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Joseph J. Zilber School of Public Health
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PROFESSIONAL EXPERIENCE:

- 2010-Present Assistant Professor, School of Public Health, and NIEHS Children's Environmental Health Sciences Core Center, University of Wisconsin-Milwaukee, Milwaukee, WI.
- 2008-2009 Research Assistant Professor, Department of Environmental Medicine, University of Rochester, Rochester, NY.
- 2005-2008 Postdoctoral Fellow, Department of Environmental Medicine, University of Rochester, Rochester, NY. Mentor: Michael J. McCabe Jr., Ph.D
- 2007-2008 Science Communication Fellow, Environmental Health Sciences.
- 2002-2005 Postdoctoral Fellow, Laboratory of Cellular and Molecular Immunology, Thymocyte Development Section, NIAID, NIH, Bethesda, MD. Mentor: B.J. Fowlkes, Ph.D.
- 2001-2002 Visiting Assistant Professor, Department of Biology, State University of New York at Oswego. Oswego, NY.
- 1997-2002 Graduate Assistant, Department of Microbiology and Immunology, State University of New York, Upstate Medical University. Syracuse, NY. Mentor: Allen E. Silverstone, Ph.D.

EDUCATION:

- 1997-2002 State University of New York, Upstate Medical University. Syracuse, NY
Ph.D. Microbiology and Immunology
- 1993-1997 State University of New York at Geneseo
Bachelor of Science, Biochemistry

PUBLICATIONS:

Ahrenhoerster, L.S., Tate, E.R., Lakatos, P.A., Wang, X., Laiosa, M.D. (2014). Developmental Exposure to 2,3,7,8 Tetrachlorodibenzo-p-dioxin Attenuates Capacity of Hematopoietic Stem Cells to Undergo Lymphocyte Differentiation. *Toxicology and Applied Pharmacology*. 277:172-82.

McKarns SC, Kerkvliet NI, Dean JH, Bonn MB, Cohen MD, Franko J, Laiosa MD, Lawrence BP, Luebke RW, Luster MI, Miller PG, Palmer RK, Pfau JC, Raman P, Regal JF, Rodgers KE, Schondelmeyer RS, Zhang X, Burns-Naas LA. (2012). Journal of Immunotoxicology. *Immunotoxicology: fifty years of global scientific progress*. 9:339-40

Zeng, Q, Laiosa, MD, Steeber, DA, Biddle, EM, and Yang, CY. (2012). Cell individuality: the bistable gene expression of T3SS in *Dickeya dadantii* 3937. *Molecular Plant-Microbe Interactions*, 25:37-47.

Laiosa, MD, Lai ZW, Mills J, Singh, K, Middleton F, Gasiewicz TA, and Silverstone AE. (2010). Identification of stage specific gene modulation during early thymocyte development by whole genome profiling analysis following Aryl hydrocarbon receptor activation. *Molecular Pharmacology*, 77:773-783.

Farrer DF, Eckles KE, Hueber SM, Laiosa MD, and McCabe, MJ. (2008). Reduction of myeloid suppressor cell derived nitric oxide provides a mechanistic basis of lead enhancement of alloreactive CD4+ T cell proliferation. *Toxicology and Applied Pharmacology*, 229:135-145.

Laiosa MD, Eckles, KE, Langdon, M, Rosenspire, AJ, and McCabe, MJ. (2007) Exposure to inorganic mercury *in vivo* attenuates extrinsic apoptotic signaling in *Staphylococcal aureus* Enterotoxin B stimulated T-cells. *Toxicology and Applied Pharmacology*, 225: 229-336.

McCabe M, Laiosa MD, Li L, Menard S, Mattingly R, and Rosenspire A. (2007) Low and Non-Toxic Inorganic Mercury Burdens Attenuate BCR-Mediated Signal Transduction. *Toxicological Sciences*, 99: 512-521.

