CURRICULUM VITAE

WEI ZHENG, Ph.D.

BUSINESS ADDRESS

School of Health Sciences, College of Health and Human Sciences, **Purdue University**
550 Stadium Mall Drive, HAMP-1169 (official mailing address); LILY B418 (Lab Office)
West Lafayette, IN 47907
Phone: (765) 496-6447; Fax: (765) 496-1377; Email: wzheng@purdue.edu

PERSONAL DATA

Citizenship: American Citizen; married with two adult children

PART I: TRANING AND PROFESSIONAL EXPERIENCE

PROFESSIONAL TRAINING

1977-1981 **Bachelor of Science** in Pharmacy
College of Pharmacy, Zhejiang University, Hangzhou, PRC

1981-1984 **Master of Science** in Pharmacology
Department of Pharmacology, Zhejiang University College of Pharmacy

1986-1991 **Doctor of Philosophy** in Pharmacology and Toxicology
Department of Pharmacology and Toxicology, University of Arizona College of Pharmacy, Tucson, Arizona

1991-1992 **Postdoctoral/Research Fellow**
Mentor: Dr. I. Glenn Sipes, Head, Department of Pharmacology, School of Medicine, University of Arizona. President of the Society of Toxicology (1991-1992)

2009 Feb **Leadership Training Camp**
CIC (Committee on Institutional Cooperation) Dept Chairs/Heads Forum, Chicago.

ACADEMIC AND PROFESSIONAL APPOINTMENT

1975-1977 **Research Technician (Analyst Assistant)**
Experimental Pharmaceutical Factory of Zhejiang University, Hangzhou, PRC

1984-1986 **Lecturer** of Pharmacology
Department of Pharmacology, Zhejiang University College of Pharmacy, Hangzhou, PRC

1986-1991 **Graduate Research Assistant**
Department of Pharmacology and Toxicology, University of Arizona, Tucson, AZ

1991-1992 **Postdoctoral Research Scientist**
Mentor: I. Glenn Sipes, Dept. of Pharmacology and Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ.

1992-1993 **University of Arizona**, Tucson, Arizona
Research Assistant Scientist (non-tenure faculty position). Dept. of Pharmacology and Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ.

1993-2003 **Columbia University**, New York, New York

- **Assistant Professor** of Public Health and Pharmacology (1993-1999) and

- **Associate Professor** (tenured, 2000-2003), a joint faculty position in Dept of Environmental Health Sciences in School of Public Health, and Dept of Pharmacology in College of Physicians and Surgeons, Columbia University, New York, NY.

2003-present **Purdue University**, West Lafayette, Indiana

- **Associate Professor** of Health Sciences and Toxicology (2003-2006) and
- **Professor** (2006-present), School of Health Sciences, Purdue University.
- **Head** (2008-2017), School of Health Sciences in College of Health and Human Sciences
- **Associate Dean** (2008-2010) *College of Pharmacy, Nursing and Health Sciences* (College of PNHS dissolved in 2010 as a part of University's Strategic Consolidation)

Contribution made to School of Health Sciences' Sustainable Growth

As a former head of the School, I feel proud of four major achievements under my leadership. First, I built the toxicology research/education programs and cultivated it for its sustainable growth to this day. Second, I consolidated our faculty's scholarly strengths into two pillars of research excellence, i.e., one in environmental and occupational toxicology and one in radiological health sciences, from which to foster highly productive interdisciplinary research enterprises and to tamp a solid foundation for unit's long-lasting excellence in research and discovery. Third, I acquired, renovated, and expanded the wet-lab space (more than doubled) to transfer a largely teaching-emphasized academic unit to NIH grant-supported, web-lab based research powerhouse. Forth, I created new faculty lines and secured 16 FTE faculty positions before I passed the baton to my successor. These efforts helped build the sound foundation for School's long-term sustainable growth.

Academically, I set the strategic goal for School's undergraduate education by making the preprofessional education as the top priority in 2009 and led the effort to establish the Pre-Professional Program (PPP) in 2010, which was renamed as the Biomedical Health Sciences (BMHS) program in 2021. The effort has resulted in a highly successful undergraduate major that continuously attracts more than a thousand applications each year. Under my watch, the unit successfully obtained the ABET accreditation of the Occupational Health Sciences program in October 2010; created the Graduate Medical Physics program with Indiana University School of Medicine in 2011 and thereafter obtained the CAMPEP accreditation in 2012; generated new 4+1 BS/MS program in Industrial Hygiene, and the Study Abroad program in EHS with Dublin Institute of Technology in Ireland.

2004-2008 Chairman of Life Plus, LLC., Purdue Research Park, West Lafayette, Indiana
An international consulting firm specialized in chemical/toxicological services
(Resigned from the firm in 2008 to fully commit to HSCI operation and development)

PROFESSIONAL ORGANIZATIONS AND SOCIETIES

1994-present Member of Society of Toxicology (SOT), President of the Metals Specialty Section (2009-2010), Chairman of Board of Publication (2016-2019)

2011-present Member of International Society for Trace Elements Research in Humans (ISTERH). Vice President-Elect (2015), Vice President (2017), President (2019), Acting President (2022). Chairman of the Int'l Scientific Committee for the 14th Conference in Aachen, GE (2022).

2004-present Member of International Neurotoxicology Association (INA)

1990-present founding member of American Association for Chinese in Toxicology (AACT), President (1991-1992)

1991-2023 Member of American Association for the Advancement of Sciences

2005-2019 Member of Society for Experimental Biology and Medicine (USA)

1995-2017 Member of Society for Neuroscience (SFN)
1993-1996 Member of New York Academy of Sciences

PART II: LEADERSHIP AND ENGAGEMENT CREDITS

A. AWARDS AND RECOGNITIONS

- **Fellow**, the U.S. Academy of Toxicological Sciences (**ATS**) (since 2016)
- **Education Award**, Society of Toxicology (2021) (the SOT has more than 8,000 memberships)
- **Career Research Achievement Award**, Purdue University/HHS (2020)
- **Pandemic Teaching Award**, Purdue University Teaching Academy (2020)
- **Landolt Teaching Excellence Award**, Purdue University/HSCI (2019)
- **Seeds of Success Award**, Purdue University/Provost Office (2006, 2010, 2018)
- **Outstanding Graduate Faculty Mentor Award**, Purdue University/HHS (2017)
- **Career Achievement Award**, the Society of Toxicology Metals Specialty Section (2015)
- **Distinguished Chinese Toxicologist**, American Association of Chinese in Toxicology (2010)
- **University Faculty Scholar**, Purdue University (2006)
- **2005 Best Paper Award**, Society for Experimental Biology and Medicine (2005)
- **Science and Technology Award** (3rd Place) by Beijing City Government for achievements in science and technology. Award Number: 2007Y-3-007-02 (2008)
- **Science and Technology Achievement Award** (3rd Place) by the Chinese Preventive Medicine Association for research achievement. Award Number: 200701003-3-G0806. (2007)
- **Outstanding Research Award**, Johnson & Johnson focused giving program (2002)
- **Calderone Award**, Columbia University School of Public Health (1994)
- **Honorary Citizen** of Tucson, issued by Mr. Thomas J. Volgy, Mayor of Tucson (1988)

- **President**, International Society for Trace Element Research in Humans, Vice President-elect 2015, Vice President 2017, President 2019, acting President 2022.
- **Chairman**, Board of Publication, Society of Toxicology 2016-2019.
- **Keynote Speaker**, invited by the International Conference of Trace Elements and Minerals, a joint conference sponsored by German Society for Minerals and Trace Elements (GMS), Int'l Society for Trace Element Research in Humans (ISTERH), Int'l Society for Zinc Biology (ISZB), and Trace Elements in Man and Animals (TEMA). Aachen, GE, June 2022.
- **Keynote Speaker**, invited by the 18th Conference of Chinese Environmental Mutagen Society, Zunyi, China, June 2019.
- **Keynote Speaker**, invited for the 40th Anniversary of Establishment of School of Public Health at Guangxi Medical University, Nanning, China, Nov 2016.
- **Keynote Speaker**, the 2nd International Summit on Toxicology, Las Vegas, Oct 2013.
- **President**, International Neurotoxicology Conference, a joint conference of the *International Neurotoxicology Association* and the *International Commission on Occupational Health: Committee on Neurotoxicology and Psychology*, Xi'an, China, June 5-10, 2011.
- **Invited speaker**, by The George Bush China-U.S. Relations Conference: Development, Energy, and Security, Washington D.C. Oct 2007; keynote speakers included President George W. H. Bush, Secretory of the Treasury Henry Paulson, and Chinese Ambassador Li Zhaoxing.
- **President**, Society of Toxicology Metal Specialty Section, Vice President-Elected 2008, Vice President 2009, President 2010
- **President** (founding member), American Association of Chinese in Toxicology, 1991-1992

- Marquis Who's Who in America, 2009.

B. DEPARTMENTAL AND UNIVERSITY COMMITTEES

2021-present Chair, School of Health Sciences Alumni Engagement Committee
2020-present Co-chair, School of Health Sciences Nomination and Awards Committee
2023-present Member, School of Health Sciences Diversity, Equity and Inclusion Taskforce
2023-present Member, ad hoc Committee on External Recognition
2023-present Member, University Library Committee

2023-2024 Chair, School of Health Sciences Committee on Faculty Promotion Guideline
2018-2020 Member, School of Health Sciences Undergraduate Curriculum Committee
2008-2017 Member, College of HHS Promotion and Tenure Committee
2009-2017 Member, Purdue Center for Cancer Research Liaison Committee
2009-2010 Member, Task Force for Establishing a new College of Health and Human Sciences
2008-2011 Senator, Purdue University; member of Senate Advisory Committee to the President (surrendered in 2009 in lieu of the school's executive role)
2008-2010 Member, College Executive Committee of Pharmacy, Nursing and Health Sciences
2004-2008 Chair, Graduate Committee in School of Health Sciences
2005-2008 Member of Graduate Committee in College of Pharmacy, Nursing and Health Sciences
2007-2008 Chair, HSCI Committee on Establishing the Faculty Promotion and Tenure Guidelines
2006-2007 Chair, HSCI Committee on Revision of Policies and Procedures on Graduate Education
2004-2008 Faculty advisor to campus-wide Caduceus Club (Pre-Med Club)
2005-2008 Faculty advisor to the Minority Student Club
2004-2008 Director and founder, Purdue University Toxicology Program
2003-2005 Schedule Deputy of School of Health Sciences, Purdue University
1995-2002 Member of Graduate Admission Committee in School of Public Health at Columbia University
1995-2002 Chair, Graduate Committee on Master of Public Health (MPH) in Dept. of Environmental Health Sciences (Member since 1994) at Columbia University
1998-2002 Member of Ph.D. Qualification Examination Committee in Dept. of Environmental Health Sciences at Columbia University
1993-1995 Coordinator, DrPH and Faculty Seminars in Division of Environmental Health Sciences, Columbia University

C. STUDY SECTIONS AND EXTRAMURAL COMMITTEES

2008-2012 Standing member of NIH Neurotoxicology and Alcohol (NAL) Study Section
2003-2007 Standing member of NIH Environmental Health Sciences Review Committee (review P30 center grants, P01 program projects, T32 training grants, and P42 Superfund grants).
2006-2007 Standing member of the Review Committee on National Emphasis Programs, National Science Foundation of China (2-year term).
2001-present Ad hoc member of NIH/NIEHS, NIOSH, EPA or DoD Study Section peer-review groups.
2001-2003 Member of the Harbor Consortium by New York Academy of Science and New York City Health Department

(Having served in more than 90 review panels including study sections for NIH, EPA, HEI and CNSF, and university review panels at Harvard, Columbia, Brown, Vanderbilt etc., and Foundations or Boards in England, Switzerland, Kuwait, Jordan, China, etc. Services in the past 5 years listed below)

