W. Michael Caudle, PhD
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Gangarosa Department of Environmental Health
Rollins School of Public Health
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EDUCATION

July 2007-Aug 2010	University of Washington, Seattle, WA. Department of Neuropathology, Senior Research Fellow
Sept 2002-June 2007	PhD. Emory University, Atlanta, GA. Neuroscience PhD Program
Sept 1993-Aug 1998	Colorado State University, Fort Collins, CO. Bachelor of Science in Psychology, Minor: Human Anatomy and Neurobiology

PROFESSIONAL EXPERIENCE

Aug 2017-Present	Research Associate Professor, Gangarosa Department of Environmental Health, Emory University, Atlanta, GA.
Aug 2010-July 2017	Assistant Professor, Department of Environmental Health, Emory University, Atlanta, GA.
Sept 1999-Sept 2002	Research Technician, Department of Pharmacology and Toxicology, University of Texas, Austin, TX.

TEACHING EXPERIENCE

Gangarosa Department of Environmental Health

2024-Present	Instructor, Human Toxicology (EH 520; Online), Emory University
2021-Present	Instructor, Research Design and Management (EHS 790R), Emory University
2018-2020	Instructor, Perspectives in Environmental Health (EH 500; Online), Emory University
2017-2022	Guest Lecturer, Introduction to Environmental Health (EH 501), Emory University
2017-Present	Instructor, Perspectives in Environmental Health (EH 500D), Executive MPH Program, Emory University

2017-2020	Instructor, Perspectives in Environmental Health (EH 500), Emory University
2015	Guest Lecturer, Translational Public Health Research (EHS 701), Emory University
2015-Present	Instructor, Neurotoxicology (EH 523), Emory University
2012-2023	Instructor, Molecular Toxicology (EHS 740/IBS 740), Emory University
2012-2013	Guest Lecturer, Basic Biomedical and Biological Sciences (IBS 555), Emory University
2011-2016; 2021-Present	Guest Lecturer, Perspectives in Environmental Health (EH 500; fall), Emory University
2011-Present	Guest Lecturer, Perspectives in Environmental Health (EH 500; spring), Emory University
2011-Present	Instructor, Human Toxicology (EH 520), Emory University
2010-2014	Guest Lecturer, Neurotoxicology (EH 523), Emory University

Rollins School of Public Health

2019-Present	Facilitator, Interprofessional Education (PUBH 501D), Emory University
2011-2013	Guest Lecturer, Public Health Biology (GH 520), Emory University

Graduate Division of Biological and Biomedical Sciences

2012-2022	Mentor, Neuroscience Seminar (NS 790R), Emory University
2011-Present	Mentor, Grant Writing (IBS 522R), Emory University

Emory University

2025	Co-Instructor, Maintaining Effective Communication Workshop at the NIH-Funded ATLANTIS Program, 2025 KUHR-TN National Conference
2021-Present	Instructor, Jones Program in Ethics (JPE 600/610), Emory University
2016-2019	Instructor, Course Design and Development in Health Sciences Courses (Teaching Assistant Training and Opportunity (TATTO)) Program, Emory University

2016	Guest Lecturer, Environmental Sustainability (ANTH 252), Emory University
2015	Guest Lecturer, Seminar: Topics in Neurobiology and Behavior (NBB 401), Emory University

Clayton State University (Morrow, Georgia)

2018	Guest Lecturer, Environmental Health
2017-2019	Educational Outreach Advanced Laboratory Technique: Immunohistochemistry

University of Notre Dame (Notre Dame, Indiana)

2024	Guest Lecturer, Neurotoxicology (Virtual)

Tbilisi State Medical University (Tbilisi, Republic of Georgia)

2022	Instructor, Professional Development (Virtual)
2021-Present	Instructor, Perspectives in Environmental Health (Hybrid)

University of Georgia (Tbilisi, Republic of Georgia)

2023-Present	Instructor, Perspectives in Environmental Health (Hybrid)

The Paideia School (Atlanta, Georgia)

2018-2023; 2025	Guest Lecturer, Public Health 101 Discussion of current environmental health concern with 10-15 high school students