Laiosa MD. (2005) The Effect of Steroid Hormones on the Immune System. In *The Encyclopedic Reference of Immunotoxicology*. Vohr, HW, editor. Springer, Heidelberg, Germany. 1st Edition: 603-608.

Laiosa MD, and Silverstone AE. (2005) The Effect of Toxicological Compounds on T-cell Development. In *The Encyclopedic Reference of Immunotoxicology*. Vohr, HW, editor. Springer, Heidelberg, Germany. 1st Edition: 642-645.

Laiosa MD, Wyman A, Murante FG, Gasiewicz TA, Silverstone AE. (2003) Cell Proliferation Arrest within Intrathymic Lymphocyte Progenitor Cells Causes Thymic Atrophy Mediated by the Aryl Hydrocarbon Receptor. *The Journal of Immunology*, 171:4582-91.

Laiosa MD, Lai ZW, Thurmond TS, Fiore NC, Gasiewicz TA, Silverstone AE. (2001) 2,3,7,8-tetrachlorodibenzo-p-dioxin causes alterations in lymphocyte development and thymic atrophy in hemopoietic chimeras generated from mice deficient in ARNT2. *Toxicological Sciences*, 69: 117-24.

DeRossi C, Laiosa MD, Silverstone AE, Holdener BC. (2000) Mouse *fd4* Maps Within a Region of Chromosome 7 Important for Thymus and Cardiac Development. *Genesis*, 27: 64-75.

ACTIVE GRANTS:

2014-2015 P30ES004184-26S1. NIEHS Children's Environmental Health Sciences Core Center Supplement entitled: "Bioinformatics evolutionary pipeline for identification of exposure biomarkers"
PI: David Petering
Role: Co-investigator; Total Direct Costs: \$103,678

PAST GRANTS:

2008-2014 R00ES016585-01. Environmental Influence on T-Cell Leukemia: Role of Notch and AhR Signaling
Role: PI/PD; Total Costs: \$800,000

2011-2014 NIEHS Children's Environmental Health Core Center Pilot Grant: *Effect of early life AHR activation on T-cell Tolerance*
Role: PI/PD; Total Direct Costs: \$69,287

GRANT APPLICATIONS:

2015-2020 Regulation of cellular respiration by the AH-receptor during fetal hematopoiesis
Role: PI/PD; Total Costs: \$1,912,221

2013-2014 NIEHS Children's Environmental Health Core Center Pilot Grant: *Mechanism of stem-cell exhaustion following developmental dioxin exposure.*
Role: PI/PD; Total Costs: \$70,000
Score: 2

2014-2015 UW-Milwaukee Research Growth Initiative: *Consequences of AHR activation in utero on cellular respiration and hematopoiesis.*
Role: PI/PD; Total Costs: \$161,991
Score: 2

HONORS AND AWARDS:

2014 Thesis Advisor for Everett Tate, winner of Society of Toxicology's *Excellence in Research Award by a Graduate Student, 2nd Place from the Stem Cell Specialty Section.*

2013 Thesis Advisor for Lori Ahrenhoerster, winner of Society of Toxicology's *Best Presentation by a Graduate Student, 2nd Place* from the Immunotoxicology Specialty Section

2013 Thesis Advisor for Lori Ahrenhoerster, winner of Society of Toxicology's *Best Presentation by a Graduate Student, 2nd Place* from the Reproductive and Developmental Toxicology Specialty Section