12/05/2023	Chair, DOD/CDMRP grant peer-review panel (OTE-1) on Toxic Exposures Research Program (Dec 5-6, 2023).
03/15/2023	Member, NIH/Neurodifferentiation, Plasticity, Regeneration and Rhythmicity - NDPR Study Section ZRG1 BN-M(91) for "Cellular and Molecular Aspects of the Blood-Brain Barrier and Neurovascular System and Therapeutic Strategies."
09/14/2022	Member, Panel of the Interim Review on Alzheimer's Disease Research by Pennsylvania Department of Health to review and comment on the progress of large grants on AD.
07/14/2022	Member, NIH/NIEHS Special Emphasis Panel ZRG1 IFCN-T (R01 and R21 grants)
04/20/2022	Member, Alzheimer's Research United Kingdom, Panel of the peer reviewers on 2022-Major Research Awards, London, UK.
06/04/2021	Member, DOD/CDMRP (USAMRMC) Panel on Toxic Exposures Research Program.
02/11/2021	Member, NIH/NIEHS Neurotoxicology and Alcohol Study Section ZRG1 NAL-Z (07) (R01 and R21)
11/20/2020	Member, NIH/Environmental Health Sciences Review Committee ZES1 VSM-S(t) for T32 training grants.
06/10/2020	Member, DOD/CDMRP (USAMRMC) Panel on Toxic Exposures Research Program
04/15/2020	Member, NIH/NIEHS Special Emphasis Panel ZES1 VSM-K LR for NIH/NIEHS load repayment program
10/29/2019	Reviewer, the peer review panel of Oak Ridge Associated Universities for Ed & Ethel Moore Alzheimer's Disease Research Program operated by Florida Dept. of Health.
08/29/2019	Member, DOD/CDMRP (USAMRMC) Panel on Toxic Exposures Research Program
06/26/2019	Reviewer, Swiss National Science Foundation on biomedical research grants.
04/30/2019	Member, DOD/CDMRP (USAMRMC) Panel on Toxic Exposures Research Program
04/12/2019	Member, NIH/NIEHS Special Emphasis Panel ZES1 VSM-S L9 for NIH/NIEHS load payment program
07/28/2018	Member, NIH/NIEHS Special Review Panel ZCA1 SRA-D (R01)
06/11/2018	Member, NIH/NIEHS Special Emphasis Panel ZES1 LKB-D (K99-R00)
04/24/2018	Member, NIH/NIEHS Special Emphasis Panel ZES1 RAM-K (LP) 1 for NIH/NIEHS load payment program
02/22/2018	Member, NIH/NIEHS NAL study section ZRG1 NAL-Z (07) (R01 and R21)

D. ADVISORY BOARD AND SERVICES

Jan 2023	Appointed Graduate Faculty at University of Louisville School of Medicine
Dec 2019	Member of the Scientific Advisory Board of U.S. Food and Drug Administration (FDA). Participated in performance review of the Division of Neurotoxicology Research Programs in National Center for Toxicological Research (NCTR) under FDA.
Nov 2019	Consultant and speaker on the blood-brain barrier and neurodegenerative diseases for Janssen and Johnson & Johnson Pharmaceutical Com.
Apr 2014	Reviewer of the proposal to establish the Graduate Programs in Environmental and Ecological Engineering for Indiana Commission for Higher Education.
Mar 2013	External reviewer of Department Chair and Programs in School of Public Health at University of Illinois Chicago.
Feb 2009	Member of the Advisory Board to the U.S. Department of Health & Human Services, Agency for Toxic Substances and Disease Registry (ATSDR): Toxicological Profile for Manganese.
June 2008	Consultant to Eastern Research Group, Inc. to peer review ATSDR's Toxicological Profile on Manganese (Contract: GS-10F-0036K, Task Order 200-2007-F-21565).

Oct 2006	Consultant to Grosby Saad LLC (Mobile, AL) (James H. Crosby 251-533-6425 cell) representing welders for occupational exposure
Aug 2005	Consultant, review for Treatment Options for Mercury/Metal Toxicity in Autism and Related Developmental Disabilities, by NIH/NIEHS
Oct 2003	Consultant to Bard Medical Division, Covington, Georgia
May 2003	Consultant to Davies, McFarland & Carroll, P.C. on manganese neurotoxicity among welders in Mississippi case.
2002-2003	Consultant in Neurotoxicity Scientific Advisory Committee, MetaPhore Pharmaceuticals, Inc., St. Louis, MO.
2001 – 2003	Member of the Harbor Consortium by New York Academy of Science and New York City Health Department

E. EDITORIAL AND REVIEW SERVICES:

2020-2022	Guest Editor, *NeuroToxicology*
2019-2020	Guest Editor, *J Trace Elem Med Biol*
2002-Present	Member of Editorial Board, *Fluid and Barriers of the CNS*
2015-2019	Member of the SOT Board of Publications (Chair, 2016-2019)
2007-2012	Member of Editorial Board, *Experimental Biology and Medicine*
2004-2008	Member of Editorial Board, *Toxicology Letters*
2008-2014	Associate Editor, *Journal of Toxicology*
2012-Present	Member of Editorial Board, *Chinese Journal of Preventive Medicine*

Reviewer for:

1. Aging Cell
2. American J Physiology – Cell Physiol
3. Biochemical Pharmacology
4. Biological Trace Elem Research
5. Brain Imaging and Behavior
6. Brain Research
7. Brain Research Bulletin
8. Cerebellum
9. Fluid and Barriers of CNS
10. Chemical Research in Toxicology
11. Chemico-Biological Interactions
12. Current Alzheimer Research
13. Drug Metabolism and Disposition
14. Ecotoxicology and Environmental Safety
15. Environmental Health Perspectives
16. Environment International
17. Environmental Pollution
18. Environmental Sci Pollution research
19. Epilepsia
20. Experimental Biology and Medicine
21. Fluids and Barrier of CNS
22. Histology and Histopathology
23. Human Experimental Toxicology
24. Journal of Health Sciences
25. iScience
31. Journal of Neuroscience Research
32. Journal of Nutrition and Biochemistry
33. Journal of Occupational and Environmental Medicine
34. Journal of Public Health
35. Journal of Pharmacology and Experimental Therapeutics
36. Journal of Toxicology and Environmental Health
37. Journal of Toxicology
38. Journal of Trace Element Research in Medicine and Biology
39. Life Sciences
40. Molecular Brain Research
41. Molecular and Cellular Biochemistry
42. Nanotoxicology
43. Neurochemical Research
44. Neuroscience Letters
45. Neurotoxicology
46. Neurotoxicology and Teratology
47. Physiology and Behavior
48. PLOS One
49. Proceedings of Society for Experimental Biology and Medicine
50. Regulatory Toxicology and Pharmacology

26. Journal of Health Sciences
27. Journal of Histochemistry and Cytochemistry
28. Journal of Nanoscience and Nanotechnology
29. Journal of Neurochemistry
30. Journal of Neuroscience
51. Neurotoxicology and Teratology
52. Toxicological and Environmental Chemistry
53. Toxicological Sciences
54. Toxicology and Applied Pharmacology
55. Toxicology Letters

PART III: SCHOLARLY ACCOMPLISHMENTS

A. PATENT

Immortalized rat choroidal epithelial cell line for blood-CSF barrier research, patented by Columbia University, U.S. Serial No. 60/518,590. 2002.

B. RESEARCH GRANT AND CONTRACT SUPPORT

Ongoing Active Research Support:

1. **NIH/NINDS R01ES021488-06A1** Racette, BA (PI) 07/01/2021 – 06/30/2026
   Imaging Biomarkers of Neurotoxicity in Welders
   To use an advanced neutron-based XRF technology to assist the research led by Dr. Brad Racette in searching biomarkers for cumulative exposure to manganese among welders located in Wisconsin. Total cost $133,627. Role: Co-I.
2. **NIH/NIA R21AG067923-01** Du/Territo (MPI) 02/01/2020 – 04/30/2024
   The Pathogenic Role of Pb in Cerebral Amyloid Angiopathy and AD
   To test the hypothesis that Pb in two different APP transgenic mouse lines is able to induce inflammation-associated CAA, leading to cerebral microhemorrhages by using DCE-PET and immunohistochemistry (IHC). Total cost $446,443. Role: Co-I.
3. **Johnson & Johnson Corp. (2003111191).** Zheng, W (PI) Unrestricted
   Development of a High Through-Put System for Study of Transport of Drugs across Brain Barriers
   To use molecular biology method to knock in tight junction gene to a newly developed blood-CSF barrier cell line. Direct cost $255,000 for unlimited years. Role: PI.

Pending Grants:

NIH/NIEHS 1 R01 ES035812-01 Zheng/Du/Emir (MPI). 07/01/2024 – 06/30/2029
Brain Efflux of Amyloid and Biomolecules in AD Etiopathology: Effect of Lead Exposure
A new R01 grant to employ transgenic mouse models, in situ brain perfusion technique, molecular approaches, and 3D dual-echo ultrashort echo time (UTE) MRI technique to study the efflux mechanism of critical pathogenic molecules at brain barriers, ensuing CAA formation and ultimate demyelination, and consequences of chronic Pb exposure. Total cost $3,737,734. Role: leading PI (2 summer months).

Completed Research Support (total 44 since 1994):

4. **NIH/NIEHS R01 ES027078-01** Zheng/Du (Co-PI) 07/01/2017 – 06/30/2023
   Lead Exposure and Beta-Amyloid Transport by Brain Barriers
   To study how Pb exposure alters brain barrier structure and function, leading to increased permeability of Aβ transport to brain, decreased clearance from brain and enhanced aggregation. Total cost $1,918,925. Role: PI. (No cost extension)
5. NIH/NIEHS (GRANT#12951404) Zheng/Du (MPI) 07/01/2020 – 06/30/2021

Additional Fund Request for Imaging Component at IUSM
A supplemental request to R01 ES027078 asking additional funds to accomplish the DCE CT study of the BBB after lead exposure in transgenic mice, taking into account the increased hourly rate at IUSM. Total cost $145,969. Role: PI (effort as needed; no salary requested).

6. NIH/NIEHS 3R01 ES027078-03S1 Zheng/Freeman (MPI) 07/17/2020 – 07/31/2022
Establishing a Zebrafish Model of Cerebral Amyloid Angiopathy to Study Lead-induced AD
A minority supplemental grant to R01 ES027078 aiming at establishing a novel CAA zebrafish model to study the pathoetiology of AD. Total cost $104,755. Role: Co-PI (effort as needed; no salary requested).

7. NIH/NINDS R01 NS094607-21 Louis, ED (PI) 03/01/2016 – 02/28/2021
Environmental Epidemiology of Essential Tremor
To study the role of beta-carboline alkaloids in the etiology of essential tremor. Total cost $3,593,950. Total cost $519,250 to Zheng. Role: Co-Investigator (5%)

8. Yale University (GRANT#20078317) Zheng, W (PI) 10/08/2019 – 10/31/2021
Development of a LC-MS Method for Quantifying Harmane in Human Brain Tissues
To develop an effective method to quantify harmane in human brain tissues for clinical environmental health study of essential tremors. Total cost $31,000. Role: PI (effort as needed; no salary requested).

9. NIH/NIEHS R13 ES030964-01 Zheng, W (PI) 07/01/2019 – 06/30/2020
The 13th Biennial Conference of the Int'l Society of Trace Element Research in Humans
To support the biennial conference of the Int'l Society for Trace Element Research in Humans held in Bali, Indonesia, Sept 22-26, 2019. Total cost $18,000. Role: PI (effort as needed).

10. AgSeed Purdue University Gondhalekar A (PI) 03/01/2019 – 02/29/2020
Defining target sites for plant essential oil constituents used in agricultural, veterinary and structural insect pest management
A collaborative project between Entomology and Health Science to develop a highly effective organically grown product for "green" insect pest control and management in agriculture as well as in daily public life. Direct cost: $50,000. Role: Co-I.

11. NIH/NIEHS R56 ES008146 Zheng, W (PI) 12/01/2015 – 11/30/2016
Adult Neurogenesis in Mn-Induced Neurotoxicity
To test the hypothesis that Mn interaction with Cu underlies the altered adult neurogenesis in subventricular zone which contributes to Mn-induced parkinsonian disorder. Total cost $155,000. Role: PI (effort as needed)

12. NIH/NIOSH R21 OH010700-01 Nie, Linda (PI) 07/01/2014 – 06/30/2016
Bone Mn as a Biomarker for Early Diagnosis of Mn Neurotoxicity in Occupationally Exposed Workers.
Apply the neutron-based noninvasive technology to seek the association between Mn neurotoxicity and bone Mn accumulation. Total cost $401,479. Role: Co-I (5%).

