: 25630971.

21. \*Wilson WW, \*Shapiro LP, Bradner JM, **Caudle WM.** Developmental exposure to the organochlorine insecticide, endosulfan damages the nigrostriatal dopamine system in male offspring. Neurotoxicology 2014 Sep; 44: 279-87. PMID: 25092410.

**\*Denotes contributions by student trainees from my lab**

22. \*Wilson WW, \*Onyenwe WC, Bradner JM, \*Nennig SE, **Caudle WM.** Developmental exposure to the organochlorine insecticide endosulfan alters expression of proteins associated with neurotransmission in the frontal cortex. Synapse 2014 Nov; 68: 485-97. PMID: 25042905.

**\*Denotes contributions by student trainees from my lab**

23. Bradner JM, \*Suragh TA, **Caudle WM**. Alterations to the circuitry of the frontal cortex following exposure to the polybrominated diphenyl ether mixture, DE-71. Toxicology 2013 Oct 4; 312: 48-55. PMID: 23916505.

**\*Denotes contributions by student trainees from my lab**

24. Bradner JM, \*Suragh TA, \*Wilson WW, Lazo CR, Stout KA, \*Kim H-M, Wang MZ, Walker DI, Pennell KD, Richardson JR, Miller GW, **Caudle WM**. Exposure to the polybrominated diphenyl ether mixture, DE-71 damages the nigrostriatal dopamine system: role of dopamine handling in neurotoxicity. Experimental Neurology 2013, Mar;241:138-47. PMID: 23287494.

**\*Denotes contributions by student trainees from my lab**

25. **Caudle WM,** Guillot TS, Lazo CR, Miller GW. Industrial toxicants and Parkinson’s disease. Neurotoxicology 2012 Mar;33(2): 178-88. PMID: 22309908.

26. Taylor TN, **Caudle WM**, Miller GW. [VMAT2-Deficient Mice Display Nigral and Extranigral Pathology and Motor and Nonmotor Symptoms of Parkinson's Disease.](http://www.ncbi.nlm.nih.gov/pubmed/21403896) Parkinsons Dis. 2011 Feb 21;2011:124165. PMID: 21403896.

27. **Caudle WM**, Bammler TK, Lin Y, Pan S, Zhang J. [Using 'omics' to define pathogenesis and biomarkers of Parkinson's disease.](http://www.ncbi.nlm.nih.gov/pubmed/20518609) Expert Rev Neurother. 2010 Jun;10(6):925-42. Review. PMID: 20518609.

28. **Caudle WM** and Zhang J. [Glutamate, excitotoxicity, and programmed cell death in Parkinson disease.](http://www.ncbi.nlm.nih.gov/pubmed/19815009) Exp Neurol. 2009 Dec;220(2):230-3. Review. PMID: 19815009.

29. Shi M, **Caudle WM**, Zhang J. [Biomarker discovery in neurodegenerative diseases: a proteomic approach.](http://www.ncbi.nlm.nih.gov/pubmed/18938247) Neurobiol Dis. 2009 Aug;35(2):157-64. Review. PMID: 18938247.

30. **Caudle WM**, Kitsou E, Li J, Bradner J, Zhang J. [A role for a novel protein, nucleolin, in Parkinson's disease.](http://www.ncbi.nlm.nih.gov/pubmed/19409963) Neurosci Lett. 2009 Jul 31;459(1):11-5. PMID: 19409963.

31. Taylor TN, **Caudle WM**, Shepherd KR, Noorian A, Jackson CR, Iuvone PM, Weinshenker D, Greene JG, Miller GW. [Nonmotor symptoms of Parkinson's disease revealed in an animal model with reduced monoamine storage capacity.](http://www.ncbi.nlm.nih.gov/pubmed/19553450) J Neurosci. 2009 Jun 24;29(25):8103-13. PMID: 19553450.

32. Hu X, Zhang D, Pang H, **Caudle WM**, Li Y, Gao H, Liu Y, Qian L, Wilson B, Di Monte DA, Ali SF, Zhang J, Block ML, Hong JS. [Macrophage antigen complex-1 mediates reactive microgliosis and progressive dopaminergic neurodegeneration in the MPTP model of Parkinson's disease.](http://www.ncbi.nlm.nih.gov/pubmed/18981141) J Immunol. 2008 Nov 15;181(10):7194-204. PMID: 18981141.

