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Last updated: 07/26/2021

CURRENT POSITION

Professor of Pharmacology with Tenure
Department of Pharmaceutical Sciences
College of Pharmacy
University of New Mexico Health Sciences Center
Albuquerque, New Mexico

EDUCATION

Ph.D., Microbiology and Immunology 1999
UAMS
Department of Microbiology and Immunology
College of Medicine
Little Rock, Arkansas
Concentration: Immunological mechanisms of autoimmune disease
Dissertation Title: Functional Consequences of CD40 Ligand-Expressing B Cells in the BXSB Mouse Model of Systemic Lupus Erythematosus.
Defense date: November 24, 1998.

B.S., Natural Sciences 1992
Fulbright College of Arts and Sciences
University of Arkansas
Fayetteville, Arkansas

PROFESSIONAL APPOINTMENTS AND EMPLOYMENT

2014-2020	Associate Professor with Tenure, Department of Pediatrics, Section of Pediatric Allergy and Immunology, College of Medicine, UAMS, Little Rock, AR
2013-2020	Graduate training faculty, UAMS NIH T32 grant (GM106999), Systems Pharmacology and Toxicology Training Program.
2008-2014	Assistant Professor, Department of Pediatrics, Section of Birth Defects Research, College of Medicine, UAMS, Little Rock, AR.
2008-2020	Secondary Appointment Department of Microbiology and Immunology, College of Medicine, UAMS, Little Rock, AR.
2006-2008	Research Assistant Professor, Department of Department of Pediatrics, Section of Birth Defects Research, College of Medicine, UAMS, Little Rock, AR. Section Chief, Charlotte A. Hobbs.
2003-2006	Postdoctoral Trainee in Immunotoxicology, Arkansas Children's Research Institute (ACRI), Little Rock, AR. Co-advisors, Kathleen M. Gilbert, Ph.D. and Neil R. Pumford, Ph.D.
1999-2003	Teaching Instructor, Department of Biology, University of Arkansas at Little Rock (UALR), Little Rock, AR.
1994-1998	Graduate Research Assistant (Graduate Student), Department of Microbiology and Immunology, UAMS, College of Medicine, Little Rock, AR.
1992-1994	Laboratory Research Assistant, Department of Surgical Oncology, UAMS, College of Medicine, Little Rock, AR. Supervisor: V. Suzanne Klimberg, MD. *Immunoregulation of tumor growth in a rat model of breast cancer.*

PROFESSIONAL DEVELOPMENT

Continuing Education

2017 *"Epigenetics":* Developmental Neurotoxicology Society Annual meeting. Denver, CO, June 5th.

2010 *"Gene-Environment Interactions Influence of Cytokine Biology in Immunotoxicology and Disease: Genomic, Genetic, and Epigenetic Perspectives."* 49th Annual meeting Society ofToxicology, March, 2010.

FACULTY CITIZENSHIP AND COMMITTEES

UNM

2021-present Faculty Search Committee

UAMS

2012-2020 Medical student applicant interviews
2005 Postdoctoral mentoring committee
2003-2020 Women's Faculty Development Caucus

ACRI

2011-2021 Director, Flow Cytometry Core Lab
2012-2015 Department of Pediatrics Chairman's Cabinet Research Committee.

National/International Recognition

2022 NIH/NIEHS Standing Study Section member: January 2022-2026

Reviewer: US Department of Health and Human Services National Toxicology Program: Draft NTP Technical Report on the Toxicity Studies of Select Ionic Liquids (1-Ethyl-3-Methylimidazolium Chloride, 1-Butyl-3-Methylimidazolium Chloride, 1-Butyl-1-Methylpyrrolidinium Chloride, and N-Butylpyridinium Chloride).

Invited Participant: Center for Alternatives to Animal Testing. John Hopkins University. Alternatives to in vivo DIT Workshop 1. Virtual meeting. May 4, 5.

2020 **Invited Participant**: National Academies of Sciences Standing Committee on the Use of Emerging Science for Environmental Health Decisions. Translatable and Accessible Biomarkers of Effect: From Model Systems to Humans. Panelist: Data Reliability and Transparency in Decision-Making Processes. Virtual meeting. August 12,13.

Legal Consultant: Strong-Garner-Bauer, P.C. Springfield, MO. Legal case involving trichloroethylene contamination in Camdenton, Missouri. (2019-present)

2018 **Invited participant:** Sustainability Consequences of Chemical Exposures: Connecting Environment, Health and Economic assessments. European Environmental Agency. Copenhagen, Denmark. June 15.

2017-present **Scientific Technical Advisor**. Agency for Toxic Substances and Disease Registry (ATSDR): Camp LeJeune Community Assistance Panel.

2014 **Reviewer:** US Department of Health and Human Services National Toxicology Program: Draft Report on Carcinogens Monograph of Trichloroethylene.

Legal Consultant: Burton and Simkin, Richmond, IN. Legal case involving trichloroethylene contamination at a Military Base in Camp LeJeune, North Carolina.

PROFESSIONAL MEMBERSHIP AND ACTIVITIES

1997-present	American Association of Immunologists
2005-present	Society of Toxicology
2008-present	South-Central Branch of the Society of Toxicology

Scientific Session Chair/Co-Chair

2020 Co-Chair: Symposium: Immune Cell Polarization in Toxicology and Therapeutic Approaches. *Society of Toxicology,* Anaheim, CA; March 17 (*Cancelled due to Covid-19 Pandemic*).

2019 Chair: Continuing Education course: Microbiome and Environmental Toxicants: From Study Design and Analysis to Regulatory Guidance. *Society of Toxicology*, Baltimore, MD; March 10.

Co-Chair: Poster session: Epigenetics. *Society of Toxicology,* Baltimore, MD, March 13.

2018 Co-Chair: Continuing Education Course: Immunotoxicology, An Introduction to the Basics of Immunotoxicity Testing, *Society of Toxicology* San Antonio, TX; March 11.

Co-Chair: Platform Session. Autoimmunity/Hypersensitivity and Inflammation. *Society of Toxicology*, March 14.

2016 Co-Chair, Poster Session: Neurotoxicology-Halogenated Hydrocarbons, *Society of Toxicology*, San Antonio, TX; March 17th.

2014 Co-Chair, Poster Session: Developmental Neurotoxicity I: Mechanisms, Metals, and Industrial Chemicals *Society of Toxicology*. Phoenix, AZ; March 25.

Continuing Education course lectures (Co-Chair and presenter)

2019 The Microbiome in Immunotoxicology: State of the Science. Society of ToxicologyAnnual Meeting, Baltimore, MD; March 10.

2018 Interpretation of Data from Experimental Animal Studies and Predictive Value for Human Health Risk Assessment. Society of Toxicology Annual Meeting, San Antonio, TX, March 11.