13. NIH/NIEHS R01 ES008146-18 Zheng, W (PI) 03/01/2010 – 12/31/2016
Choroid Plexus as a Target in Metal-Induced Neurotoxicity
A competitive renewal of RO1 grant to test the hypothesis that the brain barrier systems regulate Cu transport between the blood and CSF through the critical transporters, i.e., Ctr1, DMT1 and ATP7A; exposure to Mn alters the functions of these transporters, leading to a distorted Cu homeostasis in the CSF. Total cost $1,703,576. Role: PI (15%)

14. NIH/NINDS RO1 NS-39422-15 Louis, ED (PI) 04/01/2009 – 06/30/2015
Environmental Epidemiology of Essential Tremor
To study the role of beta-carboline alkaloids in the etiology of essential tremor. Total cost $3,544,189. Total cost $312,178 to Zheng. No-cost extension. Role: Co-Investigator (as needed)

15. NIH/NIOSH R21 OH010044-01 Nie, Linda (PI) 08/01/2012 – 07/31/2015

Development and Validation of A Novel Neutron Technology for Bone Mn Assessment
To develop a novel neutron-activated X-ray fluorescent technology for noninvasive quantification of manganese in bone. To validate in animal models and test in human subjects. Total cost $355,234. Role: Co-Investigator (5%).

16. NIH/NIEHS 3R01ES008146-14S2 Zheng, W (PI) 08/01/2011 – 07/31/2013
Research Supplements to Promote Diversity in Health-Related Research Program
A supplemental grant to support Christopher Bates, a minority doctoral student, for his research in choroid plexus and a-synuclein clearance by the brain barriers. Total $104,737. Role: PI, effort as needed.

17. NIH/NIEHS R13 ES-020094-01 Zheng, W (PI) 03/01/2011 – 02/28/2012
Xi'an International Neurotoxicology Conference
Financial support to the joint international conference of the 13th International Neurotoxicology Association Biennial Meeting (INA-13) and 11th International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health (NEUREOH-11) in Xi'an, China between June 5-10, 2011. Total cost $13,000. Role: PI (2%).

18. Showalter Trust Foundation Pushkar/Zheng (Co-PI) 07/01/2011 – 06/30/2012
Analysis of Molecular Mechanisms of Adult Neurogenesis and Brain Repair by Synchrotron Based Biomedical Imaging and Spectroscopy
To use XRF technique to study whether Cu-metallothionein promotes the neuronal survival and regeneration in cell culture and injured brain. $75,000. Role: Co-PI (effort as needed).

19. NIH/NIEHS R21 ES017055 Zheng, W (PI) 03/01/2009 – 02/28/2012
Beta-Amyloid Clearance by Mammalian Choroid Plexus: Effect of Lead Exposure
To explore the role of blood-CSF barrier in the choroid plexus in clearance of beta-amyloid present in the CSF and to demonstrate whether and how lead accumulation in the choroid plexus may affect this process, to contribute to etiology of Alzheimer's disease. Total $422,842. (5%) no-cost extension

20. U.S. NSF CBET 0828832 Cheng, JX (PI) 01/01/2009 – 12/31/2011
Selective Imaging and Eradication of Activated Macrophages Using Bio-conjugated Plasmon-resonant Gold Nanorods
To test the hypothesis that laser irradiation of nanorods accumulated in a plaque could induce apoptosis of macrophages with minimal systemic toxicity. Total cost $331,831. $27,330 to Zheng. Role: Co-investigator (5%)

21. Showalter Trust Foundation Freeman, JL (PI) 08/01/2010 – 07/31/2011
Fetal Origin of Adult Neurologic Disorders: Reelin
To study alteration of reelin – a nerve growth regulatory gene – by low dose lead (Pb) exposure to understand the novel mechanism of the fetal origin of neurological disorders. $75,000. Role: Co-Investigator (effort as needed).

22. NIH/NIEHS R21 ES017498 Dydak, U, (PI) 09/05/2009 – 06/30/2011
Effect of Manganese Exposure on GABA and Glutamate in Human Brains by MRS
Use MRS technique to explore the mechanism underlying Mn-induced parkinsonian syndromes. Total cost $417,730. Role: Co-Investigator (5%)

23. U.S. DoD USAMRMC W81XWH-05-1-0239 Zheng, W (PI) 04/01/2005 – 02/28/2011
Biomarkers of Manganese Neurotoxicity: MRI and MRS in Manganese-Exposed Smelting Workers and Relationship to External and Internal Exposure Indices
To use magnetic resonance imaging and spectroscopic techniques to mechanistically explore Mn-elicited neuronal damage among a well-established smelter cohort in Zunyi, China. Total cost $643,848. (15%)

24. Showalter Trust Award Dydak, U (PI) 07/01/2009 – 06/30/2010

New Therapeutic Treatment of Manganese Parkinsonism by Para-Amino Salicylic Acid: A Magnetic Resonance Imaging and Spectroscopy Study
To assess the effect of para-amino salicylic acid as treatment to manganism in rats. Total cost $50,000. Role: Co-Investigator

25. NIH/NIEHS RO1 ES-08146-12 Zheng, W (PI) 12/01/2005 – 02/28/2010
Choroid Plexus as a Target in Manganese-Induced Neurotoxicity
To test the hypothesis that that the altered expression of DMT1 and MTP1 in the choroid plexus following Mn exposure contributes to Mn-induced Fe metabolism disorder in the CSF. Total cost $1,635,049. Role: PI (25%)

26. NIH/NINDS RO1 NS-39422-09 Louis, ED (PI) 04/01/2005 – 03/31/2009
Environmental Epidemiology of Essential Tremor
To study the role of beta-carboline alkaloids in the etiology of essential tremor. Total cost $1,734,796. Total cost $112,361 to Zheng. Role: Co-Investigator (8%)

27. NIH/NIEHS R21 ES013118 Zheng, W (PI) 04/01/2005 – 03/31/2007
Creation of an In Vitro Brain Barrier Transport System
To use the molecular techniques to create a novel in vitro blood-brain/CSF barrier model for transport study of materials in and out of brain. Total cost $398,479. Role: PI (15%)

28. NIH/NINDS RO1 NS-39422-04 Louis, ED (PI) 07/01/2000 – 06/30/2004
Environmental Epidemiology of Essential Tremor
To identify environmental risk factors for ET and determine if the degree of exposure to these factors correlates with tremor severity. Total $1,629,796. Role: Co-Investigator (15%)

29. Eli Lily Pharmaceuticals, RPFA # 0GJ63 Zheng, W (PI) 06/01/2004 – 05/31/2005
Improvement of an in Vitro Model of Blood-Brain/CSF Barrier
To improve the existing blood-CSF barrier cell line for drug screen and extend the research to invent a human brain barrier cell line. Total $22,800 for unlimited years. Role: PI.

30. NIH/NIEHS R13 ES012495 Zheng, W (PI) 03/15/2003 – 04/30/2004
Choroid Plexus in Health and Diseases
Organizer of International Workshop in London, UK, April 11-14, 2003. To develop the forum for scientists to exchange idea in blood-CSF barrier research field. Direct cost $8,450. Role: PI

31. International Society for Neurochemistry Zheng , W (PI) 02/01/2003 – 06/30/2004
Metal-Induced Neurodegeneration: From Global Exposure to Individual Susceptibility
Chairman of International Symposium held in Hong Kong, China, Feb, 2004. To stimulate the intellectual exchange in metal neurotoxicology. Direct cost $5,000. Role: PI

32. NIH/NIEHS RO1 ES-08146-07 Zheng, W (PI) 12/01/2001 - 11/30/2005
Choroid Plexus as a Target in Metal-Induced Neurotoxicity
To test the hypothesis that accumulation of Mn in the choroid plexus alters Fe regulatory mechanisms in the blood-CSF barrier and disturbs Fe homeostasis in the CSF, which may contribute to Mn-induced neurodegenerative Parkinsonism. Total cost $1,134,475. Role: PI (30%)

33. National Natural Science Foundation of China (NSFC)
NSFC#30000140 Li, Guojun (PI) 01/01/2001 – 12/31/2003
Mechanism of Environmental Factor in Parkinson Disease: Mitochondria Damage Induced by Mn
To study the mitochondrial damage and apoptosis induced by manganese exposure in experiment animals and in vitro culture system. Direct cost ¥150,000 ($18,750). Role: Co-PI

34. R21AT00836 Murphy, P (PI) 09/15/2001 – 09/14/2003
NIH/NCCAM (National Center for Complementary and Alternative Medicine),
Effects of Hypericum Perforatum on Oral Contraceptives
To evaluate the effects of chronic use of St. John's Wort (Hypericum perforatum) on metabolism of contraceptive steroids and ovarian suppression. Role: Co-Investigator (15% in Y02-03)

35. NIH/NIEHS P30 ES-09089 Graziano, J (PI) 07/01/2001 – 12/31/2002
Potential Biomarker for Occupational Exposure to Mn in China (Pilot grant)
To identify and characterize the human population that is relatively stable and under accountable sources of Mn exposure. Direct cost $20,000. Role: PI of the pilot grant

36. Burrows Wellcome Fund Award #021366 Deane, R (PI) 05/01/2002 – 02/28/2003
Effect of Manganese on Iron Transport into Brain: Implications for Manganese-Induced Parkinsonism
To study if exposure to Mn alters Fe regulatory mechanisms in the BBB and BCB, thereby disturbing Fe homeostasis in the CSF and brain. Direct cost £5542. Role: Co-Investigator

37. Burrows Wellcome Fund Award #1001670 Zheng, W (PI) 05/01/2001 – 02/28/2002
Alteration of Thyroxin Transport at the Choroid Plexus by Lead
To use in situ perfused sheep choroid plexus model to investigate whether lead exposure alters the influx of thyroxin from the blood to the choroid plexus. Collaborated with Dr. Malcolm B. Segal at King's College London, UK. Direct cost $5,989. Role: PI

38. Beijing Science Committee Grant#9558102800 Li, Guojun (PI) 10/01/2000 – 09/30/2005
Influences on mtDNA, NO, NOS in Mitochondria by Environmental Factor Manganese
To study the effect of Mn on mtDNA including point mutation and reactive oxygen species and to investigate the subcellular targets of Mn cytotoxicity. Direct cost ¥420,000 ($71,250). Role: Co-PI.

39. NIH/NIEHS RO1 ES-08146-01 Zheng, W (PI) 03/01/1998 – 02/28/2001
Choroid Plexus as a Target in Lead-Induced Neurotoxicity
To test the hypothesis that environmental Pb exposure induces a depression of CP TTR production, which may impair brain development by depriving it of thyroid hormones. Total $988,728. (45%)

40. Epilepsy Foundation of America Bazil, CW (PI) 07/01/1998 – 12/31/1999
Drowsiness, Sleep, and Circadian Rhythms in Patients with Temporal Lobe Epilepsy
The major goals of this clinical project are to investigate the role of melatonin in epilepsy. Direct cost $40,000. Role: Co-investigator (5%)

41. NIEHS Center Pilot Grant Louis, ED (PI) 05/01/1998 – 04/30/1999
Techniques in Studying Environmental Epidemiology of Essential Tremor
To develop the methods to study environmental causes of essential tremor and to produce preliminary data for an RO1 grant. Direct cost $25,000 for one year. Role: Co-Investigator

42. Calderon Foundation Zhao, Q (PI) 09/01/1998 – 08/31/1999
Does Iron (Fe) Play a Role in Manganese (Mn)-Induced Parkinsonism?
To investigate if chronic Mn exposure causes cellular Fe overload in rat brain. Total $2,500. Role: Co-Investigator

43. NIH/NIEHS RO1 ES-07042-01 Zheng, W (PI) 12/01/1994 – 11/30/1997
Biotransformation of DMSA (Succimer) in Humans
To study that the efficacy of DMSA for treatment of childhood lead poisoning is associated with the extent to which DMSA is metabolized to its active mixed disulfides. Total $532,868. Role: PI (30%)

44. NIH/NIEHS P20 ES-06831 Graziano, JH (PI) 04/01/1994 – 03/31/1997
Environmental Health in Harlem
Development of an interdisciplinary collaborative research aimed at the major environmental health problems of socio-economically disadvantaged populations in New York City. Total $525,000. Role: Co-Investigator (20%)

45. Calderon Foundation Zheng, W (PI) 06/01/1994 – 05/31/1995
Establishment of Choroid Plexus Cell Culture
To establish primary choroid plexus tissue culture to investigate the role of the blood-CSF barrier as affected by environmental exposure to toxic substances. Total $7,500. Role: PI

46. NIEHS Center Pilot Grant Zheng , W (PI) 09/01/1994 – 08/31/1995

Effect of Lead (Pb) Exposure on Normal Functions of the Choroid Plexus
To test the hypothesis that accumulation of Pb in the choroid plexus can alter the normal functions of the blood-CSF barrier. Total $25,000. Role: PI

NIH/NIEHS-NTP Sipes, G (PI) 1988 - 1993.
Chemical Disposition in Mammals
Study of salicyl-azo-sulfapyridine, indium phosphide, tetrachloroazobenzene and anthraquinone in mammals as a part of National Toxicology Program (NTP) study. ($1,434,938). Role: Project Coordinator

Private Fund of $4,000 to study Mn kinetics in dogs (2001-2003).
Private Fund of $10,500 to study health effect of aging, toxicants, and eye functions (1996-1999).