MENTORING: DOCTORAL STUDENTS

Rollins School of Public Health

2023-Present	Neha Sehgal, Emory University, PhD in Environmental Health Sciences Role: Committee Member Dissertation: Impacts of prenatal cannabis and tobacco co-use: Role of placental transcriptomics in neurobehavioral development
2022-2024	Sarahna Moyd, Emory University, PhD in Environmental Health Sciences Role: Committee Member Dissertation: Leveraging interdisciplinary methodologies in computational toxicology and reproductive epidemiology to elucidate mechanisms of ovarian follicle maturation and aging via environmental exposures
2019-2020	Brigitte Pflüger, Emory University, PhD in Nutrition Role: Rotation Mentor

2018-2022 Millie Tung, Emory University, PhD in Environmental Health Sciences
Role: Committee Member
Dissertation: Metal exposure and placental epigenetic in the Rhode Island Birth Cohort

2018-2022 Frank Glover, Emory University, MD/PhD in Environmental Health Sciences
Role: Advisor
Dissertation: Environmental contribution to neurogenic hypertension

2016-2020 Danielle Clarkson-Townsend, Emory University, PhD in Environmental Health Sciences
Role: Committee Member
Dissertation: Alteration in circadian rhythm and placental epigenetics in human and animal models

2015-2016 Sam Peters, Emory University, PhD in Environmental Health Sciences
Role: Rotation Mentor

2014-2019 Aimee Vester, Emory University, MD/PhD in Environmental Health Science
Role: Co-Advisor
Dissertation: Role of stress and pesticide exposure in ADHD

Graduate Division of Biomedical and Biological Sciences (GDBBS)

2024-Present Leslie Hassanein, Emory University, PhD in Neuroscience
Role: Committee Member
Dissertation: The contribution of locus coeruleus activity and norepinephrine metabolism to neuromelanin accumulation and toxicity

2019-Present Alicia Lane, Emory University, PhD in Neuroscience
Role: Committee Member
Dissertation: Metabolic mechanisms of copper-dependent neurodegeneration and excitability in Menkes disease

2019-Present Alexandria White, Emory University, PhD in Neuroscience
Role: Co-Advisor
Dissertation: Role of the gut microbiome in insecticide-mediated dopaminergic dysfunction

2019-2020 Maha Rashid, Emory University, PhD in Neuroscience
Role: Rotation Mentor

2018-2023 Alexa Iannitelli, Emory University, PhD in Neuroscience
Role: Committee Member
Dissertation: Consequences of neuromelanin on locus coeruleus survival and function

2018-2020 Mary Herrick, Emory University, PhD in Neuroscience
Role: Committee Member
Dissertation: The role of LRRK2 kinase activity in immune cell function in a model of Parkinson's disease

2014-2018 Alyse Steves, Emory University, PhD in Genetics and Molecular Biology
Role: Committee Member
Dissertation: Environmental toxicants and epigenetic modulation of human spermatogenesis

2013-2018 Carlie Hoffman, Emory University, PhD in Neuroscience
Role: Committee Member
Dissertation: SV2C and alpha-synuclein convergence in dopamine handling in Parkinson's disease

2013-2019 Elizabeth Kline, Emory University, PhD in Neuroscience
Role: Committee Member
Dissertation: Alteration of the inflammatory response in an alpha-synuclein model of Parkinson's disease

2013-2019 Laura Butkovich, Emory University, PhD in Neuroscience
Role: Committee Member
Dissertation: Role of the noradrenergic circuit in Parkinson's disease

2012-2017 Darcie Cook, Emory University, PhD in Immunology
Role: Committee Member
Dissertation: Role of inflammation in LRRK2-mediated Parkinson's disease

2011-2016 Kathryn McPherson, Emory University, PhD in Neuroscience
Role: Committee Member
Dissertation: Contribution of peripheral inflammation in Alzheimer's disease

2010-2015 Kelly Lohr, Emory University, PhD in Neuroscience
Role: Committee Member
Dissertation: Enhanced neurotransmission via increased vesicular transport *in vivo*: VMAT2 overexpression in a mouse model of Parkinson's disease

International

2023-Present Lasha Gulbiani, University of Georgia (Tbilisi, Republic of Georgia), PhD in Public Health
Role: Co-Advisor
Dissertation: Pollen exposure and incidence of allergy in Tbilisi, Republic of Georgia

2023-Present Sopho Sikharulidze, University of Georgia (Tbilisi, Republic of Georgia), PhD in Public Health
Role: Co-Advisor
Dissertation: High Blood Lead level (BLL) in pregnancy and related outcomes Adjara region, Georgia