2012 Greater Milwaukee Shaw Scientist *Finalist*

- 2012 UW-Milwaukee Graduate School Research Fellow
- 2009 Society of Toxicology's *Paper of the Year* in Immunotoxicology for: Exposure to inorganic mercury *in vivo* attenuates extrinsic apoptotic signaling in *Staphylococcal aureus* Enterotoxin B stimulated T-cells
- 2007 Western New York Flow Cytometry Users Group *Travel Award*
- 2006 Bristol-Meyers Squibb Pharmaceutical Research Institute and Drug Safety Evaluation *Travel Award*
- 2005 Society of Toxicology's *Paper of the Year* in Immunotoxicology for: Cell Proliferation Arrest within Intrathymic Lymphocyte Progenitor Cells Causes Thymic Atrophy Mediated by the Aryl Hydrocarbon Receptor.
- 2004 NIH *Fellows Award in Research Excellence Travel Award*.
- 2001 Society of Toxicology's *Outstanding Presentation by a Graduate Student in Immunotoxicology*
- 2001 Upstate Medical University's *John B. Henry Endowed Scholarship* for an outstanding research paper.
- 2000 Upstate Medical University's *Outstanding Written Research Proposal*, by a graduate student
- 1996 SUNY Geneseo inductee into *Tri-Beta Biological Honor Society*
- 1993 Eagle Scout

PROFESSIONAL MEMBERSHIPS:

- 2000-Present Society of Toxicology
- 2006-Present American Association of Immunologists

TEACHING:

- 2014 PH 750 EHS Seminar titled "Changing Climate, Changing Health"
- 2013-2014 PH 819 Social and Environmental Justice
- 2011-2013 PH 703 Environmental Health Sciences
- 2011 PH 375 Special Topics in Public Health: Environmental Sustainability.
- 2010 EOH 821 Advanced Survey of Environmental and Occupational Health.
- 2008 Contributing lecturer for Advanced Neurotoxicology.
- 2006-2009 Contributing lecturer for the University of Rochester "Toxicology course", *Tox 522*. Lectures: *Introduction to Immunology; Developmental Immunotoxicology. Hematopoiesis and Thymopoiesis.*
- 2001-2002 Assistant Professor at the State University of New York at Oswego
Courses Taught: *Bio 111/212* (Introduction to Biology I and II), *Bio 315* (Genetics), and *Bio 390* (Problems in Molecular Genetics)

STUDENT MENTORING:

- 2013- present Major Professor for Everett Tate, PhD Candidate in Environmental and Occupational Health, in the UWM Zilber School of Public Health.

- 2010- present Major Professor for Lori S. Ahrenhoerster, PhD Candidate in Environmental and Occupational Health, in the UWM Zilber School of Public Health.
- 2014- present Thesis committee member for Ph.D. Candidate in Environmental and Occupational Health: Kevin Smith
- 2014- present Thesis committee member for Ph.D. Candidate in Environmental and Occupational Health: Chelsea Weirich
- 2011- present Thesis committee member for Ph.D. Candidate in Environmental and Occupational Health: Matthew Wolter
- 2011- present Thesis committee member for Ph.D. Candidate in Environmental and Occupational Health: Thomas Kalluvila
- 2012-2013 Independent Study Advisor for PH 699 student and Student Undergraduate Research Fellow, Jayne Owens.
- 2011 Advisor, Ayan Zeng, PhD Candidate in Environmental and Occupational Health, in the UWM Zilber School of Public Health.
- 2009 Thesis defense committee member of Lindsay Franson, Ph.D., Upstate Medical University.

UNIVERSITY SERVICE:

- 2011-2014 Member Zilber School of Public Health Graduate Program Committee
- 2012-2013 Chair of Zilber School of Public Health Graduate Program Committee
- 2011 Hosted Seminar Speaker: Dr. Jerold Heindel, NIEHS Acting Branch Chief of Cellular, Organs and Systems Pathobiology Branch. Seminar Title: *How the first 1000 days shape the rest of your life:*
- 2012 Hosted Seminar Speaker: Dr. David Shepherd, Associate Professor. University of Montana – Missoula. Seminar Title: The role of AHR activation in Dendritic Cell development and function.
- 2010-2013 Member of Environmental and Occupational Health Ph.D program Steering committee
- 2010-2014 Animal Care and Use Committee
- 2010-2014 Co-director University Flow Cytometry and FACS Aria III Cell Sorting Core.
- 2011 Animal Care and Use Committee Sub-committee on animal procedure space plan for Kenwood IRC.
- 2010 Search Committee for School of Public Health Research Specialist.
- 2010 Session Co-chair and panelist for Center for Urban Initiatives Annual Conference: *Public Health in Milwaukee, Past+Present = Future.*
- 2010 Search Committee for School of Public Health Graduate Program Coordinator.
- 2010 Search Committee for School of Public Health Assistant Professor of Environmental and Occupational Health.