C. HONORED ACTIVITIES

Visiting and Adjunct Professorship

- Visiting Professor, Institut national de la santé et de la recherche médicale (INSERM) (French National Institute of Health and Medical Research), Lyon, France (1/03/2020-6/30/2020)
- Adjunct Professor, Peking University Health Science Center, Beijing, PRC (2016-2019, unpaid)
- Adjunct Professor, Zunyi Medical College School of Public Health, Zunyi, PRC (2006-2020, unpaid)
- Visiting Professor, Guangxi Medical University, Nanning, PRC (2006-2011, unpaid)
- Visiting Professor, Zhejiang University College of Pharmacy, Hangzhou, PRC (2006-2011, unpaid)
- Visiting Associate Professor, Zunyi Medical College, Zunyi, PRC (2004-2006, unpaid)
- Visiting Associate Professor, Capital University of Medical Sciences, Beijing, PRC (2002-2006, unpaid)
- Visiting Professor in the Dept. of Physiology, King's College London, St Thomas' Hospital, London, UK. Summers of 2000 and 2001
- Visiting Assistant Professor, Zhejiang University College of Pharmacy, Hangzhou, China (1995-2001)

Leadership in National/International Conferences

Jun 2022 **Chair**, Symposium Manganese-induced Neurotoxicity: Genetic, Epidemiologic, and Environmental Perspectives in the International Conference of Trace Elements and Minerals, Aachen, Germany.

Mar 2022 **Chair**, Poster session of "Neurotoxicology: Metals" in Society of Toxicology annual meeting in San Diego, CA.

Mar 2021 **Co-chair**, Continuing Education Course "Concepts and Approaches for Current and Future Metal Toxicological Research", a basic course for Society of Toxicology annual meeting.

Mar 2021 **Co-chair**, Symposium "Impaired Brain Barrier Systems: Relationship to Chemical-induced Neurotoxicities". Society of Toxicology annual meeting (virtually).

June 2020 **Chairman**, Regional Conference on the Blood-Brain Interfaces: Health, Diseases, and Intervention", Neurocampus Louis Jouvet and CRNL, Bron, Lyon, France

Mar 2020 **Co-chair**, Continuing Education Course "Gateway Technologies in Metal Toxicological Research", an advanced course for Society of Toxicology annual meeting, San Antonio, TX.

Sep 2019 **Chairman**, the 13th Biennial Conference of the International Society for Trace Elements Research in Humans sponsored by Indonesia Ministry of Higher Education, NIH/NIEHS, and SOT, Bali, Indonesia, Sept 22-26. (with 167 delegates from 21 nations)

Mar 2019 **Chairperson**, Symposium "a-Synuclein: A Good Protein Turned Bad in Chronic Brain Diseases with Toxicological Implications". Society of Toxicology annual meeting, Baltimore, MD.

Mar 2018 **Co-chair**, Symposium "Toxicological Implication of Copper in Neurodegenerative Diseases". Society of Toxicology annual meeting, San Antonio, TX.

Mar 2017 **Chairperson**, Continuing Educational Course "New Concepts and Technologies in Metals Toxicology". Society of Toxicology annual meeting, Baltimore, MD.

Mar 2016 **Chairperson**, Poster session "Neurotoxicology: Metals" in the 55th Society of Toxicology annual meeting, New Orleans, LA.

Oct 2015 **Chair**, Symposium "Baseline Blood Levels of Trace Elements in Humans and Toxicities Induced by Exposure to Toxic Metals", and **Chair**, Symposium "Toxicological Implication of Metallic Nanoparticles" in Int'l Society for Trace Element Research in Humans, Dubrovnik, Croatia.

Mar 2015 **Chair**, Symposium "Adult Neurogenesis in Chemical-Induced Neurotoxicities: A New Frontier in Toxicological Mechanistic Investigations, Biomarker Research and Therapeutic Targeting" Society of Toxicology annual meeting, San Diego, CA.

Mar 2014 **Chair**, Workshop "Is Manganese-Induced Parkinsonism Mediated via Dopamine Neuron Degeneration or Dysfunction?" Society of Toxicology annual meeting, Phoenix, AZ.

Nov 2013 **Chair**, Symposium on New Insights into the Role of Manganese in Health and Disease. The 10th International Society for Trace Elements Research in Humans. Tokyo, Japan.

Nov 2013 **Chair**, Symposium on Environment Sources of Neurological and Neurobehavioral Alterations: From Diet and Chemical Exposure to Epigenetic Modification, in the 6th Chinese Society of Toxicology meeting, Guangzhou, China.

Mar 2013 Co-**Chair**, Symposium "Application of systems biology to identify molecular mechanisms and biomarkers of lead (Pb) neurotoxicity: Implications in a developmental origin of Alzheimer's disease." Society of Toxicology annual meeting, San Antonio, TX.

Jun 2011 **Chairman**, International Organization Committee, Xi'an International Neurotoxicology Conference sponsored by International Association of Neurotoxicology, International Congress on Occupational Health, NIH, and EPA, June 5-10, Xi'an, China. (with 281 delegates from 26 nations)

Mar 2011 **Chairperson**, Poster session "Metal Neurotoxicity: Manganese and Lead" the 50th Society of Toxicology annual meeting, Washington DC.

Mar 2009 **Chairperson**, Symposium "Does Metal Toxicity Play a Role in the Etiology of Alzheimer's Disease?" Society of Toxicology annual meeting, Baltimore, MD.

Mar 2009 **Chairperson**, Continuing Education Course "New Frontiers in Metal Toxicology: Genetic Susceptibility, Early Diagnosis, and Related Biological Indices" Society of Toxicology annual meeting, Baltimore, MD.

Sep 2008 **Vice Chairman,** The International Conference on Nanotoxicology. China Association for Science and Technology, Chinese Academy of Sciences, Chinese Society of Toxicology, and American Association of Chinese in Toxicology. Zhengzhou, China, Sep 17-19, 2008

Mar 2007 **Chairperson**, Workshop, "Advances in causation, diagnosis, and therapy of Parkinson's and Parkinson-like movement disorders: Views from toxicologists and clinicians" Society of Toxicology annual meeting, Charlotte, NC.

Mar 2006 **Chairperson**, Continuing Education Course of Society of Toxicology, "Essentials of Metal Toxicology", San Diego, CA.

Sep 2005 **Chairperson**, Sub-Symposium, "Health Effect of Manganese Exposure", the 9th International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health. Gyeongju, Korea.

Mar 2005 **Chairperson**, Symposium, "What makes metal neurotoxic in Neurodegenerative Disorders?" Society of Toxicology annual meeting, New Orleans, LA.

Mar 2004 **Chairperson**, Session of Developmental and age-dependent neurotoxicity of metals. Society of Toxicology annual meeting, Baltimore, MD.

Feb 2004 **Chairman**, International Symposium on "Metal-Induced Neurodegeneration: From Global Exposure to Individual Susceptibility," sponsored by International Society for Neurochemistry, Hong Kong, China.

Mar 2003 **Chairperson**, Continuing Education Course of Society of Toxicology, "Unfolding the Secrets in Culturing Brain Cells: Theory, Technique, and Beyond", Salt Lake City, UT.

Mar 2003 **Chairperson**, Session of Metal Exposure, Transport, and Distribution. Society of Toxicology annual meeting, Salt Lake City, UT.

Apr 2003 Member of Organization Committee and **Session Leader**: CP role in brain health and disease. The 2nd International Workshop on Choroid Plexus: Blood-CSF Barrier influence on brain health and disease. King's College London, April 12-14, 2003, London UK.

Mar 2002 **Chairperson**, a special symposium of "Innovations in Toxicological Sciences" by Society of Toxicology, "Brain Barrier System: A Frontier in Neurotoxicological Research," Nashville, TN.

Mar 2001 **Chairperson**, Continuing Education Course of Society of Toxicology, "Neurotoxicology of Metals: Causes and Consequences", San Francisco, CA.

Mar 1999 **Chairperson**, session of Cellular Mechanisms of Metal Neurotoxicity, Society of Toxicology annual meeting in New Orleans.

Invited Lectures and Other Honorarium Activities (Total 108; Last 10 Years Listed)

Mar 2023 Invited Speaker, "Copper-mediated Adult Neurogenesis in Brain Subventricular Zone: Implication in Olfactory Dysfunction in Parkinsonian Manganism". Department of Nutrition Science, Purdue University

Jun 2022 Invited Speaker, "Imbalanced Copper Homeostasis in Brain Disorders: Olfactory Dysfunction and Age-dependent Clearance Disorder at the Blood-Brain Interfaces". College de France, Paris, France

Aug 2021 Invited Speaker, "Lead-Induced Neurotoxicity: From Maternal Exposure to Neurodegenerative Alzheimer's Disease", in the Virtual Conference of the International Conference of Trace Elements and Minerals from Aachen, GE (via Zoom).

May 2020 Invited Speaker, "Mn-Cu Interaction and Adult Neurogenesis: Roles of Choroid Plexus?" in Neurocampus, French INSERM, Lyon, France (via Webex)

Feb 2020 Invited Speaker, "Transport of b-Amyloid by Brain Barrier System: Relationship to Lead-induced Brain Amyloid Aggregation" in Neurocampus, French INSERM, Lyon, France

Sep 2019 Invited Plenary Speaker, "Role of Copper in Regulating Adult Neurogenesis: Relevance to Non-Motor Dysfunction in Manganese-induced Parkinsonism" in ISTERH-2019 in Bali, Indonesia

June 2019 Invited Keynote Speaker, "Environmental Causes of Disrupted Neurogenesis in Adults" in Chinse Society of Environmental Teratology in Zunyi, China, June 18-22.

June 2019 Invited Speaker, "Environmental Causes of Alzheimer's Disease: Relevance to Lead Exposure" by Department. of Biology, Wubei University of Chinese Medicine, Wuhan, China, June 17th.

June 2019 Invited Speaker, "Blood-Brain Barrier Transport of beta-Amyloid" by School of Medicine, Qingdao University, Qingdao, China, June 14th.

Oct 2018 Invited Speaker, "Transport of beta-Amyloid by Brain Barrier Systems: Relationship to Lead-induced Brain Amyloid Aggregation" by Int'l Conference on the Prevention of Neurodegenerative Diseases: From Basic to Clinic & the 2018 Chinese Society of Toxicology Neurotoxicology Annual Symposium, Shenzhen, China, October 12-15.

Oct 2018 Invited Speaker, "Copper in Adult Neurogenesis: Implications in Manganese-induced Parkinson's Disorder" by Regenerative Medicine Research Center at Sichuan University, Chengdu, China, October 10-11.

June 2018 Invited Speaker, "Lead neurotoxicity in newborns and Alzheimer's disease" in the Metal Workshop at Harvard University School of Public Health, Boston, MA.

May 2018 Invited Speaker, "Copper in adult neurogenesis" in the First Expert Forum on Pharmacological Research and Development, Zunyi Medical University, Zunyi, China.

May 2018 Invited Speaker, "Role of copper in neuronal repair", invited by Peking University School of Public Health, Beijing, China

May 2018 Invited Speaker, "Lead-induced developmental learning disorders", invited by School of Public Health at North China University of Science and Technology, Tangshan, China

Mar 2018 Invited Speaker, "Does Lead Exposure Cause Neurodegenerative Diseases such as Alzheimer's?", Depts of Pharmacology & Toxicology and Pediatrics, University of Louisville School of Medicine, Louisville, KY. March 26-27.

Mar 2018 Invited Speaker, "Lead-induced neurotoxicities: From maternal exposure to neurodegenerative Alzheimer's disease" in a workshop "Get the lead out" in Society of Toxicology annual meeting in San Antonio, TX (Mike Hughes and Karen Bradham)

Oct 2017 Invited Speaker, "Lead Toxicity and Alzheimer's Disease" invited by College of Life Sciences, South China Agriculture University, Guangzhou, China.

Oct 2017 Invited Speaker, "Advances in Metal Toxicology" invited by the School of Public Health, Guangzhou Medical University, Guangzhou, China.

Oct 2017 Invited Speaker, "Altered Adult Neurogenesis in Neurodegenerative Disorders" invited by the College of Veterinary Medicine, Iowa State University, Ames, IA.

