DIONNA W. WILLIAMS, Ph.D.

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**EDUCATION**

2009-2014 Ph.D. (Biomedical Science), Laboratory of Dr. Joan Berman

Department of Pathology

Albert Einstein College of Medicine, Bronx, NY

*Thesis*: Characterization of Mechanisms that Contribute to the Transmigration of CD14+CD16+ Monocytes Across the Blood Brain Barrier: Implications for NeuroAIDS

2005-2009 B.Sc. (Biochemistry, *Cum Laude*)

Hofstra University, Hempstead, NY

**POSTDOCTORAL TRAINING**

2014-present Laboratories of Drs. Namandjé Bumpus and Janice Clements

Department of Molecular and Comparative Pathobiology

Johns Hopkins University, Baltimore, MD

2015-present Graduate Certificate in Health Disparities and Health Inequalities

Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

4.0 GPA, Expected completion May 2017

**PUBLICATIONS**

*First Author Peer-Reviewed Publications*

**Williams, DW**, Askew, LC, Jones, E, Clements, JE. β-Arrestin Biased Signaling: A Novel Mechanism for Regulation of the Type I Interferon Pathway. *Submitted*

**Williams, DW**, Engle, EL, Shirk, EN, Queen, SE, Gama, L, Zink, CM, Clements, JE. Splenic Damage During SIV Infection: Role of T Cell Depletion and Macrophage Polarization and Infection. *American Journal of Pathology*. 2016 August 1; 186(8): 2068-2087.

**Williams, DW**, Tesfa, L, Berman, JW. Novel Flow Cytometric Analysis of the Blood Brain Barrier. *Cytometry Part A*. 2015 October 1; 87(10): 897-907.

**Williams, DW**, Anastos, K, Morgello, S, Berman JW. JAM-A and ALCAM Are Therapeutic Targets to Inhibit Diapedesis Across the BBB of CD14+CD16+ Monocytes in HIV Infected Individuals. *Journal of Leukocyte Biology*. 2015 February 2; 97(2): 401-412.

**Williams, DW**, Byrd, D, Rubin, L, Anastos, K, Morgello, S, Berman, JW. CCR2 on CD14+CD16+ Monocytes Is A Biomarker of HIV Associated Neurocognitive Disorders. *Neurology: Neuroinflammation and Neuroimmunology*. 2014 October 1; 1(3): e36.

**Williams, DW**, Veenstra, M, Gaskill, PJ, Calderon, TM, Berman, JW. Monocytes Mediate HIV Neuropathogenesis: Mechanisms that Contribute to HIV Associated Neurocognitive Disorders. *Current HIV Research*. 2014 May 1; 12(2): 85-96.

**Williams, DW**, Calderon, TM, Lopez, L, Carvallo, L, Gaskill, PJ, Eugenin, EA, Morgello, S, Berman, JW. Mechanisms of HIV Entry Into the CNS: Increased Sensitivity of HIV Infected CD14+CD16+ Monocytes to CCL2 and Key Roles of CCR2, JAM-A, and ALCAM in Diapedesis. *PLOS One*. 2013 July 26; 8(7): e69270.

**Williams, DW**, Eugenin, EA, Calderon, TM, Berman, JW. Monocyte Maturation, HIV Susceptibility, and Transmigration Across the Blood Brain Barrier are Critical in HIV Neuropathogenesis. *Journal of Leukocyte Biology*. 2012 March 1; 91 (3) 401-415.

*Coauthored Peer-Reviewed Publications*

Veenstra, M, Byrd, D, Inglese, M, **Williams, DW**, Li, M, Gama, L, Clements, J, Morgello, S, Berman, JW. CCR2 on CD14+D16+ Monocytes is Associated with Peripheral PBMC HIV DNA, Neuronal Damage, and HIV Associated Cognitive Disorders. *Submitted*.