33. **Caudle WM**, Pan S, Shi M, Quinn T, Hoekstra J, Beyer RP, Montine TJ, Zhang J. [Proteomic identification of proteins in the human brain: Towards a more comprehensive understanding of neurodegenerative disease.](http://www.ncbi.nlm.nih.gov/pubmed/21136796) Proteomics Clin Appl. 2008 Oct;2(10-11):1484-97. PMID: 21136796.

34. Richardson JR, **Caudle WM**, Wang MZ, Dean ED, Pennell KD, Miller GW. [Developmental heptachlor exposure increases susceptibility of dopamine neurons to N-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP)in a gender-specific manner.](http://www.ncbi.nlm.nih.gov/pubmed/18577399) Neurotoxicology. 2008 Sep;29(5):855-63. PMID: 18577399.

35. **Caudle WM**, Colebrooke RE, Emson PC, Miller GW. [Altered vesicular dopamine storage in Parkinson's disease: a premature demise.](http://www.ncbi.nlm.nih.gov/pubmed/18471904) Trends Neurosci. 2008 Jun;31(6):303-8. Review. PMID: 18471904.

36. Kitsou E, Pan S, Zhang J, Shi M, Zabeti A, Dickson DW, Albin R, Gearing M, Kashima DT, Wang Y, Beyer RP, Zhou Y, Pan C, **Caudle WM**, Zhang J. [Identification of proteins in human substantia nigra.](http://www.ncbi.nlm.nih.gov/pubmed/21136874) Proteomics Clin Appl. 2008 May;2(5):776-82. PMID: 21136874.

37. Hamill CE, **Caudle WM**, Richardson JR, Yuan H, Pennell KD, Greene JG, Miller GW, Traynelis SF. [Exacerbation of dopaminergic terminal damage in a mouse model of Parkinson's disease by the G-protein-coupled receptor protease-activated receptor 1.](http://www.ncbi.nlm.nih.gov/pubmed/17596374) Mol Pharmacol. 2007 Sep;72(3):653-64. PMID: 17596374.

38.Manning-Boğ AB, **Caudle WM**, Perez XA, Reaney SH, Paletzki R, Isla MZ, Chou VP, McCormack AL, Miller GW, Langston JW, Gerfen CR, Dimonte DA. [Increased vulnerability of nigrostriatal terminals in DJ-1-deficient mice is mediated by the dopamine transporter.](http://www.ncbi.nlm.nih.gov/pubmed/17560790) Neurobiol Dis. 2007 Aug;27(2):141-50. PMID: 17560790.

39. **Caudle WM**, Richardson JR, Wang MZ, Taylor TN, Guillot TS, McCormack AL, Colebrooke RE, Di Monte DA, Emson PC, Miller GW. [Reduced vesicular storage of dopamine causes progressive nigrostriatal neurodegeneration.](http://www.ncbi.nlm.nih.gov/pubmed/17652604) J Neurosci. 2007 Jul 25;27(30):8138-48. PMID: 17652604.

40. **Caudle WM**, Tillerson JL, Reverón ME, Miller GW. [Use-dependent behavioral and neurochemical asymmetry in MPTP mice.](http://www.ncbi.nlm.nih.gov/pubmed/16603316) Neurosci Lett. 2007 May 18;418(3):213-6. PMID: 16603316.

41. Richardson JR, **Caudle WM**, Guillot TS, Watson JL, Nakamaru-Ogiso E, Seo BB, Sherer TB, Greenamyre JT, Yagi T, Matsuno-Yagi A, Miller GW. [Obligatory role for complex I inhibition in the dopaminergic neurotoxicity of 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP).](http://www.ncbi.nlm.nih.gov/pubmed/17038483) Toxicol Sci. 2007 Jan;95(1):196-204. PMID: 17038483.