2022-Present — Nia Masiukovichi, University of Georgia (Tbilisi, Republic of Georgia), PhD in Public Health
Role: Co-Advisor
Dissertation: Fetal stress and it's impact on physical, mental, and cognitive health of the children under 2 years. Association with social-economic and cultural aspects

2021-Present — Natia Kakutia, Tbilisi State Medical University, PhD in Public Health
Role: Co-Advisor
Dissertation: Nutritional content of food from street vendors and risk of metabolic health outcomes

2021-Present — Sofo Alavidze, Tbilisi State Medical University, PhD in Public Health
Role: Co-Advisor
Dissertation: Association between blood-lead levels and cognitive function in children 2-7 years old in Tbilisi, Georgia

MENTORING: MASTERS STUDENTS (THESIS/CAPSTONE)
***Underline denotes students from the Executive MPH program**

2025-2026 — Sidney Smith, MPH in Behavioral, Social, and Health Education Sciences
Role: Co-Advisor
Project: Influence of built environment on neurobehavior in African American communities

2023-2024 — Camilo Hernandez, MPH in Environmental Health
Role: Advisor
Project: Toxic trespassers the silent threat: Heavy metal impacts on children's brain health in low-income Colombian communities

2022-2023 — Andrew Marino, Executive MPH in Environmental Health
Role: Advisor
Project: Association of PFAS and cardiometabolic disease

2022-2023 — Jacob Sole, MPH in Environmental Health
Role: Advisor
Project: Respiratory effects of burn pits in military installations

2022-2023 — Sydney Harris, MPH in Environmental Health
Role: Advisor
Project: Climate change and release of persistent organic pollutants from melting glaciers: Impact on human health

2021-2022 — Rezi Revazishvili, Tbilisi State Medical University, MPH in Public Health
Role: Co-Advisor
Project: Sources of lead and lead exposure in the Gurjaani Region of Republic of Georgia

2021-2022	Mirdens Lambert, MPH in Environmental Health Role: Advisor Project: Review of key sources of respiratory pollutants in Haiti
2020-2021	Sharlene Martin, MPH in Environmental Health Role: Advisor Project: Synergistic respiratory toxicity to COVID in those who smoke tobacco or cannabis
2020-2021	Juan Ulloa, MPH in Environmental Health Role: Advisor Project: History and future of nerve agents
2019-2020	Jessica Rogers, Executive MPH in Environmental Health Role: Advisor Project: Lead abatement and educational outreach in Atlanta communities
2019-2020	Amandine Ballart, Executive MPH in Environmental Health Role: Advisor Project: Mental health access and resources following a natural disaster
2019-2020	Amanda Liew, MPH in Environmental Health Role: Advisor Project: Socio-environmental determinants of post-operative inpatient opioid consumption in orthopedic trauma patients
2019-2020	Tylor Reynolds, MPH in Environmental Health Role: Advisor Project: Environmental factors in the risk and incidence of dementia
2019-2020	Jordan Jackson, MPH in Environmental Health Role: Co-Advisor Project: Dietary contributors to Alzheimer's disease in the African American population
2019-2020	Jasmine Reggins-McKenzie, MPH in Environmental Health Role: Advisor Project: Access to sanitary and hygiene resources in the homeless population in Atlanta, Georgia
2019-2020	Allison Kniola, MPH in Global Health Role: Advisor Project: Assessment of neurological deficits in African communities spraying DDT for indoor residential spraying
2018-2019	Hallie Averbach, MPH in Environmental Health Role: Co-Advisor Project: 3q29 Microdeletion syndrome: Phenotypic differences between urban and rural populations

2018-2019	Emma Yu, MPH in Environmental Health Role: Co-Advisor Project: Association between water source and sanitation with anemia in preschool children: Biomarkers reflecting inflammation and nutritional determinants of anemia (BRINDA) project
2017-2018	Rijalda Deovic, Executive MPH in Environmental Health Role: Advisor Project: Air pollution and respiratory disease in Bosnia
2017-2018	Dehao Chen, MPH in Environmental Health Role: Advisor Project: A study of zoonotic transmission dynamics of hemorrhagic fever with renal syndrome in Guangzhou, China
2017-2018	Angela Giaquinto, MSPH in Environmental Health Role: Advisor Project: Understanding the opioid epidemic in Atlanta, GA: Overdose case distance from services
2017-2018	Allison Bay, MPH in Environmental Health Role: Co-Advisor 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
2017-2018	Julia Kasukusa, Executive MPH in Environmental Health Role: Advisor 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
2016-2017	Jennifer Leveille, MPH in Environmental Health Role: Advisor Project: Toxicant-induced alterations to the dopamine circuit involved in drug seeking and drug reward
2016-2017	David Roth, MSPH in Environmental Health Role: Advisor Project: Epidemiology of opportunistic premise plumbing pathogens and associated antibiotic resistance
2016-2017	Julia Brennan, MPH in Environmental Health Role: Advisor Project: Prevalence of botulinum in heroin users
2016-2017	Kia Padgett, Executive MPH in Environmental Health Role: Advisor Project: The breathe easy telemedicine and mobile health outreach program