Jun 2017 Invited Speaker, "Altered Adult Neurogenesis: Implications in Manganese-Induced Parkinsonian Disorder" invited by the 16th International Symposium on Trace Elements in Man and Animals, the 12th Conference of International Society for Trace Element Research in Humans, and the 13th Nordic Trace Element Society in St. Petersburg, Russia.

May 2017 Invited Speaker, "New Concepts and Technologies in Metals Toxicology", invited by School of Public Health, Qingdao Medical University, Qingdao, China

Apr 2017 Invited Speaker, "Transport of α-Synuclein at the Blood-Cerebrospinal Fluid Barrier: Implications in Manganese-Induced Parkinsonian Disorder" invited by the International Symposium on alpha-Synuclein at the Blood-Brain Barrier in Parkinson`s Disease. University of Heidelberg, Heidelberg, Germany.

Mar 2017 Speaker, "New concepts and technologies in metals toxicology" in Continuing education course in the 56th SOT annual meeting in Baltimore, MD. Toxicologist 156(1): Abstract #1005.

Nov 2016 Invited Speaker, "Perspectives on Public Health Research on Metal Exposure." School of Public Health at Peking University, Beijing, China.

Oct 2016 Invited Speaker and Section Chair, "Role of Altered Adult Neurogenesis in Manganese-Induced Parkinsonian Disorder" in the 7th Euro-Global Summit on Toxicology, Rome, Italy.

Jul 2016 Invited Speaker. "Role of altered adult neurogenesis in manganese-induced parkinsonian disorder" in the 7th Euro-Global Summit on Toxicology, Rome. J. Clin Toxicol 6:6(Suppl);63.

Apr 2016 Invited Speaker, "Metal Exposure and Neurodegeneration" in School of Public Health at Sun Yat-Sen University, Guangzhou, China.

Apr 2016 Invited Speaker, "Manganese Accumulation in Bone: Relationship to Mn Neurotoxicity". Padjadjaran University at Bandung, Indonesia.

Apr 2016 Invited Speaker, "Degree Programs at Purdue School of Health Sciences and Opportunities for Student Exchange and Faculty Collaboration" at University of Lampung, Lampung, Indonesia.

Jul 2015 Invited Speaker, "Neurogenesis in Adult Brain: Implications in Toxicological Studies of Parkinsonian Disorders" in the PLA General Hospital, Beijing, China.

Jul 2015 Invited Speaker, "Metal Exposure and Neurodegeneration: Human and Animal Evidences for Parkinsonian and Alzheimer's Diseases" in Chinese CDC Beijing, China

Mar 2015 Invited Speaker, "Mn Accumulation in Bone: Relationship to Mn-Induced Neurotoxicity" in a symposium "Where the Metal Meets the Bone…" in SOT annual meeting, San Diego, CA

Mar 2015 Speaker, "Manganese-copper interaction: Effect on adult neurogenesis and stem cell migration" in a Symposium at SOT in San Diego, CA.

Dec 2014 Invited Speaker, Metal Exposure and Neurodegeneration: Human and Animal Evidences for Parkinsonian and Alzheimer's Diseases. School of Public Health, Harvard University.

Oct 2014 Invited Speaker, Adult neurogenesis in manganese-induced Parkinsonian disorder. Dept of Psychology, Purdue University

Sep 2014 Invited Speaker, "Metal Levels in Normal Subjects and Exposed Workers" in the 1st International Congress on Global Environmental Contamination. Luxembourg.

May 2014 Invited Speaker, Roundtable "Manganese: The 2013 TLB and Biological Monitoring". American Industrial Hygiene Association Conference, San Antonio, TX.

Mar 2014 Speaker, "Accumulation of manganese in substantia nigra and alterations in brain neurochemistry following subchronic manganese exposure in rats" in a workshop in the SOT in Phoenix, AZ

Dec 2013 Invited Speaker, Current States of Lead Neurotoxicological Research. School of Public Health, Zhejiang University, Hangzhou, China

Nov 2013 Invited Speaker, "New directions in toxicological studies of human diseases: metal exposure" in the 6th Chinese SOT meeting in Guangzhou, China

Sep 2013 Invited Speaker, Does Lead Exposure Cause Alzheimer's Disease? School of Public Health, Guiyang Medical College, Guiyang, China

Aug 2013 Invited Speaker, Blood-Brain Barrier and Parkinson's Disease, Tech Forum at Medtronic, Inc., Minneapolis, MN.

Mar 2013 Invited Speaker, Treatment of Manganese Intoxication by Chelation Therapy, the 12th International Symposium on Neurobehavioral Methods and Effects and in Occupational and Environmental Health. Cape Town, South Africa.

Mar 2013 Invited Speaker, Continuing Educational Course "Toxic Effects of Metals". Society of Toxicology annual meeting, San Antonio, TX.

Mar 2013 Speaker, "CNS homeostasis of β–amyloid, plaque formation, and lead toxicity" in a symposium at SOT meeting, San Antonio, TX.

PART IV: TEACHING AND MENTORING CREDITS

A. COURSES TAUGHT

At Purdue University:

- **Introduction to Health Sciences** (HSCI10100): Created and taught the first course in 2003; Instructor on record 2003-2010 and 2017-present.
- **Everyday Toxicology: Poisonings from Clinics to Courtrooms** (HSCI36000): Created and taught the first course in Spring 2022; Instructor on record since 2021.
- **Toxicology** (HSCI560): Instructor on record (2011-2016), participating in teaching since 2003

At Columbia University:

- Systemic Toxicology (P8312): Instructor on record, 1994-2002.
- Toxicokinetics (P8313): Created and taught the first course in 1994; Instructor on record, 1994-2002.
- Principles of Systems Pharmacology (G8001): Course Co-Director 1999-2002.

Recognition by Students:

- Nominated for a Favorite Faculty Award by undergraduate students and invited to the Favorite Faculty Reception hosted by the provost (March 2019)
- Nominated for Distinguished Mentor Award by Purdue Graduate School (February 2011)
- Nominated for Teaching Excellence by students in School of Public Health with Dean's acknowledge letter (May 1999)

Faculty advisor:

- Purdue Caduceus Club (pre-med) (2004-2007)
- Purdue Pre-physician Assistant Club (2020-present)

B. STUDENTS/POSTDOC/VISITING SCHOLAR TRAINED OR IN TRAINING

B1. At Purdue University (2003 – present):

Major Professor for:

1. **Kiley Robison**: in M.S program (08/01/2022 – present)
2. **Luke (Luqing) Liu**: in Ph.D. program (08/15/2018 – 6/30/2023)
   Current Employer: postdoc fellow at Stanford university School of Medicine
   Awards:
   - Wayne V. Kessler Best Graduate Student Award by School of Health Sciences, in recognition of excellence in academic/research performance and teaching potential (West Lafayette, IN), 2023
   - Toshio Narahashi Trainee Conference Endowment Award by Neurotoxicology Special Section of Society of Toxicology (Nashville, TN), 2023
   - 1st Place of InnoStar Best Abstract Award by American Association of Chinese in Toxicology Special Interest Group of Society of Toxicology (Nashville, TN), 2023
   - 1st Place of Society of Toxicology Stem Cells Special Section Excellence in Research Award (Nashville, TN), 2023
   - SOT Graduate Student Travel Award 2022
   - The 1st place award for graduate poster presentation by Ohio Valley SOT in 2022.
3. **Lara (Tianyuan) Sang**: in MS program (01/03/2019 – 5/15/2023)
   Current Employer: TBD
4. **Lilly Xia**: in M.S. program (08/15/2017 – 6/30/2023)
   Current Employer: postdoc fellow at University of Rochester School of Medicine, Rochester, NY
5. **Xinxin Liu**: in Ph.D. program (07/15/2013 – 05/11/2018)
   Award: - SOT Graduate Student Travel Award 2018
6. **Stefanie O'Neal**: Ph.D. (05/15/2012 – 9/30/2015)
   Current Employer: Group Leader at Kao Corporation in Cincinnati, OH
   Awards:
   - Student travel award by PULSe and Purdue's Women in Science Programs
   - Committee for the Education of Teaching Assistants (CETA) Teaching Award in 2013
   - Teaching Academy 2013-2014 Graduate Teaching Award in 2014
   - Society of Toxicology Graduate Student Travel Award ($1,000) in 2014
   - Compton Graduate Travel Award ($500) in 2014
   - The Wayne V. Kessler Best Graduate Student Award by School of HSCI in 2015

7. **Christopher A. Bates**: Ph.D. (05/15/2010 – 8/18/2014)
   Current Employer: Exponent Consulting Firm, Washington DC.
   Awards: - Student Travel Award by PULSe (2012), by HSCI 2014
   - the 1st place award for graduate platform presentation by Ohio Valley SOT in 2012.
   - Purdue Health Sciences Graduate Student Service Award in 2013
8. **Sherleen Xue-Fu Adamson**: Ph.D. (07/20/2008 – 08/03/2013)
   Current Employer: Proctor and Gamble in Cincinnati, OH
   Awards: - Student Travel Award for Outstanding Student Symposium Presentation Recipient in Xi'an International Neurotoxicology Conference by the International Neurotoxicology Association in 2011.
   - Graduate Student Travel Award by American College of Toxicology (2012)
   - Student Travel Award ($1000) by the Society of Toxicology (2012)
   - Recipient of the 3rd place of "Graduate Student Research Award" by the SOT Metals Specialty in 2013.
   - The "Best Platform Presentation" of Postdoctoral Scientist by Ohio Valley SOT in 2014.
   - The "Best Poster Presentation for Postdoctoral Fellow" by Ohio Valley SOT in 2015.
   - The 3rd place of "Postdoctoral Research Award" by SOT Metals SS in 2015.
   - The 1st place of "Postdoctoral Research Award" by SOT Metals SS in 2016.
9. **Andrew D. Monnot**: Ph.D. (06/2006 – 05/2011)
   Current Employer: Amazon Chief Toxicologist, Palo Alto, CA
   Award: - Wayne V. Kessler Best Graduate Student Award by School of Health Sciences in 2011
   - Society of Toxicology Student Travel Award Winner in 2010
10. **Shirisha Chittiboyina**: M.S. (08/15/2009 – May 2011)
    Current Employer: Post/doc at Purdue College of Veterinary Medicine
11. **Samuel Peterson**: M.S. (08/2006 – 09/15/08)
    Current Employer: Postdoctoral fellow at Oregon University of Health Sciences.
12. **Mamta Behl**: Ph.D. (08/14/06 – 09/15/09)
    Current Employer: Neurotoxicology Discipline Leader, National Toxicology Program, NIH/NIEHS, Research Triangle Park, NC.
    Awards: - Travel Award ($1000) by the American College of Toxicology in Tucson, AZ in 2008
    - Student Travel Award ($1000) from the Society of Toxicology for work on lead exposure and the causes of Alzheimer's disease in Baltimore, March 2009
    - The second place best student presentation award ($500) by the Metals Specialty Section of Society of Toxicology in March 2009.
    - The Mehendale and Singh Student/Postdoctoral Young Investigator Award from the Association of Scientists of Indian Origin of Society of Toxicology.
13. **Dallas Cowen**: Ph.D. (06/15/05 – 05/11/08)
    Current Employer: Senior Toxicologist, Center for Toxicol and Env Health LLC, San Diego, CA
    Awards: - Eli Lily Industrial Hygiene Award for outstanding student research ($3,000)
14. **Shirley (Xueqian) Wang**: Ph.D. (08/15/03 – 7/30/07)
    Current Employer: Staff Scientist, ALS/MND Clinic, Ohio State University Med Center, Columbus, OH
    Awards - Victor A. Drill Award for Outstanding Student Research by SOT Midwest Chapter in 2004
    - Student travel award by Society of Toxicology in 2006
    - Wayne V. Kessler Best Graduate Student Award by School of Health Sciences in 2006
15. **Lewis Shi**: M.D., Ph.D. (05/20/03 – 08/31/05)
    Current Employer: Associate Professor, Director of Radiobiology, University of Alabama Birmingham School of Medicine, Birmingham, AL
    Awards: - Victor A. Drill award for Outstanding Student Research by SOT Midwest Chapter in 2004

- Student travel award by Society of Toxicology in 2005
- The second-place Best Student Research award by SOT In Vitro Section in 2005
- Graduate Travel Award for the SOT in 2005
- Wayne V. Kessler Best Graduate Student Award by School of Health Sciences in 2005

Serve as an Advisor in Graduate Committees:

1) **Sam Vielee** in PhD program (01/2022 – present) Major Advisor: Jonny Wise Dept. of Phar/Tox, University of Louisville School of Medicine, Louisville, Kentucky
2) **Hyunjin Kim** in PhD program (05/2019 – present) Major Advisor: Aaron Bowman
3) **Alexis Webb** in PhD program (01/2020 – 06/2023) Major Advisor: Linda Nie
4) **Lilly (Li) Xia** in PhD program (05/2019 – 06/2023) Major Advisor: Jonathan Shannahan
5) **Keturah Kiper** in PhD program (01/2019 – 05/2022) Major Advisor: Jennifer Freeman
6) **Ola Wasel** in MPH/MS program (09/2017 – 07/2019) Major Advisor: Jennifer Freeman
7) **Xinxin Zhang** in PhD program (08/2017 – 05/2021) Major Advisor: Dr. Linda Nie
8) **Lisa Kobos** in PhD program (08/2017 – 07/2020) Major Advisor: Dr. Jonathan Shannahan
9) **Seth A. Herr** in PULSe program (07/2017 – 05/2021) Major Advisor: Dr. Riyi Shi (Biomedical Engineering)
10) **Rachel Foguth** in PhD program (02/2017 – 07/2020) Major Advisor: Dr. Jason Cannon
11) **Sudip Gaire** in PhD program (11/2016 – 05/2020) Major Advisor: Dr. Ameya Gondhalekar (Entomology)
12) **Zainab Hasan** in PhD program (05/2016 – 05/2020): Major Advisor: Dr. Ellen Wells
13) **David Edmondson** in PhD program (08/2014 – 06/2018): Major Advisor: Dr. Ulrike Dydak
14) **Katie Horzmann** in PhD program (06/2015 – 05/2018): Major Advisor: Dr. Jennifer Freeman
15) **Johnny Wise** in PhD program (05/2014 – 05/2018); Major Advisor: Dr. Jason Cannon
16) **Danelle Rolle** in PhD program (05/2014 – 07/2018); Major Advisor: Dr. Ellen Wells
17) **Christlene Horton** in PhD program (05/2014 – 05/2016); Major Advisor: Dr. Candace Tsai
18) **Sena Agim** in PhD program (11/2013 – 05/2017); Major Advisor: Dr. Jason Cannon
19) **Xindi (Cindy) Ding** in MS program (11/2013 – 05/2016); Major Advisor: Dr. Jason Cannon
20) **Menghan Liu** in MS program (11/2013 – 05/2016); Major Advisor: Dr. Jason Cannon
21) **Brendan Sullivan** in Ph.D. program (05/2013 – 05/2015); Major Advisor: Dr. Yulia Pushkar PHYS
22) **Yinzi Liu** in Ph.D. program (08/15/2010 – 06/2016); Major Advisor: Dr. Linda Nie
23) **Sara Hargrave** in Ph.D. program (03/2012 – 08/2014); Major Advisor: Dr. Kim Kinzig PSYC
24) **Zaiyang Long** in Ph.D. program (02/2010 – 08/2013); Major Advisor: Dr. Ulrike Dydak
25) **Scott Johns** in Ph.D. program (08/2010 – 05/15/2013); Major Advisor: Dr. Ulrike Dydak
26) **Gregory Robison** in Ph.D. program (07/2010 – 12/31/2013); Major Advisor: Dr. Yulia Pushkar
27) **James Dant**: in MS program/Health Physics (01/2011 – 05/2013); Major Advisor: Dr. Linda Nie
28) **Shalmali Dharmadhikari**: in Ph.D. program (04/2010–05/15/2012); Major Advisor: Dr. Bensol Navin
29) **Samuel Peterson**: in Ph.D. program (09/2008 – 05/2012); Major Advisor: Dr. Jennifer Freeman
30) **Steven Sanchez**: in Ph.D. program (02/2009 – 05/2012); Major Advisor: Dr. Linda Nie
31) **Haijuan Gao**: in M.S. program (Sept 2009 – 05/2010); Major Advisor: Dr. Shuang Liu
32) **Mesoloras, Geraldine**: in Ph.D. program (09/2008 – 05/2010); Major advisor: Dr. Robert Stewart
33) **Scott Kanoski**: Ph.D. (09/2008 – 08/2009); Major Advisor: Dr. Terry Davidson (Dept. Psychology)
    Project: High energy diet on hippocampus dependent learning processes
34) **Eric Pepin**: in Ph.D. program (08/2007 – 12/2010) (co-chair with Dr. Wanmei Hu)
    Thesis: Dose calculation in radiological therapy
35) **Anna Kristina Meszka-Jordan**: M.S. (Oct 2007 – May 2009); Major Advisor: Dr. Carlson
    Project: Toxicology of solvents
36) **Jessie Puryear**: M.S. (Jan 2007 – Dec 2008); Major Advisor: Dr. Robert Stewart

Project: Health Physics

37) **Judy James**: Ph.D. (June 2005 – May 2009); Major advisor: Dr. Navin Bansal
Project: Magnetic resonance spectroscopy imaging of liver
38) **Jill Harvilchuck**: Ph.D. (May 2005 – Feb 2009); Major advisor: Dr. Gary Carlson
Project: Bioactivation of styrene
39) **Heather Leavesley**: Ph.D. (July 2004 – May 2009); Major advisor: Dr. Gary Isom.
Project: Signaling of G-protein coupled receptors in neuronal cell death
40) **Xu Zhang**: Ph.D. (Aug. 2004 – Sept 2008); Major advisor: Dr. Gary Isom.
Project: Neuronal cell death-cyanide
41) **Mark D. Wilson**, M.S. (Sept. 2003 – Sept 2007); Major advisor: Dr. James McGlothlin.
Project: Smoking and heart rate
42) **Brent L. Yeagy**: Ph.D. (left with a M.S.) (May 2003 – May 2005); Major advisor: Dr. Frank Rosenthal
Project: Particle and heart rate
43) **Lu Zhang**: Ph.D. (Oct 2003 – May 2009); Major advisor: Dr. Gary Isom
Project: Cell death pathway in dopamine neurons
44) **Fan Xu**, Ph.D. (May 2003 – Dec 2005); Major advisor: Dr. James McGlothlin
Project: Real time exposure monitoring
45) **Patrick Sheets**: M.S. (Mar. 2003 – Aug. 2004); Major advisor: Dr. Gary Carlson
Project: Metabolism of organic chemical

Undergraduate Students:

1 **Andrew Folkes** in HSCI pre-med program (10/2022 – present)
2 **Vivian Hurn** in HSCI (09/2020 – present) in pre-med program
3 **Vincent Calhoun** in HSCI (09/2020 – 02/2023): PA student at Butler University
4 **Sarah Du** in pre-med at Emory University (01/2021 – present)
5 **David Du** high school student interested in medicine (05/2019 – present)
6 **Maggie Chen** in pre-pharmacy (11/07-2018 – 05/2020)
7 **Sai Dwibhashyam** in HSCI (03/2018 – 05/2019) in pre-med program
8 **William Schrock** in HSCI (03/2016 – 05/2018): Medical student at IU School of Medicine
9 **Erin Kay** in HSCI Honors Program (09/2014 – 05/2018): Medical student in College of Osteopathic Medicine at Marian University in Indianapolis, IN.
10 **Vivien Lai** in Biology pre-med (08/2013 – 05/2018)
11 **Andrew Zeng** in summer program (08/2013 – 08/2015): Medical student in Albany Medical School
12 **Stephanie Barthuly** in HSCI Honors program (10/2012 – 05/2013): Dental student in a dental school
13 **Amanda Beering** in Biology pre-med program (08/2012 – 05/2014): Graduate student at Columbia University Barnard College.
14 **Alex Jones** in HSCI Honors program (01/2012 – 05/2015): Medical student at IU Medical School in 2015. Highlighted in Journal of Purdue Undergraduate Research
15 **Emily Li**, in pharmacy program at Purdue College of Pharmacy (01/2011 – 02/2012)
16 **Helen (Dong) Shao** in pre-pharmacy (03/2010 – 05/2015): Student at Purdue Pharmacy School; with PharmD, RPh, working in Short-Hills Pharmaceuticals, Raritan, NJ
17 **Nate Quinlan** in HSCI Honors program (01/2012 – 05/2012)
18 **Michelle (Yuen Sze) Chan** in Biology (08/2009 – 25/2012), registered nurse in Hong Kong, applying for the Med School in Hongkong
19 **Sanna Ho** in HSCI (05/2009 – 05/2010): PhD student at IUB
20 **Mark Ziemba** in HSCI (05/2010 – 12/2010), DDS in Fisher, IN
21 **Jillian Jackson** in HSCI (05/2009 – 12/2009)
22 **Jonathan Nixon** in HSCI (07/2007 – 05/2008)

23 **James Huffman** in Biology (07/2006 – 06/2007)
24 **Greg Allen** in HSCI (01/2005 – 05/2006)
25 **Kent Williams** in Biology (01/2005 – 08/2005)
26 **Erica Frasier** in HSCI (01/2016 – 12/2016)
27 **Maneesha Chigurupati** in HSCI (2003 – 2005); Lilly HP award 2005; first job in a nuclear power plant. DDS in Greenwood, IN
28 **Ellen L. Smith** in Neurobiology and animal physiology (05/2004 – 05/2005), J.D./Ph.D. Intellectual Property Law and Patent Law. Chicago.
29 **Jessica Shafer** in Pre-Pharmacy program (01/2004 – 08/2004): Pharmacy student at Purdue Pharmacy School
30 **Ayesha Pergadia** in HSCI program (04/2004 – 12/2004) accepted by Northwestern University MBP program. Regulatory Affairs Leader, GE Healthcare, Waukesha, WI.

B2. At Columbia University (1993 – 2003):

Major Professor for:

16. **J. Richard Pilsner**: M.S. (September 2000 – January 2003)
    Thesis: Effect of Mn on Iron Regulatory Protein-1 in Rat Brain
    Award: EPA STAR Fellowship award recipient (2001-2003).
    Current employer: Professor and Robert J. Sokol Endowed Chair of Molecular Obstetrics and Gynecology in Department of Obstetrics and Gynecology at Wayne State University School of Medicine, Detroit, MI.
17. **Mark G. Opler**: Ph.D. (May 1999 – September 2002)
    Thesis: Maternal Pb exposure and schizophrenia
    Award: Outstanding presentation award by SOT Neurotoxicology Specialty Section in Salt Lake City, UT, 2003.
    Current employer: Assistant Professor, Dept of Psychiatry and Environmental Medicine, New York University School of Medicine, New York, NY
18. **Ulpu Andersson**: MPH (September 2000 – May 2002)
    Thesis: beta-carboline derivatives and the causes of essential tremors
    Current employer: Department of Environmental Health, Finnish Academy of Sciences, Helsinki, Finland
19. **Susan Lai**: MPH (September 1999 – May 2001)
    Thesis: Establishment of Primary culture of endothelial cells
    Current employer: US Genomics, Inc., Boston.
20. **George Tsao**: MPH (September 1998 – May 2000)
    Thesis: Comparison of cytotoxicities induced by Mn(II) or Mn(III).
    Award: Travel Award by Society of Toxicology, annual meeting in Philadelphia, 2000.
    Current employer: M.D. Anesthesiologist, VA Southern Nevada Healthcare System, North Las Vegas, NV
21. **Linda Dunn**: MPH (September 1999 – May 2000)
    Current employer: United States Navy.
22. **Hyaehwan Kim**: MPH (September 1997 – May 1999)
    Thesis: Toxicokinetics of manganese chloride and methylcyclopentadienyl Mn tricarbonyl in Sprague-Dawley rats.
    Current employer: M.D., General Surgery, Univ of Utah Schl of Med, Salt Lake City, UT
23. **Onpan Cheung**: MPH (January 1998 – May 1999)
    Thesis: Determination of T4 in human CSF samples
    Current employer: M.D., Gastroenterologist, Upland, CA.

24. Joseph Eichenbaum, M.D.: MPH (September 1996 – May 1999)
Thesis: Distribution of lead and transthyretin in human eyes.
Current employer: Clinical Professor of Ophthalmology, Mount Sinai School of Medicine, NYC, NY

25. Sean Ren: MPH (June 1995 – May 1998)
Thesis: Determination of lamotrigine in biological materials by a simple and rapid liquid chromatographic method.
Current employer: Shering-Plough Pharmaceutical Company (Merck)

Served as an Advisor in Doctoral Graduate Committee at Columbia Univ:

46) **Mark Maddaloni**, DrPH (1995 – 1998). U.S. EPA Branch in Manhattan, NY
47) **Bao-yun Yin**, DrPH Thesis Examination Committee, 1994

C. SENIOR/POSTDOCTORAL FELLOWS TRAINED OR IN TRAINING

Senior Research Fellows:

1 Ms. **Yundan Xu**, M.S.: Lecturer, Visiting Professor, School of Basic Medical Science, Hubei University of Chinese Medicine, Wuhan, China (10/01/2019 – 09/30/2020).