Veenstra, M, **Williams, DW**, Calderon, TM, Anastos K, Morgello, S, Berman, JW. CXCR7 Mediates CD14+CD16+ Monocyte Transmigration Across the Blood Brain Barrier: A Potential Therapeutic Target for NeuroAIDS*. Journal of Leukocyte Biology*. pii: jlb.3HI0517-167R. doi: 10.1189/jlb.3HI0517-167R, *Epub ahead of print*.

Calderon, TM, **Williams, DW**, Lopez, L, Eugenin, EA, Cheney, L, Gaskill, PJ, Veenstra, M, Anastos, K, Morgello, S, Berman, JW. Dopamine Increases CD14+CD16+ Monocyte Transmigration Across the Blood Brain Barrier: Implications for Substance Abuse and HIV Neuropathogenesis. *Journal of Neuroimmune Pharmacology*. 2017 June 1; 12(2): 353-370.

Dickens, AM, Tovar-y–Romo, LB, Yoo, S, Trout, AL, Bae, M, Kanmogne, M, Megra, B, **Williams, DW**, Witwer, KW, Gacias, M, Tabatadze, N, Cole, R, Casaccia, P, Berman, JW, Anthony, DC, Haughey, NJ. Astrocyte-Shed Extracellular Vesicles Regulate the Peripheral Leukocyte Response to Inflammatory Brain Lesions. *Science Signaling*. 2017 April 4; 10(473): eaai7696.

McFarren, A, Lopez, L, Tsukrov, D, **Williams, DW**, Bryan, RA, Goldsmith, A, Morgenstern, A, Bruchertseifer, F, Zolla-Pazner, S, Gorny, MK, Eugenin, EA, Berman, JW, Dadachova, E. A Fully Human Antibody to gp41 Selectively Eliminates HIV-Infected Cells that Transmigrated Across a Model Human Blood Brain Barrier. *AIDS*.2016 February 20; 30(4): 563-72.

Carvallo, L, Lopez, L, Che, F, Lim, Jihyeon, Eugenin, E, **Williams, DW**, Nieves, E, Calderon, TM, Madrid-Aliste, C, Fiser, A, Weiss, L, Angeletti, RH, Berman, JW. Buprenorphine Decreases the Inflammatory Response of Monocytes in the Context of NeuroAIDS. *Journal of Immunology*. 2015 April 1; 194(7): 3246-3258.

Orellana, J, Velasquez, S., **Williams, DW**, Saez, JC, Berman, JW, Eugenin, EA. Pannexin1 Hemichannels are Critical for HIV Infection of Human Primary CD4+ T Lymphocytes. *Journal of Leukocyte Biology*. 2013 September 1; 93 (6) 1-9.

Buckner, CM, Calderon, TM, **Williams, DW**, Belbin, TJ, Berman, JW. Characterization of Monocyte Maturation/Differentiation That Facilitate Their Transmigration Across the Blood Brain Barrier and Infection by HIV: Implications for NeuroAIDS. *Cellular Immunology*, 2010 December 25; 267 (2) 109-123.

**RESEARCH SUPPORT**

*Ongoing*

2017-2022 K99/R00 DA044838. NIH/NIDA

“Effects of Cocaine on Antiretroviral Therapy Efficacy in the Central Nervous System”

2016-2018 Translational Research in NeuroAIDS and Mental Health Center

“Antiretroviral Therapy Efficacy in the Central Nervous System”

,*Completed*

2016-2017 Provost’s Postdoctoral Diversity Fellowship

“Antiretroviral Therapy Efficacy in the Central Nervous System”

2012-2014 Mount Sinai Institute for NeuroAIDS Disparities

“Characterization of Monocyte Maturation, HIV Infection, and Transmigration across the Blood Brain Barrier among African and Latino Americans: Implications for NeuroAIDS”

2012-2014 UNCF/Merck Graduate Research Dissertation Fellowship

“Mechanisms of Monocyte Transmigration Across the Human Blood Brain Barrier”

**TEACHING**

2017 Guest lecturer: Cell Signaling Course, Towson University

2015-2016 Adjunct professor: Biology 101: Introduction to Biology for Non-Majors, Morgan State University