Society Committee Service

Society of Toxicology

Immunotoxicology Specialty Section

2017-2018 Program Committee
2017 Networking/mentoring event for student and postdoctoral trainees
2015 Awards Committee
2008 Program Committee
2006 Education Committee

The Toxicology Forum

2019 Program Planning Committee: The Toxicology Forum 45th Annual Summer Meeting, Alexandria, VA; July 8-10.

EDITORIAL WORK

Editorial Boards

2020-present Editorial Board, Immunotoxicology (specialty section of *Frontiers in Toxicology*).

2019-present Editorial Board*, Toxicology and Applied Pharmacology.*

Editor-Book Series

2016-present Co-editor (with Jamie C. DeWitt, Ph.D.), *Molecular and Integrative Toxicology.*

Editor-Journals-themed issues

2019 Co-editor *Frontiers in Pharmacology*: Xenobiotic Exposure and Predictive Toxicology: Role of Intestinal Microbiome and Gut-Associated Immune Responses.

Co-Editor *Environmental Science: Processes & Impacts:* Halogenated (semi) volatile organic compounds.

EDUCATIONAL AND MENTORING ACTIVITIES

Didactic Teaching:

UNM

2021-present Course: Integrated Pharmacology I (PHRM 820 IP1), fall semester
Course: Integrated Pharmacology II (PHRM 825 IP2), fall semester (served as IOR)
Course: PHRM 305/805, fall semester

UAMS

2017-2020 Course: Systems Therapeutics
Department: Pharmacology and Toxicology
Lecture Topic(s): Early life exposure to environmental toxicants.
Spring Semester

2013-2020 Course: Scientific Communications and Ethics III
Department: Pharmacology and Toxicology
Lecture Topic(s): Grant Components 1 & 2, Grant Writing (Group leader)
Fall and Spring Semester

2009-2018 Course: Graduate Immunology
Department: Microbiology and Immunology
Lecture Topic (s): Innate Immunity I, Antigen Processing, Regulation of the Immune Response
Spring Semester

2009-2017 Course: Molecular Mechanisms of Immunology/Advanced Immunology
Department: Microbiology and Immunology
Lecture Topic(s): Immunotoxicology
Spring Semester

University of Arkansas at Little Rock, Little Rock, AR

2002 Course: Cellular and Molecular Biology
Department: Biology
Lecture Topic(s): Various topics in cell biology, lecture and lab.
Fall Semester

1999-2002 Course: General Microbiology
Department: Biology
Lecture Topic(s): Basic principles of microbiology and immunology, lecture and Lab
Fall and spring Semester

1999 Course: Anatomy and Physiology
Department: Biology:

Lecture Topics: Basic principles of anatomy and physiology, lecture and lab.
Fall semester

Mentoring

Undergraduate Students (7)

2018 Kristen Jones (Stringfellow), University of Central Arkansas. Project title: Reprogramming Obesogen-induced effects by dietary intervention. **Poster presentation**: Arkansas Bioscience Institute Fall Research Symposium, Jonesboro, AR. September 25, 2019.

2018 Rachel Greer, Harding University. Project title: "**M**aternal **I**nflammation and fetal **N**eurodevelopment in **D**iabetic Pregnanc**y** (MINDy).

2017 Kaitlyn Walden, University of Central Arkansas. Project title: "**M**aternal **I**nflammation and fetal **N**eurodevelopment in **D**iabetic Pregnanc**y** (MINDy).

2015 Lisa Headley, Hendrix College. Project title: "**In**flammation, **Di**abetes, and **G**estational **O**utcome (InDiGO).

2012 Jon Berry, Baylor University. Project title: "Developing a novel isolation and cell culture method to propagate microglia from mouse brain."

2010 Weihan Chen, Vanderbilt University. Project title: "Maternal smoking and neuroimmune modulation."

2009 Sky Vanderburg, Harding University. Project title: "Low-level acute trichloroethylene exposure modulates $CD4^+$ T cell function in the NZB/NZW mouse model of autoimmunity."

Graduate Students (student rotations; 9)

2019 Lance Benson, Ph.D. Student, UAMS Department of Pharmacology and Toxicology, student rotation, Project title: "Effects of trichloroethylene on regulation of polycomb group proteins in differentiating CD4 cells."

2016 Laura Ewing, Ph.D. Student, UAMS Department of Pharmacology and Toxicology, student rotation, Project title: "Detecting serum anti-brain antibodies in mice co-exposed to high fat diet and trichloroethylene developmentally."

Jakeira Davis, Ph.D. Student, UAMS Interdisciplinary Biomedical Sciences Graduate Program, student rotation, Project title: "Oxidative stress related metabolites in offspring developmentally exposed to TCE and/or high fat diet."

Andrea Melgar Castillo, Ph.D. Student, UAMS Interdisciplinary Biomedical sciences Graduate Program, student rotation, Project title: "Determining neural inflammatory mediators in male mice with co-exposure to TCE and/or high fat diet."

2014 Anthonya Cooper, Ph.D. Student, UAMS Interdisciplinary Biomedical Sciences Graduate Program, student rotation, Project title: "Developing a novel assay to detect intracellular cytokines secreted from liver lymphocytes."

2013 Ashley Rich, Ph.D. Student, UAMS Interdisciplinary Biomedical Sciences Graduate Program, student rotation, Project title: "Developmental programming of TCE-induced autoimmune disease."

2011 Daniel M. Webber, M.D., Ph.D. Student, UAMS College of Medicine, summer rotation. Project title: "Using EthoVision tracking software to evaluate mouse behavior."

Cemeka Agugbuem, Ph.D. Student, UAMS Interdisciplinary Biomedical Sciences Graduate Program, student rotation, Project title: "Neuroimmune Dysregulation with developmental exposure to trichloroethylene."

2010 Shannon Rose, Ph.D. Student, UAMS Interdisciplinary Biomedical Sciences Graduate Program, student rotation. Project title: "Developing a flow cytometric assay to detect cytokine changes in immune cells isolated from children with Autism."

Medical Students-Medical Student Honors Research Program (5)

2019 Kaitlin Walden (co-mentor): Project title: "**M**aternal **I**nflammation and fetal **N**eurodevelopment in **D**iabetic Pregnanc**y** (MINDy).

2018 John Patterson: Project title: "Whole genome DNA Methylation analysis of effector/memory CD4s in autoimmune prone mice exposed to environmental toxicant trichloroethylene."

Platform presentation: 47th Annual Autumn Immunology Conference. Chicago, IL, November 16-19, 2018.