2015-2016	Chad Camp, MPH in Environmental Health Role: Advisor Project: Alterations in synaptic and axonal dynamics in hippocampus and frontal cortex by the flame retardant, HBCDD
2015-2016	Danielle Clarkson-Townsend, MPH in Environmental Health Role: Co-Advisor Project: Cellular and epigenetic impairments in human spermatogenesis following exposure to perfluorinated compounds
2013-2015	Kelly Genskow, MPH in Environmental Health Role: Advisor Project: Assess the neurotoxicological properties of current use flame retardants, TBBPA and HBCDD
2013-2014	Neil Patel, BS/MS Program in Biology Role: Co-Advisor Project: Antitumor effects of progesterone alone and in combination with temozolomide against neurogenic tumors
2013-2014	Alexandra Ross, MPH in Environmental Health Role: Advisor Project: A guide to implementing sustainable agriculture and understanding the environmental health impacts of local food systems
2011-2013	Wyatt Wilson, MSPH in Environmental Health and Epidemiology Role: Advisor Project: Pesticides and Parkinson's disease: Attributable risk of occupational exposure and neurochemical analysis of sub-chronic environmental exposure
2011-2013	Rebecca Miller Coleman, MPH in Environmental Health Role: Advisor Project: Disruption of neuronal circuitry following exposure to chlorinated organophosphate flame retardants: Implications for neurological disease
2011-2013	Lauren Shapiro, MPH in Global Environmental Health Role: Advisor Project: Disruption of dopamine circuitry following exposure to the organochlorine insecticide endosulfan: Implications for neurological disease
2011-2012	Jona Ogden, MPH in Environmental Health Role: Co-Advisor Project: Using quantitative structure-activity relationships (QSAR) to establish toxicity/environmental scores (TES)
2010-2011	Ian Spain, PA/MPH in Global Environmental Health Role: Co-Advisor Project: Racial and ethnic differences in poison center utilization

MENTORING: NON-THESIS STUDENTS AND STAFF

2022-2023 Cameron Goetgeluck, MPH in Environmental Health and Epidemiology
Role: Mentor
Project: Brain transcriptomics in a mouse model of prenatal insecticide exposure

2012-2014 Wellington Onyenwe, MPH in Environmental Health
Role: Mentor
Project: Evaluate alterations to proteins in the frontal cortex of mice developmentally exposed to the insecticide, endosulfan

2011-2013 Tiffany Suragh, MPH in Behavioral Science and Health Education
Role: Mentor
Project: Evaluate the alterations to proteins in the striatum and frontal cortex of mice exposed to the flame retardant, PBDE

2010-2016 Joshua Bradner, MS; Research Staff
Role: Mentor
Laboratory coordination and experimental supervision

2010-2013 Hye Mi Kim, MPH; Research Staff
Role: Mentor
Laboratory coordination and experimental supervision

MENTORING: UNDERGRADUATE STUDENTS

2024-2025 Ella Arrant, Neurobiology and Behavior
Role: Committee Member
Project: Testosterone levels across the transition to fatherhood and their behavioral and neurobiological correlates

2024-2025 Maya Everhaim, Neurobiology and Behavior
Role: Committee Member
Project: Opportunistic pathogens exacerbate Parkinson's disease pathology in a mouse model

2023-2024 Justin Byun, Human Health
Role: Committee Member
Project: Utilizing wastewater-based epidemiology to assess the chemical exposome of residents in Louisville

2023-2024 Arielle Segal, Neurobiology and Behavior
Role: Committee Member
Project: Impact of vesicular monoamine transporter 2 overexpression and norepinephrine transporter inhibition on neuromelanin-induced locus coeruleus neurodegeneration