2012-2014 Student instructor: Grant Writing Course, Albert Einstein College of Medicine

**HONORS AND AWARDS**

*Postdoctoral*

2017 Helmsley Scholarship, Cellular Biology of Addiction Cold Spring Harbor Course

2017 Mentoring Institute for Neuroscience Diversity Scholars

2016 Rising Star in Biomedical Science, Massachusetts Institute of Technology

2016 National Institutes of Health National Medical Association Academic Medicine Fellow

2016 National Institute on Drug Abuse Diversity Scholars Network

2016 Keystone Symposia Underrepresented Trainee Scholarship

2015 National Institutes of Health Loan Repayment Program for Health Disparities Research

2015 NextProf Science Workshop, University of Michigan

2015 Novartis Institutes for BioMedical Research Award, New England Science Symposium

2015 Ruth and William Silen, M.D. Award, New England Science Symposium

2014 Travel Award, Center for AIDS Research HIV Research in Women Symposium

*Graduate*

2013 Junior Investigator Pioneer Award, International Society for NeuroVirology

2013 Travel Award, International Society for NeuroVirology

2013 Arthur Falek Young Investigator Award, Society on NeuroImmune Pharmacology

2012 Junior Investigator Pioneer Award, Society for NeuroVirology

2012 Young Investigator Travel Award, Society on NeuroImmune Pharmacology

2012 UNCF/Merck Graduate Science Research Dissertation Fellowship

2011 Honors Awarded for the Albert Einstein College of Medicine Qualifying Exam

**PROFESSIONAL ACTIVITIES**

*Editorial Experience*

2017-present Ad Hoc Reviewer, Journal of Leukocyte Biology

2015-present Ad Hoc Reviewer, Journal of Biomedical Science

2014-present Ad Hoc Reviewer, PLOS One

*Societies*

2017-present International Brain Barriers Society

2017-present Society for Neuroscience

2011-present Society on NeuroImmune Pharmacology

2011-present International Society for NeuroVirology

*Johns Hopkins University Service*

2017 Henrietta Lacks High School Day

2016-present Committee on the Biomedical Scientific Workforce

2015 Task Force on Youth Mentoring and Support

2014-present Diversity Postdoctoral Alliance Committee, Co-founder and Co-Chair

2014-present Post-Baccalaureate Research Education Program

**MENTORSHIP**

2017-present Daymond Parrilla, PhD student, Cellular and Molecule Medicine Graduate Program, Johns Hopkins University

2016-2017 Lauren Askew, MD/PhD student, Emory University

2014-present Jonathan Augustin, PhD Candidate, Biochemistry, Cellular and Molecular Biology, Johns Hopkins University

2014-present Ike Adeshina, PhD Candidate, Human Genetics, Johns Hopkins University

**PRESENTATIONS**

*Invited Talks*

2017 HIV Antiretroviral Therapy Increases Leukocyte Adhesion to the BBB. Conference on Cerebral Vascular Biology. Melbourne, Victoria, Australia

2017 Chemokines, Catecholamines, and β-Arrestin: Roles in Suppressing Type I Interferon During HIV Infection. Drexel University College of Medicine. Philadelphia, PA

2017 Cocaine, Antiretroviral Therapy, and the HIV Infected Brain. National Institutes on Drug Abuse. Bethesda, MD

2017 Altered Interferon-Alpha Regulation by HIV Infected Macrophages. Macrophage Infection by HIV: Implications for Pathogenesis and Cure. Cambridge, MA

2016 Novel Flow Cytometric Analysis of the Blood Brain Barrier. Barriers of the Central Nervous System Gordon Research Conference. New London, NH

2015 Irreversible Splenic Damage During SIV Infection: Role of T Cell Depletion and Macrophage Polarization and Infection. New York University. New York, NY

2013 JAM-A and ALCAM are Critical to the Transmigration Across the BBB of CD14+CD16+ Monocytes Isolated from HIV Seropositive Individuals: Implications for NeuroAIDS. International Society for NeuroVirology. Washington, DC