Publication: Byrum SD, Washam CL, **Patterson JD**, Vyas KK, Gilbert KM, Blossom SJ. Continuous Developmental and Early Life Trichloroethylene Exposure Promoted DNA Methylation Alterations in Polycomb Protein Binding Sites in Effector/Memory $CD4_+$ T Cells. *Front. Immunol***. 2019** Aug 28; 10: 2016.

2013 William Woodruff: Project title: "Immunotoxicity of trichloroethylene during critical developmental windows of exposure."

Publication: Gilbert KM, **Woodruff W**, Blossom SJ. Differential immunotoxicity induced by two different windows of developmental trichloroethylene exposure. *Autoimmune Dis*. 2014. e 2014:982073.

2012 Nadine Gates: Project title: "Delineating Liver immunological events in trichloroethylene toxicity."

2011 Julie Abbott: Project Title: "Trichloroethylene metabolite toxicity in human Jurkat cells."

Junior Faculty-Department of Pediatrics (6)

2018-present Shannon Rose, Ph.D. Project Title: Immunometabolism in obesity. **Primary Senior Mentor**-Center for Childhood Obesity Prevention (NIH/NIGMS) Center for Biomedical Research Excellence Award. Webber PI.

2019-2020 Marie Burdine, Ph.D., Project Title: Novel DNA-PKCs inhibitors as immunosuppressive therapy for organ transplant. **Primary Senior Mentor**-Center for Translational Pediatric Research (CTPR) NIH Center of Biomedical Research Excellence Award (P20 GM121293) Tackett PI.

2018-2020 **Mentoring Committee**, Keshari M Thakali, Ph.D. Assistant Professor of Pediatrics, Section of Developmental Nutrition, UAMS/ACNC.

2017-2020 **Mentoring committee**, Shannon Rose, Ph.D. Assistant Professor of Pediatrics Section of Clinical Pharmacology and Toxicology, UAMS/ACRI.

2014-2020 **Chair of mentoring committee**, Kelly Mercer, Ph.D. Assistant Professor of Pediatrics; Section of Developmental Nutrition, UAMS/ACNC

2015-2020 **Chair of mentoring committee**, Brian Piccolo, Ph.D., Assistant Professor of Pediatrics; Section of Developmental Nutrition, UAMS/ACNC.

2014-2015 **Chair of mentoring committee**, Maria Elena Diaz-Rubio, Ph.D., Assistant Professor of Pediatrics; Section of Developmental Nutrition, UAMS/ACNC.

Physicians-UAMS College of Medicine

Primary Thesis Advisor for Research Fellowship (3)

2017-2020 Julie Whittington, MD, Department of Obstetrics and Gynecology, UAMS. (MINDy Study).

2016-2017 Kelly Cummings, MD, Maternal-Fetal Medicine Fellow, Department of Obstetrics and Gynecology, UAMS. (InDiGO Study*).* Project: Longitudinal assessment of maternal C-reactive protein, placental pathology, and neonatal outcome in diabetic pregnancy.

2015- 2016 Nader Rabie, MD, FACOG, Maternal-Fetal Medicine Fellow, Department of Obstetrics and Gynecology, UAMS. (InDiGO Study)

Research Technician/Assistant Training (16)

2003-2006	Annick DeLoose, M.S.	
2003-2006	Susan Panozzo, B.S.	
2006-2008	Michelle Phillips, B.S.	Doctor of Medicine
2008-2011	Ashley Nelson, B.S.	Co-authored one publication
2008-2010	Trey Fleet, B.S.	Juris Doctor
2009-2011	Chase Lambert, B.S.	Ph.D. in Neuroscience
2010-2013	Meagan Kreps, B.S.	Occupational Therapy, co-authored one publication
2010-2011	Cemeka Agugbuem, B.S.	Ph.D. in Microbiology
2011-2013	Jenny Rau, M.S.	Co-authored 2 publications
2011-2013	Brannon Broadfoot, B.S.	Doctor of Medicine; co-authored 2 publications
2011-2015	Rachel Lee, B.S.	Master's Degree Occupational Therapy
2013-2014	Kirk West, B.S.	Ph.D. in Biochemistry; co-authored 2 publications
2013-2015	Grant Chandler, B.S.	
2013-2015	Dusty Barnette, B.S.	Enrolled in Graduate School (Ph.D. program); co-authored 1 publication
2015-2017	Mary Maher, B.S.	
2015-2020	Kanan Vyas, M.S.	Co-authored 2 publications

HONORS AND AWARDS

Outstanding Poster Award. Autoimmunity 2017 Conference, New York City, New York. April 29, 2017.

Postdoctoral Fellow Travel Award: 12th International Congress of Immunology Bi-Annual meeting. Montreal, Canada. July 10, 2004.

Marion B. Lyon Outstanding Young Scientist Award. ACRI. 2004.

Postdoctoral Fellow Travel Award: National Institute of Environmental Health Sciences Conference: Environmental Factors in Autoimmune Disease. Durham, NC. February 4, 2003.

Graduate Student Speaker and Travel Award: National Lupus Foundation National Symposium: Novel Perspectives of Systemic Lupus Erythematosus. Bethesda, MD. October, 1997.

Outstanding Student Poster Award, UAMS Research Day. 1995

EXTRAMURAL RESEARCH FUNDING

Active Research Support

Title: Epigenetic Modulation of CD4 T cell Differentiation and Autoimmunity by Trichloroethylene
Funding Agency: NIEHS 1R01ES030323-0
PI: Sarah J. Blossom, Ph.D.
Dates: 03/01/2020-12/31/2024
Total Direct Costs: $1,273,725
Role: PI
Effort: 3.0 Calendar Months (CM)

Title: Center for Translational Pediatric Research (CTPR)

Title: Center for Childhood Obesity Prevention
Funding Agency: NIGMS-P20GM109096
PI: Judy Webber, Ph.D.
Dates: 08/01/2016-07/31/2021
Total Direct Costs: $1,869,064/year
Role: Senior Mentor (Shannon Rose, Ph.D.) and Co-I
Effort: 0.72 CM

Past Research Support

Title: Center for Birth Defects Research and Prevention-Birth Defects Studies to Evaluate Pregnancy Exposures (BD-STEPS)
Funding Agency: CDCDD001039-01
PI: Wendy Nembhard, Ph.D.
Dates: 09/01/2018-08/31/2023
Total Direct Costs: $2,624,407
Role: Co-I

Title: $CD4^+$ T Cell-Mediated Neurotoxicity with Continuous Developmental Exposure Funding Agency: NIEHS-K02ES024387; NIH Independent Scientist Award
PI: Sarah J. Blossom, Ph.D.
Dates: 09/01/2014-08/31/2019 (NCE)
Total Direct Costs: $816,477
Role: PI
Effort: 9.0 CM