2022-2023	Tiffany Chen, Neurobiology and Behavior Role: Committee Member Project: Alteration of dopamine receptors, D1 and D2, in the nigrostriatal circuit of mice exposed to a pyrethroid insecticide
2022	Yommi Tadesse, Agnes Scott College Role: Advisor Project: General research tools and techniques
2022	Ashley Okuson, University of Georgia Role: Advisor Project: General research tools and techniques
2018-2019	James Bauer, Neurobiology and Behavior Role: Committee Member Project: Alterations to midbrain in LRRK2 transgenic mice in a model of gut inflammation
2018-2019	Devin Bog, Chemistry Role: Committee Member Project: Synthetic modification for the study of protein-protein interactions and aggregate formation
2017-2018	Meghan Hurley, Neurobiology and Behavior Role: Advisor Project: Neurotoxic impact on the hippocampus of environmental contaminants
2017-2019	Merry Chen, Neurobiology and Behavior Role: Advisor Project: Neurotoxic impact on the frontal cortex of environmental contaminants
2017-2019	Eunheh Koh, Environmental Sciences Role: Advisor Project: Gender and dose effects of pyrethroid insecticides on the mesocortical dopamine circuit
2017	Emily Winokur, Neurobiology and Behavior Role: Committee Member Project: The effect of vesicular monoamine transporter 2 on social behavior
2014-2015	Alice Halter, Neurobiology and Behavior Role: Advisor Project: Validation of proteomic targets following exposure to HBCDD
2013-2015	Elizabeth Aronson, Neurobiology and Behavior Role: Advisor Project: *In vitro* assessment of synaptic proteins altered by environmental toxicants

2013-2015	Camille Pham-Lake, Neuroscience, Agnes Scott University Role: Advisor Project: Effects of flame retardants on the cortical dopamine system
2012-2014	Sadie Nennig, Neurobiology and Behavior Role: Advisor Project: Effects of PBDEs on cytoskeletal proteins in mice
2011-2012	Suranjana Dey, Neurobiology and Behavior Role: Advisor Project: Effects of air pollution on *in vitro* models of neurotoxicity
2011-2012	Rahul Patel, Neurobiology and Behavior Role: Advisor Project: Determine the dopaminergic neurotoxicity of PFOS

MENTORING: HIGH SCHOOL STUDENTS

2023	Elaina Gaydos, The Paideia School Role: Advisor Project: General research tools and techniques
2023	Aarushi Guin, Fulton Science Academy Role: Advisor Project: General research tools and techniques
2019	Ezra Adams, Druid Hills High School Role: Advisor Project: General research tools and techniques
2017	Taylor John-Lewis, Choate Rosemary Hall Role: Advisor Project: Application of immunohistochemical and biochemical techniques to identify alterations in neuronal circuitry following exposure to environmental toxicants
2014	Claire McCoy, Wheeler High School Role: Advisor Project: Differential alterations to GABAergic proteins in hippocampus, striatum, and cerebellum following pesticide exposure
2013	Daniela Barrientos, High School Student (El Salvador) Role: Advisor Project: Assessment of damage to cortical GABAergic signaling following pesticide exposure

PROFESSIONAL AND SERVICE ACTIVITIES

Gangarosa Department of Environmental Health

2021-Present	Gangarosa Department of Environmental Health Diversity, Equity, and Inclusion Working Group (Student Recruitment and Support)
2021-Present	Gangarosa Department of Environmental Health Diversity, Equity, and Inclusion Committee
2021-Present	Gangarosa Department of Environmental Health Master of Public Health Executive Committee
2021-Present	Director of Graduate Studies, Environmental Health Science PhD Program
2020-2021	Gangarosa Department of Environmental Health Virtual Pedagogy Lead
2018-Present	Gangarosa Department of Environmental Health Environmental Health Sciences PhD Executive Committee
2014-Present	Gangarosa Department of Environmental Health Representative for the NIH-Funded Initiative to Maximize Student Development (IMSD)
2013-Present	MD/PhD Application Committee for Environmental Health Sciences PhD Program
2012-Present	Environmental Health Sciences PhD Degree Application Review Committee
2012-2020	Gangarosa Department of Environmental Health MPH Degree Application Review Committee
2012-2020	MPH Fellowship Review for Gangarosa Department of Environmental Health
2012-Present	Gangarosa Department of Environmental Health Faculty Search Committee