42. Savelieva KV, **Caudle WM**, Miller GW. [Altered ethanol-associated behaviors in vesicular monoamine transporter heterozygote knockout mice.](http://www.ncbi.nlm.nih.gov/pubmed/17307644) Alcohol. 2006 Oct;40(2):87-94. PMID: 17307644.

43. Tillerson JL, **Caudle WM**, Parent JM, Gong C, Schallert T, Miller GW. [Olfactory discrimination deficits in mice lacking the dopamine transporter or the D2 dopamine receptor.](http://www.ncbi.nlm.nih.gov/pubmed/16765459) Behav Brain Res. 2006 Sep 15;172(1):97-105. PMID: 16765459.

44. Richardson JR, **Caudle WM**, Wang M, Dean ED, Pennell KD, Miller GW. [Developmental exposure to the pesticide dieldrin alters the dopamine system and increases neurotoxicity in an animal model of Parkinson's disease.](http://www.ncbi.nlm.nih.gov/pubmed/16809432) FASEB J. 2006 Aug;20(10):1695-7. PMID: 16809432.

45. **Caudle WM**, Richardson JR, Delea KC, Guillot TS, Wang M, Pennell KD, Miller GW. [Polychlorinated biphenyl-induced reduction of dopamine transporter expression as a precursor to Parkinson's disease-associated dopamine toxicity.](http://www.ncbi.nlm.nih.gov/pubmed/16702228) Toxicol Sci. 2006 Aug;92(2):490-9. PMID: 16702228.

46. Elwan MA, Richardson JR, Guillot TS, **Caudle WM**, Miller GW. [Pyrethroid pesticide-induced alterations in dopamine transporter function.](http://www.ncbi.nlm.nih.gov/pubmed/16005927) Toxicol Appl Pharmacol. 2006 Mar 15;211(3):188-97. PMID: 16005927.

47. **Caudle WM**, Richardson JR, Wang M, Miller GW. [Perinatal heptachlor exposure increases expression of presynaptic dopaminergic markers in mouse striatum.](http://www.ncbi.nlm.nih.gov/pubmed/16112329) Neurotoxicology. 2005 Aug;26(4):721-8. PMID: 16112329.

48. Tillerson JL, **Caudle WM**, Reverón ME, Miller GW. [Exercise induces behavioral recovery and attenuates neurochemical deficits in rodent models of Parkinson's disease.](http://www.ncbi.nlm.nih.gov/pubmed/12809709) Neuroscience. 2003;119(3):899-911. PMID: 12809709.

49. Decker MJ, Hue GE, **Caudle WM**, Miller GW, Keating GL, Rye DB. [Episodic neonatal hypoxia evokes executive dysfunction and regionally specific alterations in markers of dopamine signaling.](http://www.ncbi.nlm.nih.gov/pubmed/12614682) Neuroscience. 2003;117(2):417-25. PMID: 12614682.

50. Tillerson JL, **Caudle WM**, Reverón ME, Miller GW. [Detection of behavioral impairments correlated to neurochemical deficits in mice treated with moderate doses of 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine.](http://www.ncbi.nlm.nih.gov/pubmed/12460610) Exp Neurol. 2002 Nov;178(1):80-90. PMID: 12460610.

51. Tillerson JL, Cohen AD, **Caudle WM**, Zigmond MJ, Schallert T, Miller GW. Forced nonuse in unilateral parkinsonian rats exacerbates injury. J Neurosci. 2002 Aug 1;22(15):6790-9. PMID: 12151559.

52. Savelieva KV, **Caudle WM**, Findlay GS, Caron MG, Miller GW. Decreased ethanol preference and consumption in dopamine transporter female knock-out mice. Alcohol Clin Exp Res. 2002 Jun;26(6):758-64. PMID: 12068242.

**COMMENTARIES**

1. **Caudle WM**, Guillot TS, Lazo C, Miller GW. [Parkinson's disease and the environment: beyond pesticides.](http://www.ncbi.nlm.nih.gov/pubmed/22774228) Neurotoxicology. 2012 Jun;33(3):585. PMID: 22774228.