Title: Arkansas Center for Birth Defects Research and Prevention
Funding Agency: CDCDD001039-01
PI: Charlotte Hobbs, M.D., PH.D.
Dates: 09/01/2013-08/31/2018
Total Direct Costs: $3,492,330
Role: Co-I

Title: Developmental programing of TCE-induced autoimmune disease
Funding Agency: NIEHS-5R01ES021484
Dates: 11/01/2012-10/31/2017
PI: Sarah J. Blossom, Ph.D.
Total Direct Costs: $1,312,764
Role: MPI
Effort: 3.0 CM

Title: Neuroimmune Dysregulation with Developmental Exposure to Trichloroethylene
Funding Agency: NIEHS-R215ES017311
Dates: 09/01/2010-08/30/2013
Total Direct Costs: $275,000
Role: PI
Effort: 6.0 CM

Title: Determining How Trichloroethylene Alters CD4 T cell function
Funding Agency: NIEHS-R01ES017286-01
Dates: 01/07/2010-12/31/2014
PI: Kathleen M. Gilbert, Ph.D.
Total Direct Costs: $998,462
Role: Co-I
Effort: 6.0 CM

INTRAMURAL RESEARCH FUNDING

UAMS/ACRI

Past Research Support

Title: Reprogramming Obesogen-Induced Immune Effects by Dietary Intervention
Funding Agency: ACRI and Arkansas Biosciences Institute (ABI)
Dates: 01/01/2018-06/01/2020
PI: Sarah J. Blossom, Ph.D.
Total Direct Costs: $75,000
Role: PI
Effort: 2.4 CM

Title: Trichloroethylene Modulates Polycomb Binding Proteins during T Helper Cell Differentiation
Funding Agency: ACRI President's Quick Strike Fund
Dates: 09/01/2019-02/28/2020
PI: Sarah J. Blossom, Ph.D.
Total Direct Costs: $53,169
Role: PI
Effort: 2.4 CM

Title: Maternal Inflammatory Biomarkers and Fetal Neurodevelopment during Diabetic Pregnancy (MINDy)
Funding Agency: Sturgis Trust Diabetes Research Fund Award
Dates: 03/01/2018-06/30/2019
PI: Sarah J. Blossom, Ph.D.
Total Direct Costs: $38,593
Role: PI
Effort: 0 CM

Title: Inflammation, Diabetes, and Gestational Outcome (Indigo)
Funding Agency: Sturgis Trust Diabetes Research Fund Award
Dates: 02/01/2015-01/31/2007
PI: Sarah J. Blossom, Ph.D.
Total Direct Costs: $50,000
Role: PI
Effort: 0 CM

Title: Establishing a Link between Maternal Immune Dysfunction and Congenital Heart Defects
Funding Agency: ACRI/ABI
Dates: 12/01/2007-11/30/2011
PI: Sarah J. Blossom, Ph.D.
Total Direct Costs: $40,000
Role: PI
Effort: 0.6

Title: Maternal Smoking and Immune modulation
Funding Agency: ACRI/ABI-multi-institute ABI grant program
Dates: 06/01/2009-05/31/2011
PI: Sarah J. Blossom, Ph.D.
Total Direct Costs: $40,000
Role: MPI (with Arkansas State University)
Effort: 0.6

Title: Congenital Heart Defects and Genome-Wide Methylation

Funding Agency: ACRI/ABI
Dates: 12/01/2008-11/30/2010
PI: Charlotte A. Hobbs, M.D., Ph.D.
Total Direct Costs: $125,000
Role: MPI (with Arkansas State University)
Effort: 0.6

Title: Developmental Programming of Environmental Toxicant-induced Autoimmune Disease
Funding Agency: ACRI/ABI-Faculty Start-up Funds
Dates: 07/01/2006-06/30/2008
PI: Sarah J. Blossom, Ph.D.
Total Direct Costs: $205,000
Role: PI
Effort: 5.0

Title: Investigating Mechanisms of Toxicant-Induced Autoimmune Disease
Funding Agency: Marion B. Lyon Revocable Trust-New Scientist Development Award
Dates: 03/01/2004-03/28/2006
PI: Sarah J. Blossom, Ph.D.
Total Direct Costs: $50,000
Role: PI
Effort: 5.0

PUBLICATIONS

Peer Reviewed Original Research Articles (38)

Blossom SJ, Gokulan K, Arnold M, Khare S. Sex-dependent effects on liver inflammation and gut microbial dysbiosis after continuous developmental exposure to trichloroethylene in autoimmune prone mice. *Front Pharmacol*. 2020 Oct; 11: 569008. PMID: 33250767.

Avci R, Whittington JR, **Blossom SJ**, Escalona-Varga D, Siegel ER, Preissl, HT, Eswaran H. Studying the Effect of Maternal Pregestational Diabetes on Fetal Neurodevelopment Using Magnetoencephalography. *Clinical EEG Neurosci.* **2020** Sep; 51(5):331-338. PMID: 32157908

Blossom SJ, Melnyk SB, Simmen FA. Complex Epigenetic Patterns in Cerebellum Generated After Developmental Exposure to Trichloroethylene and/or High Fat Diet in Autoimmune-Prone Mice. *Environ Sci Process Impacts*. **2020**. 22: 583. *Selected by the Editor as one of the top 10% of papers published in ESPI based on exceptionally positive referee reports during peer review.* PMID: 31894794.

Byrum SD, Washam CL, Patterson JD, Vyas KK, Gilbert KM, **Blossom SJ.** Continuous Developmental and Early Life Trichloroethylene Exposure Promoted DNA Methylation

Alterations in Polycomb Protein Binding Sites in Effector/Memory CD4+ T Cells. *Front Immunol*. **2019**. Aug 28; 10:2016. PMID: 31326514.

Kim DH, **Blossom SJ**, Delgado PL, Carbajal JM, Caceda R. Examination of Pain Threshold and Neuropeptides in Patients with Acute Suicide Risk. *Prog Neuropsychopharmacol Biol Psychiatry.* **2019.** Dec 20; 95: 109705. PMID: 31326514

Khare S, Gokulan K, Williams K, Bai S, Gilbert KM, **Blossom SJ.** Irreversible effects of trichloroethylene on the gut microbial community and gut-associated immune responses in autoimmune-prone mice. *J Appl Toxicol.* **2019** Feb; 39(2):209-220. PMID: 30187502.

Blossom SJ, Fernandes L, Bai S, Khare S, Gokulan K, Yuan Y, Dewall M, Simmen FA, Gilbert KM. Opposing Actions of Developmental Trichloroethylene and High-Fat Diet Coexposure on Markers of Lipogenesis and Inflammation in Autoimmune-Prone Mice. *Toxicol Sci.* **2018** Jul; 164 (1): 313-327 PMID: 29669109.