2 Dr. **Xuqin Du**, MD., Ph.D.: Assistant Professor, Department of Occupational Health and Poisoning, Beijing Chaoyang Hospital, Capital University of Medical Sciences (03/01/2019 – 02/28/2020)

3 Prof. **Gang Zhao**, Ph.D.: Visiting Professor, School of Basic Medical Science, Hubei University of Chinese Medicine, Wuhan, China (09/01/2018 – 03/31/2019).

4 Prof. **Stephen B. Hooser**, DVM, Ph.D.: Professor and Head Toxicology Section, Indiana Animal Disease Diagnostic Laboratory, Purdue University (03/20/2017 – 07/31/2017). Sabbatical research.

5 Dr. **Yuanzhong Zhou**, Ph.D.: Professor and Associate Dean, School of Public Health (06/01/2015 – 05/31/2016). Department of Occupational Toxicology, Zunyi Medical University.

6 Dr. **Xubo Shen**, Ph.D.: Associate Professor (10/01/2015 – 05/31/2016), School of Public Health, Zunyi Medical College. China

7 Prof. **Jung-Duck Park**, Ph.D.: Visiting Professor (sabbatical), Chair, Dept of Occupational Medicine, Chung-Au University School of Medicine, Seoul, South Korea (01/2012 – 08/2012)

8 Prof. **Qiyuan Fan**, M.D., Ph.D.: Visiting Professor, Dean, School of Public Health, Zunyi Medical College, China (12/30/07 – 12/24/08) and now President, Zunyi College of Medical Professionals.

9 Prof**. Kiran Kalia**, Ph.D.: Visiting Professor, Professor, Dept of Chemistry, Sardar Patel University, Gujarat, India (09/25/06 – 12/30/06)

10 Prof. **Yueming Jiang**, M.D., Ph.D.: Visiting Professor, Chair, Dept of Toxicology and Occupational Medicine, Guangxi Medical University (03/01/06 – 05/31/06)

11 Dr. **Wendy Jiang**, M.D., Ph.D.: Associate Research Scientist (12/01/2005 – present)

12 Prof. **Rashid Deane,** Ph.D.: Visiting Scholar (summer, 2001), Reader at University of Greenwich, London, UK.

13 Dr. **Qiuqu Zhao**, M.D., Ph.D.: Associate Research Scientist (1998-2001) currently as a physician in practice, Long Island Jewish Hospital, NY

Postdoctoral Fellows:

14 Dr. **Xiaoli Shen**, Ph.D.: now Professor, Vice Dean of School of Public Health, Qingdao University (02/20/2018 – 02/19/2019).

15 Dr. **Ning Li**, Ph.D.: now Associate Professor, School of Food Science and Technology, Henan Agricultural University, Zhengzhou, China (02/01/2016 – 03/31/2017)

16 Dr. **Sherleen Fu**, M.D., Ph.D. in toxicology (08/15/2013 – 12/31/2016), now P&G

17 Dr. **Qinli Zhang**, M.D., Ph.D.: Visiting Professor, Chair, Dept of Occupational and Environmental Sciences, Shanxi Medical University, Taiyuan (07/01/2013 – 05/31/2014)

18 Dr. **Lan Hong** (11/01/2011-06/30/2013), Ph.D. in analytic toxicology, Zhejiang University College of Pharmacy.

19 Dr. **Gang (Greg) Zheng** (11/01/2009-10/28/2011), Ph.D. in Occupational and Environmental Health, the Fourth Military Medical University, Xi'an, China. Current position: Associate Professor in the same institute.

20 Dr. **Jun (John) Zhang** (2/15/2010-2/14/2011), Ph.D. in Toxicology (2008), Zhejiang University. Current position: Assistant Professor, School of Public Health, Zhejiang Univ., Hangzhou. China

21 Dr. **Yanshu Zhang** (08/12/2006-06/19/2009), Ph.D. in Occupational Medicine, Chinese Centre for Disease Control and Prevention, Beijing, China (2006). Current position: Vice Dean, School of Public Health, Northwest Union University, Tangshan, China

22 Dr. **Jaya Prasanthi** (09/05/2006-12/31/2007), Ph.D. in Molecular Biology, Sri Venkateswara University, Tirupati, India 2005. Current position: Research Associate in University of North Dakota.

23 Dr. **Janelle S. Crossgrove** (09/01/2003-06/30/06): Ph.D. in Toxicology, University of Kentucky, Lexington, KY 2003. Current position: Assistant Professor, Ohio Northern University.

24 Dr. **Byung Sun Choi** (2/10/2004-2/09/2006): Copper homeostasis in brain and its relationship to etiology of neurodegenerative diseases. Current position: Professor at Chung-An University School of Medicine, Seoul, Korea.

25 Dr. **Longlian Zhang** (Visiting scholar, 08/01/2005-10/31/2005): Epidemiological study of association between lead exposure and occurrence of Alzheimer's disease in humans. Current position: Head of Dept of Occupational Disease Prevention, Beijing Fengtai Branch of Chinese Center for Disease Control and Prevention, Beijing, China

26 Dr. **G. Jane Li**, M.D., Ph.D. (04/01/2002-6/30/2005): Molecular mechanism of manganese-induced parkinsonian disorders. Current position: Director of Beijing Institute of Toxicology, Beijing CDC, Beijing, China.

27 Dr. **Ramon Rosal**, Ph.D. (2001-2002): Ph.D. in Biophysics, Wayne State University, Detroit, MI (1993). Structural and functional changes of transferrin receptor and iron-regulatory protein-1 by using computerized structural analysis. Obtained NIH/NIEHS minority supplemental award to my NIH RO1 grant. Currently Research Scientist at Columbia University School of Public Health

28 Dr. **Minjie Gu**, Ph.D. (07-12/2002): Ph.D. in Molecular Biology & Biochemistry, Chinese Academy of Medical Sciences & Peking Union Medical College, Beijing, China. Currently Research Scientist, Dept of Pathology, Columbia Univ College of P&S

29 Dr. **Ling Lu**, M.D. (Visiting Scholar, 07-11/2002): M.D. in Public Health and Occupational Medicine, Norman Bethune University of Medical Sciences, Changchun, Jilin, China 1992. Epidemiological study of iron and iron metabolic proteins in welders in Beijing. Currently Principle, Chinese CDC Futai Branch, Beijing, China

30 Dr. **Jingyuan Chen**, M.D. (01/01/2000-12/31/2001): M.D. Second Military Medical University, Shanghai, 1985; Ph.D. in Neuroendocrinology, Fourth Military Medical University, Xi'an, 1996. Current position: Provost of the Fourth Military Medical University (2012-present).

31 Dr. **Bill (Yongbiao) Guan**, M.D., Ph.D. (1999-2000): M.D. Environmental causes of essential tremor. Currently Deputy Director, Toxicology Testing Center, Institute of Pharmacology & Toxicology of Beijing, Beijing, PRC

32 Dr. **Susan (Shunzhen) Wang**, M.D. (1998-1999): M.D. Sleeping circle, in epilepsy; HPLC method for analysis of beta-carboline derivatives in human blood. Currently Deputy Director of Beijing Bureau of Science and Technology (local government funding agency)

33 Tehilla Rieser: Lead toxicity on transthyretin in the choroid plexus. NYC Higher School Science Teacher for summer training (1997, 1998).

PART V: PUBLICATIONS

A. BOOK PUBLISHED

Zheng W and Chodobski A (Editors). The Blood-Cerebrospinal Fluid Barrier. CRC Press, New York. 2005.

B. ORIGINAL, PEER REVIEWED ARTICLES (TOTAL 206):

Total citation by Google Scholar: 14,568; h-index: 63; i10-index: 149 as of 03/21/2024 (https://scholar.google.com/citations?user=OK6RNdcAAAAJ&hl=en)

1. Liu LL, Shannahan J, and **Zheng** W* (2023). Choroid plexus modulates subventricular zone adult neurogenesis and olfaction through secretion of small extracellular vesicles. *Cell Reports* (paper submitted). (bioRxiv: doi: https://doi.org/10.1101/2023.03.16.532966).
2. Liu LL, Shen XL, Gu HY, Zhao G, Du YS, and **Zheng** W* (2023). High affinity of β-amyloid proteins to cerebral capillaries: Implications in chronic lead exposure-induced neurotoxicity in rats. *Fluids and Barriers of CNS* 20(1):32. (IF:7.3) (DOI: 10.1186/s12987-023-00432-5) PMID: 37122007. PMCID: PMC10150519.
3. Liu Y, Zhao ZH, Wang T, Song H, Chen JY, **Zheng** W, Luo WY, and Zheng G* (2023). Lead exposure disturbs ATP7B-mediated copper export from brain barrier cells by inhibiting XIAP-regulated COMMD1 protein degradation. *Ecotoxicology and Environmental Safety*. 256:114861. (IF:7.129) (DOI: 10.1016/j.ecoenv.2023.114861) PMID: 37027943.
4. Shen X, Özen AC, Monsivais, H, Sunjar A, IlbeyS, **Zheng** W, Du Y, Chiew M, and Emir U* (2023) High-resolution 3D ultra-short echo time MRI with Rosette k-space pattern for brain iron content mapping. *J Trace Elem Biol Med* 77:127146. (IF:3.995) (DOI: 10.1016/j.jtemb.2023.127146) PMID: 36871432.

5. Liu LL, van Rijn RM, and **Zheng** W* (2022). Copper modulates adult neurogenesis in brain subventricular zone. *Int'l J Mol Sci* 2022,23(17):9888; (IF:6.208). (PMCID: PMC9456150)
6. Gu HY, Xu YD, Du N, Yu YQ, **Zheng** W and Du YS (2022). Lead (Pb) induced monocyte chemoattractant protein-1 in the choroid plexus. *Biology* 2022; 11(2):308. (IF:5.079) DOI:10.3390/biology11020308.

7. Adamson SF, **Zheng** W*, Agim ZS, Du S, Fleming S, Shannahan J, and Cannon J (2021). Systemic copper disorders influence the olfactory function in adult rats: Roles of altered adult neurogenesis and neurochemical imbalance. *Biomolecules* 11(9):1315. (IF: 4.879) (PMCID: PMC8471899)
8. Liu L, **Zheng** W* and Zhang YS (2021). Age-dependent decline of copper clearance at the blood-cerebrospinal fluid barrier in rats. *Neurotoxicology* 88:44-56. (IF:4.294) (PMCID: PMC8748412)
9. Chen HH, Li XL, Ma H, **Zheng** W, and Shen XL, (2021). Reduction in nesfatin-1 levels in the cerebrospinal fluid and increased nigrostriatal degeneration following ventricular administration of anti-nesfatin-1 antibody in mice. *Front. Neurosci*. 15:621173 (IF:4.677) (PMCID: PMC7890421)
10. Gaire S, **Zheng** W, Scharf ME and Gondhalekar AD (2021). Plant essential oil constituents synergize deltamethrin toxicity in a resistant strain of bed bugs (Cimex lectularius L.) by inhibiting cytochrome P450 enzymes. *Pesticide Biochem Physiol* 175:104829 (IF:3.680) DOI: 10.1016/j.pestbp.2021.104829.
11. Wang XX, Chen HH, Ma H, **Zheng** W and Shen XL (2021). Threshold effects of total copper intake on cognitive function in U.S. older adults and the moderating effect of fat and saturated fatty

acid intake. *J Academy of Nutrition and Dietetics* 121(12):2429-2442. (IF:4.910) (PMID: 34219046)

12. Webb A, Spiers K, Falkenberg G, Gu HY, Dwibhashyam SS, Du YS, **Zheng** W and Nie LH (2021). Distribution of lead (Pb) and selenium (Se) in mouse brain following subchronic Pb exposure by using synchrotron X-ray fluorescence. *Neurotoxicology* 88:106-115. (PMCID: PMC8748384)
13. Rolle-McFarland D, Liu Y, Mostafaei F, Zauber SE, Zhou Y, Li Y, Fang Q, **Zheng** W, Nie LH and Wells E (2021). The association of bone and blood manganese with motor function in Chinese workers. *Neurotoxicology* 88:224-230. (PMCID: PMC8748420)