**BOOK CHAPTERS**

1. **Caudle WM** and Miller GW. “Neurotoxicology: Toxic Responses of the Nervous System.” In Williams, James, and Roberts (eds.), Principles of Toxicology: Environmental and Industrial Applications. 3rd Edition. New York: John Wiley and Sons, Inc.

2. **Caudle WM.** “Occupation and the risk of developing Parkinsonism.” In Lotti and Bleeker (eds.), Handbook of Occupational Neurology 3rd Series. Amsterdam: Elsevier. 2015; 131:225-39. PMID: 2656792

3. **Caudle, WM.** “Fundamentals of the Structure and Function of the Nervous System.” In McQueen, Philbert, and Klesing (eds.), Comprehensive Toxicology. 3rd Edition. Amsterdam: Elsevier.

4. **Caudle, WM.** “Neurotoxicity of Metals in Parkinsonism” In Aschner and Costa (eds.), Advances in Neurobiology. 2017; 18: 143-58. PMID: 28889266

5. **Caudle, WM**. “Organochlorine Insecticides and Neurological Disease” In D’Mello (ed.), Environmental Toxicology. In Press.

**INVITED TALKS**

2019 “Environmental Toxicant Alteration of Dopaminergic Synapses”

 University of Georgia, Athens, GA

2018 “Environmental Toxicology of Pesticides”

 Clayton State University, Atlanta, GA

2017 “Synaptic Disruption and Behavioral Consequences of Environmental Toxicants”

 Clayton State University, Atlanta, GA

2017 “In Vitro and In Vivo Techniques in Neurotoxicology”

 Clayton State University, Atlanta, GA

2016 “The Contribution of Environmental Toxicants to Neurological and Neurodevelopmental Disease.” Georgia State University, Atlanta, GA

2015 “The Striatal Synapse as a Target for Damage by Flame Retardant Compounds.” American Society of Neurochemistry, Atlanta, GA

2014 “The Synapse as a Target for Environmental Toxicants and Neurological Disease.” Center for Neurodegenerative Disease, Emory University, Atlanta, GA

2014 “Neurological Deficits Following Developmental Exposure to Halogenated Compounds.” Neurobehavioral Teratology Society Annual Meeting, Seattle, WA

2014 “In Vitro, In Vivo, and Proteomic Approaches to Investigate the Effects of Halogenated Flame Retardants on the Nigrostriatal Dopamine System and Risk of Parkinson’s Disease.” Boston University, Boston, MA

2013 “Organohalogen Toxicants and the Dopamine System.” University of Georgia, Athens, GA

2012 “Organohalogen Toxicants and the Dopamine System.” Clayton State University, Atlanta, GA

2010 “Alteration of Synaptic Proteins in Parkinson’s Disease.” Research in Progress (RIPS), University of Washington, Seattle, WA

2010 “Integration of Neuroproteomics and Neurotoxicology in Neurodegenerative Disease.” Center for Neurodegenerative Disease, Emory University, Atlanta, GA

2009 “Novel Approaches to Investigating the Environmental Contribution to Parkinson’s Disease.” Department of Environmental Health, Emory University, Atlanta, GA

2009 “Proteomics and Neurodegenerative Disease.” Mechanisms of Toxicology, Gordon Research Conference, Bates College, Lewiston, ME

2008 “Proteomic Approaches to Inflammation and Neurological Disorders”. Centers for Disease Control, Center for Emerging and Zoonotic Infectious Diseases, Atlanta, GA

**TEACHING EXPERIENCE**

2011-Present Instructor, Human Toxicology (EH 520), Emory University

2012-Present Instructor, Molecular Toxicology (EHS 740/IBS 740), Emory University

2015-Present Instructor, Neurotoxicology (EH 523), Emory University

2017-Present Instructor, Perspectives in Environmental Health (EH 500), Emory University

2018-Present Instructor, Perspectives in Environmental Health (EH 500; Online), Emory University

2017-Present Instructor, Perspectives in Environmental Health (EH 500D), Executive MPH Program, Emory University

2012-Present Mentor, Neuroscience Seminar (NS 790R), Emory University

2011-Present Instructor/Mentor, Grant Writing (IBS 522R), Emory University

2011-Present Guest Lecturer, Perspectives in Environmental Health (EH 500; Spring), Emory University