Meadows JR, Parker C, Gilbert KM, **Blossom, SJ**, DeWitt JC. A single dose of trichloroethylene given during development does not substantially alter markers of neuroinflammation in brains of adult mice. *Journal of Immunotoxicology.* **2017** Dec; 14(1):95-102. PMID: 28366041

Kim J, Swartz MD, Langlois PH, Romitti PA, Weyer P, Mitchell LE, Luben TJ, Ramakrishnan A, Malik S, Lupo PJ, Feldkamp ML, Meyer RE, Winston JR, Reefhuis J, **Blossom SJ**, Bell E, Agopian AJ, and the National Birth Defects Prevention Study. Estimated Maternal Pesticide Exposure from Drinking Water and Heart Defects in Offspring. *International Journal of Environmental Research and Public Health*. **2017** Aug 8; 14(8). PMID: 28786932

Gilbert KM, **Blossom SJ**, Reisfeld B, Erickson SW, Vyas K, Maher M, Broadfoot B, West, K, Bai S, Cooney CA, S Bhattacharyya. Trichloroethylene-induced alterations in DNA methylation were enriched in polycomb protein binding sites in effector/memory CD4+T cells. *Environmental Epigenetics*. **2017** Jul; 3 (3). PMID: 29129997

Frye RE, Rose S, Wynne R, Bennuri SC, **Blossom SJ**, Gilbert KM, Heilbrun L, Palmer RF. Oxidative Stress Challenge Uncovers Trichloroacetaldehyde Hydrate-Induced Mitoplasticity in Autistic and Control Lymphoblastoid Cell Lines. *Scientific Reports.* **2017** Jun 30; 7(1):4478. PMID: 28667285

Gilbert KM, Bai S, Barnette D, **Blossom SJ**. Exposure Cessation During Adulthood Did Not Prevent Immunotoxicity Caused by Developmental Exposure to Low-Level Trichloroethylene in Drinking Water. *Toxicological Sciences.* **2017** Jun 1; 157(2):429-437. PMID: 28369519

Blossom SJ, Melnyk SB, Li M, Wessinger WD, Cooney CA. Inflammatory and oxidative stress-related effects associated with neurotoxicity are maintained after exclusively prenatal trichloroethylene exposure. *Neurotoxicology*. **2017** Mar; 59:164-174. PMID: 26812193

Howley MM, Browne ML, Van Zutphen, AR, Richardson SD, **Blossom, SJ**, Broussard, CS, Carmichael SL, Druschel CM; National Birth Defects Prevention Study. Maternal autoimmune disease and birth defects in the National Birth Defects Prevention Study. *Birth Defects Research A: Clinical and Molecular Teratology*. **2016** Nov; 106(11):950-962. PMID: 27891777

Gilbert KM, **Blossom SJ**, Erickson SW, Broadfoot B, West K, Bai S, Li J, Cooney CA. Chronic exposure to trichloroethylene increases DNA methylation of the Ifng promoter in $CD4^+$ T cells. *Toxicology Letters*. **2016** Oct 17; 260:1-7. PMID: 27553676

Gilbert KM, **Blossom SJ**, Erickson SW, Reisfeld B, Zurlinden TJ, Broadfoot B, West K, Bai S, Cooney CA. Chronic exposure to water pollutant trichloroethylene increased epigenetic drift in CD4 (+) T cells. *Epigenomics*. **2016** May; 8(5):633-49. PMID: 27092578

Gilbert KM, Reisfeld B, Zurlinden T, Kreps MN, Erickson SW. **Blossom, SJ.** Modeling toxicodynamic effects of trichloroethylene on liver in mouse model of autoimmune hepatitis. *Toxicology and Applied Pharmacology.* **2014** Sep 15; 279(3):284-93. PMID: 25026505

Gilbert KM, Woodruff W, **Blossom SJ**. Differential immunotoxicity induced by two different windows of developmental trichloroethylene exposure. *Autoimmune Dis*ease. **2014**; e:982073. PMID: 24696780.

Blossom SJ, Cooney, CA, Melnyk, SB, Rau, JL, Swearingen, CJ, Wessinger, WD. Metabolic changes and DNA hypomethylation in cerebellum are associated with behavioral alterations in mice exposed to trichloroethylene postnatally. *Toxicology and Applied Pharmacology*. **2013** Jun 15; 269(3):263-9. PMID: 23566951.

Blossom SJ, Rau, JL, Best, TH, Bornemeier, RA, Hobbs, CA. Increased maternal cytokine production and congenital heart defects. *Journal of Reproductive Immunology*. **2013** Apr; 97(2):204-10. PMID: 23428339.

Blossom SJ, Melnyk, S, Cooney CA, Gilbert KM, James SJ. Postnatal exposure to trichloroethylene alters glutathione redox homeostasis, methylation potential, and neurotrophin expression in the mouse hippocampus. *Neurotoxicology.* **2012** Dec; 33(6):1518-27. PMID: 22421312.

Gilbert KM, Nelson AR, Cooney CA, Reisfeld B, **Blossom SJ.** Epigenetic alterations may regulate temporary reversal of CD4 (+) T cell activation caused by trichloroethylene exposure. *Toxicological Sciences*. **2012** May; 127(1):169-78. PMID: 22407948.

Gilbert KM, Rowley B, Gomez-Acevedo H, **Blossom SJ.** Coexposure to mercury increases immunotoxicity of trichloroethylene. *Toxicological Sciences*. **2011** Feb; 119(2):281-92. PMID: 21084432.

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Review Articles, Editorials, and Commentary (5)

Tratnyek PG, Edwards E, Carpenter L, **Blossom SJ.** Environmental occurrence, fate, effects, and remediation of halogenated (semi) volatile organic compounds. *Environmental Science: Processes & Impacts*. **2020**, Mar; 22(3): 465-471. *Editorial.* PMID: 32182319

DeWitt JC, **Blossom SJ,** Schaider LA. Exposure to per-fluoroalkyl and polyfluoroalkyl substances leads to immunotoxicity: epidemiological and toxicological evidence. *Journal of Exposure Science and Environmental Epidemiology*. **2019** Mar; 29(2):148-156. *Review.* PMID: 30482935.

Blossom SJ, Gilbert KM. Epigenetic underpinnings of developmental immunotoxicity and autoimmune disease. *Current Opinion in Toxicology*. **2018** Aug; 10:23-30. *Review.* PMID: 30613805.

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Journal Articles under review (1)

Mercado, L, Escalona-Vargas, D, **Blossom, S**, Siegel, E; Whittington, J; Preissl, H; Walden, K, Eswaran, H. The effect of maternal pre-gestational diabetes on fetal autonomic nervous system: a comparative observational study. Submitted to British Journal of Obstetrics and Gynecology. 05/09/2021

Book Chapters (2)

Blossom SJ. Neuroimmune effects of developmental versus adult exposure. In Trichloroethylene: Toxicity and Health Risks, Molecular and Integrative Toxicology Series, Kathleen M. Gilbert and **Sarah J. Blossom** Editors. Springer New York. March 31, 2014; ISBN-10: 1447163109. Edition: 2014.