PROFESSIONAL SERVICE:

- 2014 Immunotoxicity Session Chair, Society of Toxicology Annual Meeting, Phoenix, AZ

- 2010-2011 National Academies of Sciences, National Research Council, *Committee to Review EPA's Draft IRIS Assessment of Formaldehyde.*
- 2010-Present Ad hoc reviewer for *Chemico-Biological Interactions*
- 2008-Present Ad hoc reviewer for *Toxicological Sciences*
- 2007-2008 Member of the graduate curriculum committee, Department of Environmental Medicine, University of Rochester
- 2005-Present Ad hoc reviewer for *Toxicology and Applied Pharmacology*
- 2000-2001 President of the Upstate Medical University Graduate Student Association
- 2001 Liaison for the Microbiology and Immunology Graduate Student Invited Speaker
- 2001 Chairperson of the review committee for the Graduate Student Association "Written Research Proposal Award"
- 1997-2000 Served on the review committee for the Graduate Student Association "Poster Award"

INVITED SEMINARS:

- 2012 University of Montana-Missoula School of Pharmacy. *Developmental effect of Aryl hydrocarbon receptor activation on hematopoiesis and T cell leukemia.*
- 2011 Children's Research Institute, Medical College of Wisconsin. *Persistent developmental aryl hydrocarbon receptor activation alters T-cell differentiation potential.*
- 2010 On Public Health UWM School of Public Health: *Identifying Developmental Toxicants to the Immune System.*

INVITED WORKSHOPS AND CONFERENCES:

- 2014 Wisconsin Environmental Health Association. Annual meeting. Baraboo, WI. Presented the conference closing talk entitled: "Mitigating the effects of climate change and lead-intoxication through a healthy home approach – A win-win scenario!"
- 2008 Green Chemistry and Environmental Health: Problems Meet Solutions. The Beckman Center of the National Academies, Irvine, CA.
- 2007-2008 Environmental Health Sciences: Science Communication Fellows *First and Second Annual Meeting and Media Training Session*, Washington, DC.

PLATFORM PRESENTATIONS AT CONFERENCES:

- 2013 Laiosa, MD, Ahrenhoerster, LS, and Lakatos, PA. Developmental exposure to 2,3,7,8 Tetrachlordibenzo-p-dioxin (TCDD) affects leukemeogenesis in adult tumor prone mice by interacting with the thymus

- expressed Notch1. *Society of Toxicology Annual Meeting*, San Antonio, TX.
- 2011 Laiosa MD, Sensitivity of hematopoietic stem cells to early life AHR activation is proportional to the multi-potency of the purified stem cell. *7th Duesseldorf Symposium on Immunotoxicology: Biology of the Arylhydrocarbon Receptor*.
- 2007 Laiosa MD, and McCabe MJ. Inorganic Mercury Alters CD95-dependent Threshold Signaling in T cells. *Upstate New York Immunology Conference*, Lake George, New York
- 2001 Laiosa MD, Murante FG, Fiore NC, Gasiewicz TA, Silverstone AE. 2,3,7,8, Tetrachlordibenzo-p-dioxin (TCDD) Activates the Arylhydrocarbon Receptor (AhR) in the Lymphocyte Stem Cells of the Murine Thymus and Causes Cell Cycle Arrest Resulting in Thymic Atrophy. *Society of Toxicology*, San Francisco, California
- 2000 Laiosa MD, Murante FG, Gasiewicz TA, Silverstone AE. Dioxin Blocks Entry Into the Cell Cycle in Early Stages of Thymocyte Development. *Upstate New York Immunology Conference*, North River, New York.