2012-2013 Guest Lecturer, Basic Biomedical and Biological Sciences (IBS 555), Emory University

2011-2013 Guest Lecturer, Public Health Biology (GH 520), Emory University

2010-2014 Guest Lecturer, Neurotoxicology (EH 523), Emory University

2015 Guest Lecturer, Seminar: Topics in Neurobiology and Behavior (NBB 401), Emory University

2015-Present Guest Lecturer, Translational Public Health Research (EHS 701), Emory University

2016 Guest Lecturer, Environmental Sustainability (ANTH 252), Emory University

2016-Present Instructor, Course Design and Development in Health Sciences Courses (Teaching Assistant Training and Opportunity (TATTO)) Program, Emory University

2017-Present Educational Outreach. Advanced Laboratory Technique: Immunohistochemistry, Clayton State University, Morrow, GA

2017-Present Guest Lecturer, Introduction of Environmental Health (EH 501), Emory University

2018 Guest Lecturer, Environmental Health, Clayton State University, Morrow, GA

**MENTORING: DOCTORAL STUDENTS**

1. Kelly Lohr, Emory University, PhD in Neuroscience (2010-2015)

Role: Committee Member

Dissertation: Enhanced neurotransmission via increased vesicular transport *in vivo*: VMAT2 overexpression in a mouse

2. Kathryn McPherson, Emory University, PhD in Neuroscience (2011-2016)

Role: Committee Member

Dissertation: Contribution of peripheral inflammation in Alzheimer’s disease

3. Darcie Cook, Emory University, PhD in Immunology (2012-2017)

Role: Committee Member

Dissertation: Role of inflammation in LRRK2-mediated Parkinson’s disease

4. Laura Butkovich, Emory University, PhD in Neuroscience (2013-2019)

Role: Committee Member

Dissertation: Role of the noradrenergic circuit in Parkinson disease

5. Elizabeth Kline, Emory University, PhD in Neuroscience (2013-2019)

Role: Committee Member

Dissertation: Alteration of the inflammatory response in an alpha-synuclein model of Parkinson disease

6. Aimee Vester, Emory University, PhD in Environmental Health Science (2014-2019)

Role: PhD Mentor

Dissertation: Role of stress and pesticide exposure in ADHD

7. Alyse Steves, Emory University, PhD in Genetics and Molecular Biology (2014-2018)

Role: Committee Member

Dissertation: Environmental toxicants and epigenetic modulation of human spermatogenesis

8. Mary Herrick, Emory University, PhD in Neuroscience (2015-Present)

Role: Committee Member

Dissertation: The role of LRRKS kinase activity in immune cell function in a model of Parkinson’s disease

9. Carlie Hoffman, Emory University, PhD in Neuroscience (2013-2018)

Role: Committee Member

Dissertation: SV2C and alpha-synuclein convergence in dopamine handling in Parkinson’s disease

10. Danielle Clarkson-Townsend, Emory University, PhD in Environmental Health Sciences (2016-Present)

Role: Committee Member

Dissertation: Alteration in circadian rhythm and placental epigenetics in human and animal models

11. Sam Peters, Emory University, PhD in Environmental Health Sciences (2015-2019)

Role: Rotation Mentor (2016)

**MENTORING: MASTERS STUDENTS (THESIS/CAPSTONE)**

1. Hallie Averbach, MPH in Environmental Health (May 2019). Project: 3q29 Microdeletion syndrome: Phenotypic differences between urban and rural populations.

2. Emma Yu, MPH in Environmental Health (May 2019). Project: Association between water source and sanitation with anemia in preschool children: Biomarkers reflecting inflammation and nutritional determinants of anemia (BRINDA) project.

2. Rijalda Deovic, Executive MPH in Environmental Health (December 2018). Project: Air pollution and respiratory disease in Bosnia.

3. Dehao Chen, MPH in Environmental Health (May 2018). Project: A study of zoonotic transmission dynamics of hemorrhagic fever with renal syndrome in Guangzhou, China.