De Miranda, B and **Blossom SJ**. The Environmental Pollutant Trichloroethylene Disrupts Key Neural Pathways During Brain Development. In Diagnosis and Management and Modelling of Neurodevelopmental Disorders: Martin, Preedy, & Rajendram, Eds. Elsevier, Inc. 2021

Blossom SJ. Environmental Epigenetics and Autoimmune Disease. In Medical Epigenetics, Second Edition. Trygve Tollerfsbol, Editor. Elsevier, Inc. *In press.*

Edited Books (1)

Blossom SJ. Neuroimmune effects of developmental versus adult exposure. In Trichloroethylene: Toxicity and Health Risks, (Molecular and Integrative Toxicology) Kathleen M. Gilbert and **Sarah J. Blossom** Editors. Springer, London. 2014.

PUBLISHED ABSTRACTS AND PRESENTATIONS

Platform Presentations (15)

2020 Metabolite of environmental contaminant trichloroethylene modulates T helper cell subset polarization by differential DNA methylation of polycomb protein binding regions. Symposium: Immune Cell Polarization in Toxicology and Therapeutic Approaches. *Society of Toxicology*, Anaheim, CA; March 17. (*Cancelled due to Covid-19 Pandemic).*

2019 Developmental exposure to environmental toxicant trichloroethylene alters DNA methylation in polycomb protein binding regions in effector/memory CD4+ T cells from autoimmune-prone mice. *American Association of Immunologists*, San Diego, CA. May 10.

2017 Developmental co-exposure to trichloroethylene and obesogenic diet imparts both independent and additive effects on lipid biomarkers, inflammation, and the microbiome. *Society of Toxicology*, San Antonio, TX. March 10-14.

Maternal overnutrition and trichloroethylene co-exposure augments neurotoxicity in offspring in an autoimmune prone mouse model. *Developmental Neurotoxicology Society*, Denver, CO. June 25.

Sex-dependent differential responses in liver biomarkers of repair and regeneration in a mouse model of environmentally-induced autoimmune hepatitis. *Autoimmunity 2017 Conference*, New York City, New York. April 29.

2014 Developmental toxicant exposure and integration of neurotoxicology endpoints. *Arkansas Biosciences Institute* Fall Research Symposium, Arkansas State University, Jonesboro, AR. October 7.

2013 Postnatal trichloroethylene exposure is associated with abnormal behavior and alterations in global DNA methylation patterns in mouse cerebellum. *Society of Toxicology*, San Antonio, TX. March 11.

2012 Postnatal trichloroethylene exposure induces behavioral changes and altered transsulfuration and transmethylation pathway metabolites in mouse cerebellum. *South Central Chapter of the Society of Toxicology*, Little Rock, AR. November 2.

2011 Differential expression of neuroimmune mediators following postnatal exposure to trichloroethylene. *International Neurotoxicology Conference*, Research Triangle Park, NC. October 30-November 2.

2008 Developmental and early life exposure to trichloroethylene promotes an autistic phenotype in MRL+/+ mice. Potential role of oxidative stress in neuroimmune dysfunction. *Society of Toxicology*, Seattle, WA. March 16.

Developmental trichloroethylene exposure promotes redox imbalance and neuroimmune alterations in autoimmune-prone mice. *International Neurotoxicology Conference*, Rochester, NY. October 14.

1998 B cells from autoimmune BXSB mice express CD40L. *American Association of Immunologists*, San Francisco, CA. April 18.

1997 CD40 ligand-expressing B cells from BXSB mice promote antibody production *in vitro*. *National Lupus Foundation National Symposium*: *Novel Perspectives of Systemic Lupus Erythematosus.* Bethesda, MD. October 14.

1996 Increased expression of costimulatory molecules on antigen presenting cells in the BXSB mouse model of systemic lupus erythematosus. *American Association of Immunologists*, New Orleans, LA. April 15.

1995 Irregular expression of costimulatory molecules on antigen presenting cells in the BXSB mouse model of systemic lupus erythematosus. *American Society of Microbiology South Central Branch*, Little Rock, AR. November 10.

Poster Presentations (First or Senior Author Only; 30)

2020 Stringfellow KJ, Vyas KK, **Blossom SJ**. Sex differences in trichloroethylene-induced CD4 T cell subset differentiation in non-autoimmune-prone mice after developmental exposure. *Society of Toxicology*, Anaheim, CA. March 17. (*Cancelled due to COVID-19 Pandemic)*

2019 Stringfellow KJ, Vyas KK, **Blossom SJ.** Sex differences in environmental toxicant- induced CD4 T cell subset differentiation in vitro. *Arkansas Bioscience Institute* Fall Research Symposium, Jonesboro, AR. September 25.

Byrum SD, Washam CL, Patterson JD, Vyas KK, Gilbert KM, **Blossom SJ.** Whole Genome Assessment Reveals Alterations in DNA Methylation of Polycomb Repressive Complex 2 Components in Effector/Memory CD4+ T Cells after Continuous and Discontinuous Developmental Exposure to Trichloroethylene. *Society of Toxicology*, Baltimore, MD. March 13.

2018 Patterson JC, Vyas KK, **Blossom SJ**. Environmental toxicant linked with autoimmune disease alters $CD4^+$ T cell subset differentiation *in vitro*. 47th *Autumn Immunology Conference*. Chicago, IL, November 16-19.

Blossom SJ, Bai, S, Gilbert KM, Gokulan K, Williams K, Khare S. Irreversible effects of trichloroethylene on microbial community and gut associated immune responses. *Prenatal Programming and Toxicity (PPTOX)*, Torshavn, Faroe Islands, May 28.

2017 **Blossom SJ,** Davis JE, Pavliv O, Fernandes L, Melnyk, SB, Simmen FA, Gilbert KM. Maternal overnutrition augments brain glutathione redox imbalance, inflammation, and epigenetic alterations in offspring exposed to trichloroethylene. *Society of Toxicology*, Baltimore, MD. March 15.

2016 **Blossom SJ.** Melnyk SB, Li Ming, Wessinger WD, Cooney CA. Sustained metabolic phenotype and associated neuroimmune effects after prenatal trichloroethylene exposure. *Society of Toxicology*, New Orleans, LA. March 13.

Blossom SJ. Davis JE, Pavliv O, Fernandes L, Melnyk SB, Simmen FA, Gilbert KM. Maternal overnutrition and TCE co-exposure promotes offspring redox imbalance and

alters protective factors in the brain. *Arkansas Bioscience Institute* Fall Research Symposium, Little Rock, AR. September 13.