Rollins School of Public Health

2023-Present	Appointment, Promotion, and Tenure Committee, Clinical Research Track Faculty Representative (At-Large)
2022-Present	Director of HERCULES Pilot Project Program
2021-Present	Director of Laboratories (Claudia Nance Rollins Building)
2021-Present	Research Advisory Committee (RAC)
2021-Present	Clinical Research Track (CRT) Faculty Committee

Graduate Division of Biomedical and Biological Sciences

2012-Present	GDBBS Neuroscience PhD Admission Committee
2012-Present	Oral Exam Committee for GDBBS Neuroscience PhD Degree Program

Emory University

2022-Present	Assistant Editor, Intersections: The Education Journal of the Woodruff Health Sciences Center
2021-2022	ARCS Foundation Scholarship Review Committee, Emory University
2021-Present	Woodruff Fellowship Review Committee
2020-Present	Developer and Director, PhD Application Bootcamp
2015-2016	Committee on Teaching Assistant Training and Teaching Opportunity (TATTO) Program
2015-2016	Member of Multicultural Outreach and Resource at Emory (MORE) Undergraduate Student Mentoring Program
2012-Present	Emory University Chemical Safety Review Board
2011-2012	Dean's Teaching Fellowship Application Committee

Grant Review

2021	Grant Review for National Institutes of Health General Medical Sciences Study Section
2020	Grant Review for National Institutes of Health Neurotoxicology and Alcohol (NAL) Study Section
2012	Grant Review for Parkinson's UK
2011-2013	Grant Review for Department of Defense Gulf War Illness Research Program

Journal Review: Member of the Editorial Board

2023-Present	Frontiers in Human Neuroscience
2017-Present	Neurotoxicology
2017-Present	Toxics
2017-Present	Nature Partner Journals Parkinson's Disease
2015-Present	Toxicology Reports
2012-Present	Toxicology Letters

Ad Hoc Review

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 Reviews

2019	Essentials of Environmental Health, Published by Jones and Bartlett Learning
2014	Toxicology for Health Professionals, Published by Jones and Bartlett Learning

Professional Membership

2002-Present	Society of Toxicology
2002-Present	Society for Neuroscience
2002-Present	International Neurotoxicology
2010-Present	Southeast Society of Toxicology
2015-Present	Atlanta Society of Mentors (ASOM)

FUNDING

Active Awards

D43 ES030927 (Caudle, MPI) 07/01/19-06/30/25
NIH/NIEHS $1,150,000
The Emory-Georgia Clean Air Research and Education (CARE) Program

R01 ES032440-01A1 (Sampson) 09/01/21-08/31/26
NIH/NIEHS $1,531,045
Interaction of Pyrethroid Exposure and the Microbiome on Parkinson's Disease related Pathologies

NIH U01 IMPACT-ADRD: Investigating the Multi-omics Perturbations Associated with Complex Environmental Toxicants and their Contribution to Alzheimer's Disease and Related Dementias (Huels)
07/01/2024-06/30/2029
$11,448,411

Submitted Awards

NIH R01 Environmental cadmium and pesticide co-exposure in lung inflammation (Go)
07/01/2024-06/30/2029
$3,818,985

NIH P42 The Community-Oriented Action, Science, and Translation Superfund Center (COAST) (Barr)
02/01/2025-01/31/2030
$15,116,547

Past Awards

HERCULES Pilot Award (Xu) 04/01/2024-03/31/2025
NIH/NIEHS $30,000
Modeling cardiotoxicity induced by environmental toxicants using hiPSC-derived cardiomyocytes (Xu)

R01 1ES029212 (Caudle, MPI) 09/01/18-08/31/23 (NCE)
NIH/NIEHS $2,736,275
Placental Functional Networks Linking Developmental Pesticide Exposure and Offspring Neurodevelopment

HERCULES PILOT AWARD (Caudle) 04/01/2019-03/31/2020
NIH/NIEHS $40,000
Disruption of dopaminergic neurodevelopment following exposure to pyrethroid insecticides

HERCULES PILOT AWARD (Tansey) 04/01/2016-03/31/2017
NIH/NIEHS $35,000
Toxicant-induced inflammation influences dopaminergic neuron degeneration