4. Angela Giaquinto, MSPH in Environmental Health. Project: Understanding the opioid epidemic in Atlanta, GA: Overdose case distance from services.

5. Allison Bay, MPH in Environmental Health (May 2018). Project: The relationship between Parkinson’s disease symptom side of onset and performance on the United Parkinson’s Disease Ration Scale Part IV: Motor Complications.

6. Jennifer Leveille, MPH in Environmental Health (December 2017). Project: Toxicant-induced alterations to the dopamine circuit involved in drug seeking and drug reward.

7. Julia Kasukusa, Executive MPH in Environmental Health (May 2018). Project:Community integration of best management practices for green infrastructure storm water management in the neighborhood of Sandtown-Winchester/Harlem Park in Baltimore City, Maryland.

8. David Roth, MSPH in Environmental Health (May 2017). Project: Epidemiology of opportunistic premise plumbing pathogens and associated antibiotic resistance.

9. Julia Brennan, MPH in Environmental Health (May 2017). Project: Prevalence of botulinum in heroin users.

10. Kia Padgett, Executive MPH in Environmental Health (May 2017). Project: The breathe easy telemedicine and mobile health outreach program.

11. Chad Camp, MPH in Environmental Health (May 2016). Project: Alterations in synaptic and axonal dynamics in hippocampus and frontal cortex by the flame retardant, HBCDD.

12. Danielle Clarkson-Townsend, MPH in Environmental Health (May 2016). Project: Cellular and epigenetic impairments in human spermatogenesis following exposure to perfluorinated compounds.

13. Kelly Genskow, MPH in Environmental Health (May 2015). Project: Assess the neurotoxicological properties of current use flame retardants, TBBPA and HBCDD.

14. Neil Patel, BS/MS Program in Biology (May 2014). Project: Antitumor effects of progesterone alone and in combination with temozolomide against neurogenic tumors.

15. Alexandra Ross, MPH in Environmental Health (May 2014). Capstone: A guide to implementing sustainable agriculture and understanding the environmental health impacts of local food systems.

16. Wyatt Wilson, MSPH in Environmental Health and Epidemiology (May 2013). Thesis: Pesticides and Parkinson’s disease: Attributable risk of occupational exposure and neurochemical analysis of sub-chronic environmental exposure.

17. Rebecca Miller Coleman, MPH in Environmental Health (May 2013). Thesis: Disruption of neuronal circuitry following exposure to chlorinated organophosphate flame retardants: Implications for neurological disease.

18. Lauren Shapiro, MPH in Global Environmental Health (May 2012). Thesis: Disruption of dopamine circuitry following exposure to the organochlorine insecticide endosulfan: Implications for neurological disease.

19. Jona Ogden, MPH in Environmental Health (May 2012). Thesis: Using quantitative structure-activity relationships (QSAR) to establish toxicity/environmental scores (TES).

20. Ian Spain, PA/MPH in Global Environmental Health (December 2011). Thesis: Racial and ethnic differences in poison center utilization.

**MENTORING: MASTERS STUDENTS (NON-THESIS)**

1. Wellington Onyenwe, MPH in Environmental Health (May 2014). Project: Evaluate alterations to proteins in the frontal cortex of mice developmentally exposed to the insecticide, endosulfan.

2. Tiffany Suragh, MPH in BSHE (May 2013). Project: Evaluate the alterations to proteins in the striatum and frontal cortex of mice exposed to the flame retardant, PBDE.

**MENTORING: UNDERGRADUATE STUDENTS**

1. Rahul Patel, Neurobiology and Behavior, SURE fellow. Project: Determine the dopaminergic neurotoxicity of PFOS.

2. Suranjana Dey, Neurobiology and Behavior. Project: Effects of air pollution on *in vitro* models of neurotoxicity.

3. Sadie Nennig, Neurobiology and Behavior. Project: Effects of PBDEs on cytoskeletal proteins in mice.

4. Camille Pham-Lake, Neuroscience, Agnes Scott University. Project: Effects of flame retardants on the cortical dopamine system.

5. Elizabeth Aronson, Neurobiology and Behavior, Project: In vitro assessment of synaptic proteins altered by environmental toxicants.