2015 **Blossom SJ.** Developmental programming of brain and behavior by trichloroethylene exposure. *Gordon Research Conference on Cellular and Molecular Mechanisms of Toxicity*, Andover, NH. August 9.

Blossom SJ, Li M, Chandler, GR, Melnyk, SB, Wessinger, WD**.** Gestation-only trichloroethylene exposure induced differential brain region-specific neurotoxicity in male offspring. *International Neurotoxicology Association*, Montreal, Quebec, Canada. June 28.

2014 **Blossom SJ,** Chandler, GR, Li, M, Melnyk, SB. Maternal trichloroethylene exposure enhances $CD4^+$ T cell production of proinflammatory cytokines associated with neural oxidative stress and behavioral alterations in male offspring. *EUROTOX Congress*, Edinburgh, Scotland, UK. September 8.

Blossom SJ, Ming, L, Melnyk, SB, Wessinger, WD. Gestation-only trichloroethylene exposure promotes neural oxidative stress and adverse behavior in association with peripheral immune activation in male offspring. *Society of Toxicology*, Phoenix, AZ. March 24.

2012 Gilbert KM**,** Nelson A, Cooney CA, **Blossom SJ**. Sub chronic trichloroethylene exposure alters epigenetic processes in $CD4^+$ T cells. *Society of Toxicology*, San Francisco, CA. March 13.

Blossom SJ, Melnyk S, Cooney CA, Gilbert, KM, James SJ. Postnatal trichloroethylene modulates redox status and oxidative stress in mouse hippocampus. *Society of Toxicology*, San Francisco, CA. March 14.

Blossom, SJ, Rau, JL, Melnyk, SB, Gilbert, KM, Swearingen, CJ, Cooney, CA, James, SJ, Wessinger, WD. Postnatal trichloroethylene exposure induces behavioral changes and altered transsulfuration and transmethylation pathway metabolites in mouse cerebellum. *Arkansas Biosciences Institute* Fall Research Symposium, Fayetteville, AR. October 23.

2011 **Blossom SJ**, Melnyk S, Gilbert KM, James SJ. Maternal and early life trichloroethylene exposure modulates gene expression of chemokines and neurotrophins in the brain. *Society of Toxicology*, Washington DC. March 10.

Blossom SJ, Melnyk S, Gilbert KM, James SJ. Altered redox status and oxidative stress in hippocampus of mice postnatally exposed to trichloroethylene. *Arkansas Biosciences Institute* Fall Research Symposium, Little Rock, AR. Sept. 21.

2010 Williamson PD, Medrano G, Buchanan RA, Dolan MC, **Blossom SJ**. Coordinated changes in nAChR subunit RNA expression in thymus and brain. *Society for Neuroscience*, San Diego, CA. November 15.

Blossom SJ, Gomez-Acevedo H, Nelson AN, Gilbert KG. Regulation of T cell programming by trichloroethylene. *Society of Toxicology*. Salt Lake City, UT. March 8.

Blossom SJ, Melnyk S, Gilbert KM, James SJ. Neuroimmune dysregulation with developmental exposure to trichloroethylene in a mouse model relevant to neurodevelopmental disorders. *Arkansas Biosciences Institute* Fall Research Symposium, Little Rock, AR. September 29.

2009 Gilbert KM, Przbyla B, Pumford NR, Han T, Fuscoe J, Schnackenberg LK, Holland RD, Doss JC, MacMillan-Crow L, **Blossom SJ.** Combining transcriptomics and metabolomics to delineate immunotoxicity of trichloroethylene. *National Science Foundation Advance Program Planning meeting,* Petit Jean, AR. March 14.

Blossom SJ, Gomez-Acevedo H, Nelson AN**,** Gilbert KG. Regulation of T cell Programming by Trichloroethylene. *International Conference of Prenatal Programming and Developmental Toxicity:* Role of Environmental Stressors in the Development of Origins of Disease. Miami, FL, December 9.

2008 **Blossom SJ**, Gomez-Acevedo H, Nelson AN, Gilbert KG. Regulation of T cell programming by trichloroethylene. *South Central Chapter of the Society of Toxicology.* National Center for Toxicological Research, Jefferson, AR. September 18.

2007 **Blossom SJ**, Doss JC. Developmental exposure to the environmental toxicant trichloroethylene alters central and peripheral immune function in autoimmune- prone MRL+/+ mice. *Society of Toxicology*, Charlotte, NC. March 25.

2004 **Blossom SJ,** Pumford NR, Gilbert KM. The environmental toxicant trichloroacetaldehyde promotes activation and inhibits apoptosis of mature T lymphocytes. *12th International Congress of Immunology*. Montreal, Canada. July 10.

2003 **Blossom SJ,** Pumford NR, Gilbert KM. Trichloroethylene-induced autoimmunity. *National Institute of Environmental Health Sciences Conference: Environmental Factors in Autoimmune Disease.* Durham, NC. February 4.

Blossom SJ, Pumford NR, Gilbert KM. The environmental toxicant trichloroacetaldehyde promotes activation and inhibits apoptosis of mature T lymphocytes. *Arkansas Bioscience Institute* Annual meeting. Little Rock, AR. October 7.

2000 **Blossom SJ.** B cells from Autoimmune BXSB Mice are hyporesponsive to signals provided by $CD4^+$ T cells. *American Association of Immunologists*. Seattle, WA. May 18.

1997 **Blossom SJ**. B cells from autoimmune-BXSB mice express CD40 ligand. *UAMS Student Research Day*. April.

1995 **Blossom SJ**. Irregular expression of costimulatory molecules on antigen presenting cells in the BXSB mouse model of systemic lupus erythematosus*. UAMS Student Research Day, UAMS*, Little Rock, AR. April.

PROFESSIONAL ACTIVITIES

Invited Speaker (21)

2020 Immunological Mechanisms of Autoimmunity by Environmental Factors. Department of Pharmaceutical Sciences, University of New Mexico, Albuquerque, New Mexico. March 26 (*virtual seminar*).

Immunological Mechanisms of Autoimmunity by Environmental Factors. Department of Experimental Therapeutics, Louisiana State University Health Science Center, New Orleans, Louisiana. January 30.

Immune System Effects of Toxic Water Contaminants. Toxic Exposure Working Group. Wounded Warrior Project-Veterans Advocacy Group, Alexandria Virginia. January 21.

2019 Poisoned Patriots: Linking Toxic Water Contaminants at US Marine Corps Base Camp LeJeune to Human Health Effects-Current Efforts and Future Directions. UAMS College of Public Health and Arkansas Department of Health Public Health Seminar. October 22**.** Immune studies update: Agency for Toxic Substances and Disease Registry-sponsored Camp LeJeune Community Assistance Panel Meeting, Center for Disease Control, Crystal City, Virginia. Sept 15.