K99/R00 ES017477 (Caudle) 09/01/2009-08/31/2012
NIH/NIEHS $816,492
Vesicular Monoamine Transporter 2 as a mediator of PBDE neurotoxicity

PEER-REVIEWED PUBLICATIONS
***Denotes contributions by student trainees from my research group**

*Kakutia N, **Caudle WM**, Kazzi ZN, Sturua L, Davit Zarnadze S, Mebonia N. Assessing Trans Fat Levels in Street Foods of Tbilisi: A Public Health Concern (2021). BMC Nutr. (under revision)

*Masiukovichi N, Nikoleishvili E, **Caudle W**. (2025). Stress Spectrum in Pregnancy: Association with Socio-Economic, Educational, and Cultural Factors. European Scientific Journal, ESJ. 2025 May 15; *21*(39), 1

*Kakutia N, **Caudle WM**, Kazzi ZN, Sturua L, Davit Zarnadze S, Mebonia N. Prevalence and Predictors of Overweight and Obesity Among School-Aged Children in the Country of Georgia: A Cross-Sectional Study, 2022. BMC Nutr. 2025 Jan 13;11(1):9. PMID: 39806469

*White AC, Krout IN, Mouhi S, Chang J, Kelly SD, **Caudle WM**, Sampson TR. The pyrethroid insecticide deltamethrin disrupts neuropeptide and monoamine signaling pathways in the gastrointestinal tract. Toxicol Sci. 2025 ePub, May 19, 2025

*Guin A and **Caudle WM.** An Investigation of the Developmental Effects of Chlorpyrifos on the Frontal Cortex. Journal of Emerging Investigators (Revised)

Christensen GM, Marcus M, Naudé PJW, Vanker A, Eick SM, **Caudle WM**, Malcolm-Smith S, Suglia SF, Chang HH, Zar HJ, Stein DJ, Hüls A. Joint effects of prenatal exposure to indoor air pollution and psychosocial factors on early life inflammation. Environ Res. 2024 Mar 31;252(Pt 1):118822.PMID: 38565416

Lesseur C, Kaur K, Kelly SD, Hermetz K, Williams R, Hao K, Marsit CJ, **Caudle WM**, Chen J. Effects of fetal pesticide exposure on the fetal brain and placenta transcriptomes in a rodent model. Toxicology. 2023 May 15;490:153498. PMID: 37019170

Li Q, Lesseur C, Srirangam P, Kaur K, Hermetz K, **Caudle WM**, Fiedler N, Panuwet P, Prapamontol T, Naksen W, Suttiwan P, Baumert BO, Hao K, Barr DB, Marsit CJ, Chen J Associations between Prenatal Organophosphate Pesticide Exposure and Placental Gene Networks. Environmental Research 2023 May 1;224:115490. PMID: 36828252

Shi L, Zhu Q, Wang Y, Hao H, Zhang H, Schwartz J, Amini H, van Donkelaar A, Martin RV, Steenland K, Sarnat JA, **Caudle WM**, Ma T, Li H, Chang HH, Liu JZ, Wingo T, Mao X, Russell AG, Weber RJ, Liu P Incident dementia and long-term exposure to constituents of fine particle air pollution: A national cohort study in the United States. Proc Natl Acad Sci U S A. 2023 Jan 3;120(1):e2211282. PMID: 36574646

*Glover F, Eisenberg ML, Belladelli F, Del Giudice F, Chen T, Mulloy E, **Caudle WM.** The association between organophosphate insecticides and blood pressure dysregulation: NHANES 2013-2014. Environ Health. 2022 Aug 8;21(1):74. PMID: 35934697

Berg CJ, Sturua L, Marsit CJ, Baramidze L, Kiladze N, **Caudle WM.** Research Capacity Training on Environmental Health and Noncommunicable Diseases in the Country of Georgia: Challenges and Lessons Learned during the COVID-19 Pandemic. Int J Environ Res Public Health. 2022 Jul 2;19(13):8154. PMID: 35805812

*Glover FE, **Caudle WM**, Del Giudice F, Belladelli F, Mulloy E, Lawal E, Eisenberg ML. The association between caffeine intake and testosterone: NHANES 2013-2014. Nutr J. 2022 May 17;21(1):33. PMID: 35578259

Li J, Wang Y, Steenland K, Liu P, Martin RV, **Caudle WM,** Ilango S, Schwartz J, Koutrakis P, Shi L. Long-term effects of PM2.5 components on incident dementia in the Northeastern United States. Innovation (Camb). 2022 Jan 17;3(2):100208. PMID: 35199078