POSTER PRESENTATIONS AT CONFERENCES:

- 2014 Tate, ER Chen, J, Wang, D. and Laiosa, MD. Maintenance of long-term self-renewal in hematopoietic stem cells by Aryl hydrocarbon receptor dependent regulation of reactive oxygen species during fetal development. *Society of Toxicology Annual Meeting*, Phoenix, AZ.
- 2013 Ahrenhoerster, LS, Lakatos, PA, Almagro, D, Laiosa, MD. Developmental Aryl Hydrocarbon Receptor (AHR) Activation Attenuates Hematopoietic Stem Cell (HSC) Capacity to Undergo Lymphocyte Differentiation. *Society of Toxicology Annual Meeting*, San Antonio, TX.
- 2012 Ahrenhoerster, LS, Lakatos, PA, Laiosa, MD. If you give a mouse dioxin: Implications for Immune system disease screening and prevention. *American Public Health Association*, San Francisco, CA.
- 2011 Ahrenhoerster, LS, Lakatos, PA, Laiosa, MD. Persistent developmental Aryl hydrocarbon receptor activation affects Notch-1 dependent T-cell differentiation. *Society of Toxicology*, Washington, DC.
- 2010 Laiosa, MD, Lai ZW, Mills J, Singh, K, Middleton F, Gasiewicz TA, and Silverstone AE. Identification of stage specific gene modulation during early thymocyte development by whole genome profiling analysis following Aryl hydrocarbon receptor activation. *Society of Toxicology*, Salt Lake City, Utah.
- 2007 Laiosa, MD, Rosenspire AJ and McCabe MJ. The heavy metal mercury modulates pERK1/2 in activated B-cells. *American Association of Immunologists*, Miami Beach, Florida
- 2004 Laiosa, MD, Macchiarini, F, Love, PE, and Fowlkes BJ. The Cytoplasmic Tail of PreT α is Required for Efficient DN to DP transition During Thymocyte Development. *Federation of Clinical Immunology Societies*, Montreal, Canada.
- 2003 Laiosa, MD, Laky K, Matechak E, and Fowlkes BJ.

- Syk and Zap-70 Kinases Have Distinct and Overlapping Functions During Early T-cell Development. *American Association of Immunologists*, Denver, Colorado.
- 2001 Lai ZW, Laiosa MD, Holdener BC, Gasiewicz TA, Silverstone AE. Deletion of ARNT2 Does not Protect Thymocyte Development From Inhibition by TCDD. *Society of Toxicology*, San Francisco, California.
- 2000 Laiosa MD, Lai ZW, Fiore NC, Gasiewicz TA, and Silverstone AE. The Role of the Transcription Factor ARNT-2 in Thymic Development and Response to the Immunosuppressive Agent 2,3,7,8, Tetrachlordibenzo-p-dioxin (TCDD). *The Midwinter Conference of Immunologists*, Monterey, California.
- 1999 Laiosa MD, Lai ZW and Silverstone AE. Diethylstilbestrol (DES) Induces Apoptosis and Affects Cell Cycle in a Murine Thymocyte – Like Cell Line, RL-3 in an ER α Independent Mechanism. *Foundations of Immunotoxicology*, Morgantown, West Virginia.
- 1999 Laiosa MD, Lai ZW, and Silverstone AE. Diethylstilbestrol (DES) Induces apoptosis and affects cell cycle in a murine thymocyte like cell line RL-3. *Society of Toxicology*, New Orleans, Louisiana.
- 1998 Lai ZW, Laiosa MD, Gasiewicz TA, and Silverstone AE. DES Inhibits Thymocyte Development in the Double Negative Stem Cell Compartment in Fetal Thymic Organ Cultures. *Penn State Summer Symposium in Molecular Biology*, “Immune – Neuro – Endocrine Interactions: Cellular and Molecular Mechanisms,” State College, Pennsylvania.