Chemical hazards on military bases: communicating laboratory science to potentially exposed military personnel. Session: Communicating complex toxicological science to diverse audiences. 45th Annual Summer Meeting of the Toxicology Forum. Alexandria, Virginia, July 8.

Environmental Contributors to Autoimmune Disease: Mechanisms, Impacts, and Chemicals of Concern. Collaborative on Health and the Environment. May 2. https://www.healthandenvironment.org/webinars/96479

2018 Epigenetic modulation of CD4+ T cell differentiation by trichloroethylene: implications for autoimmune disease. University of Rochester Environmental Health Science Center Seminar Series, Rochester, New York. May 10.

2016 Trichloroethylene immunotoxicity in human and mouse models. Agency for Toxic Substances and Disease Registry (ASTDR)-sponsored Camp Lejeune Community Assistance Panel Meeting, Center for Disease Control, Atlanta Georgia. August 11.

Unraveling immunomodulatory effects of environmental pollutant trichloroethylene. Yale School of Public Health, New Haven, Connecticut. November 9.

Inflammatory and oxidative stress-related effects associated with neurotoxicity after developmental exposure to trichloroethylene. Department of Pharmacology and Toxicology Seminar Series, UAMS, Little Rock, AR. January 20.

2015 Long-lasting toxicity with prenatal trichloroethylene exposure. School of Pharmacology, University of Utah, Salt Lake City, UT. August 24.

Effects of low-dose exposure to the environmental pollutant trichloroethylene. School of Health Sciences, Purdue University, West Lafayette, IN. November 24.

2014 Neuroimmune effects of developmental trichloroethylene exposure. Department of Pharmacology and Toxicology, East Carolina University, Greenville, NC. February 5.

Developmental trichloroethylene exposure. Department of Neurobiology Seminar Series, UAMS, Little Rock, AR. March 11.

2013 Neurotoxicity with postnatal trichloroethylene exposure. ACRI Research Conference, Little Rock, AR. November 6.

2010 Maternal smoking and immune consequences. ABI Board Meeting, Little Rock, AR. April 26. Neuroimmune dysregulation with developmental exposure to trichloroethylene. Arkansas State University Seminar Series, Jonesboro, AR. March 31.

Neuroimmune dysregulation with developmental exposure to trichloroethylene in a mouse model relevant to autism. External Advisory Committee to promote an Autism Center of Research Excellence, Little Rock, AR. June 22.

2009 Neuroimmune consequences of early life trichloroethylene exposure. ACRI Research Day, Little Rock, AR. August 19.

Neuroimmune effects of developmental trichloroethylene exposure. Department of Microbiology and Immunology Seminar Series, UAMS, Little Rock, AR. October 22.

2006 Metabolite of trichloroethylene activates T cells and attenuates apoptosis. Department of Microbiology and Immunology Seminar Series, UAMS, Little Rock, AR. April 22.

2004 Regulation of $CD4^+$ T cell apoptosis by environmental toxicant, trichloroethylene. ACRI Research Conference, Little Rock, AR. April 6.

PEER REVIEW

National Institutes of Health Grant Review (*Ad hoc*; 21 reviews)

2020 National Institute of Environmental Health Sciences (NIEHS) Systemic Injury from Environmental Exposures (SIEE). June 30, July 1.

NIEHS. R43/R44 ZES1 LWJ-S (R4) 1. Applications on Implementing Genetic Diversity/Variants in High Throughput Toxicity Testing. June 18.

NIEHS ZES1 LAT-D (R1) A. Outstanding New Environmental Scientist Program (ONES). June 15, 2020.

National Institute on Minority Health and Health Disparities (NIMHD): Specialized Centers of Excellence on Environmental Health Disparities Research (P50). March 10-12.

NIEHS SIEE. February 20-21.

2019 NIEHS SIEE October 25-26.

NIEHS Topics in Toxicology and Pharmacology (teleconference) ZRG1 DKUS-T. July 25.
NIEHS ZES1 JAB-D (SF) 1 P42 Superfund Hazardous Substance Research and Training Program (In person review: July 23-24).

NIEHS: ZES1 JAB-D (SF) 1 P42 Superfund Hazardous Substance Research and Training Program (Virtual meeting: June 11-14).

NIEHS: ONES R01 review (May 30-31).

2018 NIEHS): ZES1 JAB KR1 2 Special Emphasis Panel: Outstanding New Environmental Scientist (ONES) R01 review (June 21-22).

2017 NIEHS: Outstanding New Environmental Scientist (ONES) R01 review (June 28).

NIEHS: Special Emphasis Panel: Competing Revision Awards for Creating Virtual Consortium for Translational/Transdisciplinary Environmental Research (ViCTER). (June 22).

NIEHS: The Preconception Window and Health of the Offspring (ZES1 LWJ-D-R01) (April 18th, Research Triangle Park, NC).

2016 NIEHS: PAR-14-203 Environmental Contributors to Autism Spectrum Disorders (R21/R01) (March 2, Rockville, MD).

2015 NIEHS: Environmental Epigenomic Analysis in Tissue Surrogates (U01) and Data Coordinating Center (U24) Review. (November 9-10).

NIEHS (ZES1 LWJ-J (K99): Pathway to Independence Awards. (November 2, 2015).

NIEHS PAR-14-203 Environmental Contributors to Autism Spectrum Disorders (R01s) (April 7, Bethesda, MD).

NIEHS (ZES1 LWJ-J (K99): Pathway to Independence Awards. (April 9).

2014 NIEHS (ZES1 LWJ-J (K99): Pathway to Independence Awards. (August 6).

NIEHS: R21 applications in response to ES-13-011. Mechanisms underlying the role environmental exposures play in the development of autoimmune disease. (February 2)

2013 NIEHS: Special Emphasis Panel (ZES1 JAB-D (VT): Competing Revision Awards for Creating Virtual Consortium for Translational/Transdisciplinary Environmental Research (ViCTER) R01 (PAR-11-046). June 15.

Manuscript Reviewer-Top 5 Journals listed (ranked by impact factor)

Brain Behavior and Immunity (6.3)
Journal of Immunology (4.71)
Toxicological Sciences (4.08)
Cellular Immunology (4.07)
Scientific Reports (3.99)

COMMUNITY SERVICE

Speaker, Girls of power in STEM, University of Central Arkansas, Conway, AR, April 24, 2020 (*cancelled due to Covid-19 Pandemic).*

Judge, Little Rock Central High School Science Fair (2017-present).

Judge, Arkansas Regional Science fair (2006-2010).