*Glover FE, Del Guidice F, Belladelli F, Ryan PB, Chen T, Eisenberg ML, **Caudle WM**. The association between 2,4-D and serum testosterone levels: NHANES 2013-2014. J Endocrinol Invest. 2021 Nov 27 online. PMID: 34837643

Houser MC, **Caudle WM**, Chang J, Kannarkat GT, Yang Y, Kelly SD, Oliver D, Joers V, Shannon KM, Keshavarzian A, Tansey MG. Experimental colitis promotes sustained, sex-dependent, T-cell-associated neuroinflammation and parkinsonian neuropathology. Acta Neuropathol Commun. 2021 Aug 19;9(1):139. PMID: 34412704

Huang S, Li H, Wang M, Qian Y, Steenland K, **Caudle WM**, Liu Y, Sarnat J, Papatheodorou S, Shi L. Long-term exposure to nitrogen dioxide and mortality: A systematic review and meta-analysis. Sci Total Environ. 2021 Jul 1; 776:145968. PMID: 33640547

Jackson JM, Bay AA, Barter JD, Ni L, **Caudle WM**, Serra MC, Wharton W, Hackney ME. The role of nutrition and inflammation on cognition in a high-risk group for Alzheimer's disease. J Alzheimers Dis Rep. 2020 Aug 28;4(1):345-352. PMID: 33024941

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. Exp Neurol. 2019 Aug; 318:157-164. PMID: 31077715

Zhang Q, **Caudle WM**, Pi J, Bhattacharya S, Andersen ME, Kaminski NE, Conolly RB. Embracing Systems Toxicology at Single-Cell Resolution. Curr Opin Toxicol. 2019 Aug; 16:49-57. PMID: 31768481

*Vester A, *Chen M, Marsit C, **Caudle WM.** A Neurodevelopmental Model of Combined Pyrethroid and Chronic Stress Exposure. Toxics. 2019 May 2;7(2):24. PMID: 31052489

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COMMENTARIES

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

Caudle WM, Guillot TS, Lazo C, Miller GW. Parkinson's disease and the environment: beyond pesticides. Neurotoxicology. 2012 Jun;33(3):585. PMID: 22774228

INTERVIEWS

Baker S. Could What You're Breathing Hurt Your Memory? Popular Science, March 2023

Caudle WM. NeuroChat. ACS Chemical Neuroscience 2019, 10, 6, 2625–2627

BOOK CHAPTERS

Caudle, WM. "Fundamentals of the Structure and Function of the Nervous System." In McQueen, Philbert, and Klesing (eds.), Comprehensive Toxicology. 4th Edition. Amsterdam: Elsevier.

Caudle WM, Bucher M, *White A, Miller GW. “Neurotoxicology: Toxic Responses of the Nervous System.” In Williams, James, and Roberts (eds.), Principles of Toxicology: Environmental and Industrial Applications. 4th Edition. New York: John Wiley and Sons, Inc.

Caudle, WM. “Organochlorine Insecticides and Neurological Disease” In D’Mello (ed.), A Handbook of Environmental Toxicology: Human Disorders and Ecotoxicology. 1st Edition. CABI.

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

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INVITED TALKS

2024, 2025	„*In Vitro* and *In Vivo* Techniques to Evaluate Neurotoxicity and Neurological Disease” Frontiers in Environmental Science and Health (FrESH) Morehouse University School of Medicine
2023	„Brain and Placental Transcriptomics in Insecticide Exposed Mice“ University of Georgia, Athens, GA
2020	“Persistent Organic Pollutants and Neurological Disease” Emory University, Atlanta, GA
2020	“A Path Through Science” Henry County High School, Stockbridge, GA
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

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

AWARDS AND HONORS (Teaching and Mentoring)

2025	Department of Environmental Health, Rollins School of Public Health, Excellence in Teaching Award
2024	Laney Graduate School Mentored Fellows Program
2024	Outstanding Director of Graduate Studies in the Natural Sciences
2021	Department of Environmental Health, Rollins School of Public Health, Excellence in Teaching Award
2020	Inducted into the Delta Omega Honorary Society in Public Health
2020	Executive Masters in Public Health Program, Rollins School of Public Health, Excellence in Teaching Award
2018	Professor of the Year Award, 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