6. Alice Halter, Neurobiology and Behavior, Project: Validation of proteomic targets following exposure to HBCDD.

7. Emily Winokur, Neurobiology and Behavior, Project: The effect of vesicular monoamine transporter 2 on social behavior.

8. Eunheh Koh, Environmental Sciences, Project: Gender and dose effects of pyrethroid insecticides on the mesocortical dopamine circuit.

9. Mary Chen, Neurobiology and Behavior, Project: Neurotoxic impact on the frontal cortex of environmental contaminants.

10. Meghan Hurley, Neurobiology and Behavior, Project: Neurotoxic impact on the hippocampus of environmental contaminants.

**MENTORING: NON-STUDENTS**

1. Hye-Mi Kim, Research Associate, Project: Effects of the flame retardant mixture, DE-71 on the nigrostriatal dopamine system**.**

2. Daniela Barrientos, High School Student from El Salvador, Project: Assessment of damage to cortical GABAergic signaling following pesticide exposure.

3. Claire McCoy, High School Student, Project: Differential alterations to GABAergic proteins in hippocampus, striatum, and cerebellum following pesticide exposure.

4. Taylor John-Lewis, High School Student, Project: Application of immunohistochemical and biochemical techniques to identify alterations in neuronal circuitry following exposure to environmental toxicants.

**PROFESSIONAL AND SERVICE ACTIVITIES**

Departmental

2012-Present Environmental Health Sciences PhD degree application committee

2012-Present Department of Environmental Health MPH degree application committee

2012-Present Woodruff Fellowship Review for Department of Environmental Health

2012-Present Qualifying exam (written and oral) committee for Environmental Health Sciences PhD degree program

2012-Present Curriculum committee for Environmental Health Sciences PhD degree program

2012-Present Curriculum committee for Department of Environmental Health MPH degree program

2012-Present Department of Environmental Health faculty search committee

2014-Present Department of Environmental Health representation for the NIH-funded Initiative to Maximize Student Development (IMSD)

University

2012-Present GDBBS Neuroscience PhD admission committee

2012-Present Oral exam committee for GDBBS Neuroscience PhD degree program

2011-2012 Dean’s Teaching Fellowship application committee

2012-Present Emory University Chemical Safety Review Board

2013-Present MD/PhD application committee for Neuroscience and Environmental Health Sciences PhD programs

2015-Present Member of Atlanta Society of Mentors (ASOM)

2015-Present Member of Multicultural Outreach and Resource at Emory (MORE) undergraduate student mentoring program

2015-Present Committee on Teaching Assistant Training and Teaching Opportunity (TATTO) Program

Outside Emory University

1. Grant review for Department of Defense Gulf War Illness Research Program (2011-Present)

2. Grant review for Parkinson’s UK (2012)

Journal Review:

-*Toxicology Letters* (Editorial Board; 2012-Present)

*-Toxicology Reports* (Editorial Board; 2015-Present)

*-Nature Partner Journals Parkinson’s Disease* (Editorial Board; 2017-Present)

-*Toxics* (Editorial Board; 2017-Present)

-Neurotoxicology (Editorial Board; 2017-Present)

-*Neurotoxicology*

-*PLoS One*

-*Neurochemical Research*

-*Neurotoxicology and Teratology*

-*Toxicology and Applied Pharmacology*

-*Toxicology*

-*Toxicological Sciences*

-*Food and Chemical Toxicology*

*-Cell Biology and Toxicology*

-*Experimental Neurology*

-*Molecular Pharmacology*

-*Cellular and Molecular Neurobiology*

-*Journal of Neuroscience Research*

*-Journal of Neuroscience*

Invited Book Review:

-Toxicology for Health Professionals, Published by Jones and Bartlett Learning (2014).

-Essentials of Environmental Health, Published by Jones and Bartlett Learning (2019)

**PROFESSIONAL MEMBERSHIP**

Society of Toxicology (2002-Present)

Southeast Society of Toxicology (2010-Present)

Society for Neuroscience (2002-Present)

International Neurotoxicology (2002-Present)