14. **Zheng** W* and Ghersi-Egea, JF (2020). Brain barrier systems play no small roles in toxicant-induced brain diseases and disorders. *Toxicol Sci* 175(2):147-148. (PMCID: PMC7253204).
15. **Zheng** W (2020). Systemic impact of trace elements on human health and disease: Nutrition, toxicity, and beyond (Editorial). *J Trace Elem Med Biol* 62:126634. (PMID: 32827865)
16. Shen XL, Xia L, Liu L, Jiang W, Shannahan J, Du Y, and **Zheng** W* (2020). Altered clearance of beta-amyloid from the cerebrospinal fluid following subchronic lead exposure in rats: Roles of RAGE and LRP1 in the choroid plexus. *J Trace Elem Med Biol* 61: 126520. (PMCID: PMC7541561).
17. Gu HY, Territo PR, Persohn SA, Bedwell MM, Eldridge K, Speedy R, Chen Z, **Zheng** W and Du YS (2020). Evaluation of chronic lead effects in the blood brain barrier system by DCE-CT. *J Trace Elem Med Biol* 62:126648. (PMID: 32980769)
18. Du XQ, **Zheng** W, and Ye Q (2020). Comparison of a rare case of severe life-threatening lead poisoning due to accidental exposure with a case of chronic lead poisoning due to occupational exposure. *Toxicol Ind Health* 36(12):951-959. (PMCID: PMC7752850)
19. Li XL, Zhan RQ, **Zheng** W, Jiang H, Zhang DF, and Shen XL, (2020). Positive association between soil arsenic concentration and mortality from Alzheimer's disease in mainland China. *J Trace Elem Med Biol* 59:126452. (PMCID: PMC7350902)
20. Louis ED, Eliasen EH, Ferrer M, Hernandez DI, Gaini S, Jiang W, **Zheng** W, Nielsen F, and Petersen MS (2020). Blood harmane (1-methyl-9H-pyrido[3,4-b]indole) and mercury in essential tremor: A population-based, environmental epidemiology study in the Faroe Islands. *Neuroepidemiology* 54:272-280. (PMCID: PMC7210050)
21. Ding HW, Wang F, Su LY, Zhao L, Hu BL, **Zheng** W, Yao ST, and Li Y (2020). Involvement of MEK5/ERK5 signaling pathway in manganese-induced cell injury in dopaminergic MN9D cells. *J Trace Elem Med Biol* 61:126546. (PMCID: PMC7655554)
22. Hasan Z, Rolle-McFarland D, Liu Y, Zhou JQ, Mostafaei F, Li Y, Fan QY, Zhou YZ, **Zheng** W, Nie LH, and Wells EM (2020). Characterization of bone aluminum, a potential biomarker of cumulative exposure, within an occupational population from Zunyi, China. *J Trace Elem Med Biol* 59:126469 (PMCID: PMC7112220)
23. Ferrer M, Eliasen EH, Petersen MS, Jiang W, **Zheng** W, and Louis ED (2020). Meat Consumption and Meat Cooking Practices in Essential Tremor: A Population-Based Study in the Faroe Islands. *Tremor & Other Hyperkinetic Movements* 10(1):30, p1-7 (PMCID: PMC7427676).
24. Gaire S, Lewis CD, Booth W, Scharf ME, **Zheng** W, Ginzel MD and Gondhalekar AD (2020). Bed bugs, Cimex lectularius L., exhibiting metabolic and target site deltamethrin resistance are susceptible to plant essential oils. *Pesticide Biochem Physiol* 169 (2020) 104667. DOI: 10.1016/j.pestbp.2020.104667 (collaboration with Purdue College of Agriculture)
25. Gaire S, **Zheng** W, Scharf ME and Gondhalekar AD (2020). Plant essential oil constituents synergize deltamethrin toxicity in a resistant strain of bed bugs (Cimex lectularius L.) by inhibiting cytochrome P450 enzymes. *Pesticide Biochem Physiol* 169:104667. (PMID:32828373)

26. **Zheng** W* and Miller GW (2019). Editorial: 2018 Toxicological Sciences Paper of the Year. *Toxicol Sci* 168(2):285-286 (PMCID: PMC6804410)
27. Rolle-McFarland D, Liu YZ, Mostafaei F, Zauber E, Zhou Y, Li Y, Fan QY, **Zheng** W, Nie LH and Wells W (2019). The association of bone, fingernail and blood manganese with cognitive and olfactory function in Chinese workers. *Sci Total Env* 666:1003-1010. (IF:4.98) (PMCID: PMC6461352)
28. Liu XX, Durkes AC, Schrock WP, **Zheng** W and Sivasankar MP (2019). Subacute acrolein exposure to rat larynx in vivo. *Laryngoscope* 129:E313-E317 (doi:10.1002/lary.27687) (PMCID: PMC6591102)
29. Liu XX, Mustonen A, **Zheng** W, Sivasankar MP, and Durkes A (2019). Cigarette smoking exposure to pig larynx in an inhalation chamber. *J Voice* 33(6):846-850. (PMCID: PMC6320720)

30. Adamson SF, Shen X, Jiang W, Lai V, Wang X, Shannahan JH, Cannon JR, Chen J, and **Zheng** W (2018). Subchronic manganese exposure impairs neurogenesis in the adult rat hippocampus. *Toxicol Sci* 163(2):592-608. (PMCID: PMC5974792)
31. Wells EM, Liu YZ, Rolle-McFarland D, Mostafaei F, **Zheng** W, Nie LH (2018). In vivo measurement of bone manganese and association with manual dexterity: a pilot study. *Env Res* 160:35-38 IF:4.315. PMID:28961467 (PMCID: PMC5962822)
32. Liu YZ, Rolle-McFarland D, Mostafaei F, Zhou YZ, Li Y, **Zheng** W, Wells E, and Nie L (2018). In vivo neutron activation analysis of bone manganese in workers. *Phys. Measurement* 39(3):035003. (PMID: 29328060) (PMCID: PMC6595486)
33. Rolle-McFarland D, Liu Y, Zhou J, Mostafaei F, Zhou Y, Li Y, Fan Q, **Zheng** W, Nie LH and Wells W (2018). Development of a cumulative exposure index (CEI) for manganese and comparison with bone and other biomarker of manganese exposure. *Int J Env Res Pub Health* 15(7):1341. (doi:10.3390/ijerph15071341) (PMCID: PMC6068959)

34. Ding HW, **Zheng** W, Han H, Hu XY, Hu BL, Wang F, Su LY, Li H, and Li Y (2017). Reproductive toxicity of linuron following gestational exposure in rats and underlying mechanisms. *Toxicol Lett* 266:49-55. IF:3.858 (PMCID: PMC5697898)
35. Sun LP, Li Y, Wang KY, Li Y, Fan QY, **Zheng** W, and Li H (2017). Vanadium exposure-induced striatal learning and memory alterations in rats. *Neurotoxicology* 62:124–129 (PMCID: PMC5623646)
36. Bai JW, Han H, Wang F, Su L, Ding HW, Hu X, Hu BL, Li H, **Zheng** W, and Li Y (2017). Maternal linuron exposure alters testicular development in male offspring rats at the whole genome. *Toxicology* 389:13-20. IF:3.943 (PMCID:PMC5584558)
37. Fan XM, Luo Y, Fan QY*, and **Zheng** W* (2017). Reduced expression of PARK2 in manganese-exposed smelting workers. *Neurotoxicology* 62:258-264 (PMCID: PMC5676304)
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C. ABSTRACTS AND CONFERENCE PROCEEDINGS (FROM TOTAL 273; LAST 5 YEARS LISTED):

1. Liu LL and **Zheng** W (2023). Novel Discovery of the Choroid Plexus (CP)–Subventricular Zone (SVZ) Regulatory Axis: Evidence from Small-Sized Extracellular Vesicles Released from the CP to Altered Adult Neurogenesis in SVZ and Implications in Manganese-Induced Nonmotor Syndromes. *Toxicologist* (suppl. Toxicological Sciences) 192: 164. Abstract (#3371) presented in the 62nd Annual Meeting of Society of Toxicology, Nashville, TN. March 19-23, 2023.
2. **Zheng** W, Liu LL, Du Y, Emir U, and Sawiak S (2023). Decreased Newborn Oligodendrocytes and Demyelination in Corpus Callosum following Lead Exposure. *Toxicologist* (supplement to Toxicological Sciences) 192: 461. Abstract (#4566) presented in the 62nd Annual Meeting of Society of Toxicology, Nashville, TN. March 19-23, 2023.
3. Gu H, Liu LL, Wu A, Yu Y, Emir U, **Zheng** W, and Du Y (2023). TGF-β Signal Mediates Lead (Pb)-Induced Vascular Amyloid, Demyelination, and Cognitive Deficits in an AD Mouse Model. *Toxicologist* (supplement to Toxicological Sciences) 192: 461. Abstract (#4568) presented in the 62nd Annual Meeting of Society of Toxicology, Nashville, TN. March 19-23, 2023.
4. Hurn VL, Liu LL, Sang L, and **Zheng** W (2023). Expression of Copper Chaperone for Superoxide Dismutase (CCS) in the Blood-CSF Barrier and Impact of In Vivo Lead Exposure in Mice. *Toxicologist* (supplement to Toxicological Sciences) 192: 462. Abstract (#4569) presented in the 62nd Annual Meeting of Society of Toxicology, Nashville, TN. March 19-23, 2023.
5. Liu LL and **Zheng** W (2022). Copper Modulates Adult Neurogenesis in the Subventricular Zone: Evidence from Copper Chelation by Intracerebroventricular Infusion of D-Penicillamine. Society for Neuroscience Annual Meeting, San Diego, CA. Nov 12-16.
6. Liu LL, van Rijn RM and **Zheng** W (2022). Novel Discovery of Copper in Modulating Neurogenesis in Adult Brain. OVSOT meeting. Louisville, KY. October 14, 2022.
7. **Zheng** W (2022). Imbalanced copper homeostasis in brain disorders: Olfactory dysfunction and age-dependent clearance disorder at the blood-brain interfaces. Invited Keynote Lecture. Abstract accepted by 14th Conference of the Int' Society for Trace Element Research in Humans. Aachen, Germany. June 5-10, 2022.
8. Gu HY, Liu LL, Territo P, **Zheng** W and Du YS (2022). Lead exposure and the etiology of Alzheimer disease via cerebral amyloid angiopathy: Evidence from animal studies. Oral Presentation. Abstract accepted by 14th Conference of the Int' Society for Trace Element Research in Humans. Aachen, Germany. June 5-10, 2022.
9. Shen XL and **Zheng** W (2022). Altered clearance of beta-amyloid from the cerebrospinal fluid following subchronic lead exposure in rats: Implication in cerebral amyloid angiopathy. Oral

Presentation. Abstract accepted by 14th Conference of the Int' Society for Trace Element Research in Humans. Aachen, Germany. June 5-10, 2022.

10. **Zheng** W, Adamson, S, Fleming S and Shannahan J (2022). Systemic Copper Disorder Influences Olfaction in Adult Rats: Relationship to Adult Neurogenesis in Subventricular Zone and Olfactory Bulb. Accepted abstract for 2022 SOT annual meeting (#3073).
11. Calhoun VJ, Liu LL and **Zheng** W (2022). Expression of Copper Chaperone for Cytochrome C Oxidase (COX17) in the Blood-CSF Barrier in the Choroid Plexus: Impact of Lead Exposure and Brain Copper Homeostasis. Accepted abstract for 2022 SOT annual meeting (#3073).
12. Liu LL and **Zheng** W (2022). Copper Modulates Adult Neurogenesis in the Subventricular Zone: Evidence from Copper Chelation by Intracerebroventricular Infusion of D-Penicillamine. Accepted abstract for 2022 SOT annual meeting (#3073).
13. Sang LT, Liu LL and **Zheng** W (2022). Pb Exposure Increases Cu Levels in the Cerebrospinal Fluid (CSF): Roles of ADP-ribosylation Factor 1 (ARF1) in the Choroid Plexus. Accepted abstract for 2022 SOT annual meeting (#3073).
14. Gu HY, Territo P, **Zheng** W and Du YS (2022). Lead (Pb) Exposure Induces Cerebral Amyloid Angiopathy and Hypoperfusion in APP mice. Accepted abstract for 2022 SOT annual meeting (#3073).
15. Kiper KG, Wells E, **Zheng** W and Freeman JL (2021). Developmental toxicity characterization of a binary mixture of arsenic and lead using the zebrafish. 16th International Zebrafish Society Conference. Virtual. June 16-22.
16. Liu L and **Zheng** W (2021). Choroid plexus regulates adult neurogenesis in subventricular zone (SVZ) via extracellular vesicles: A new mechanism underlying manganese-induced non-motor Parkinsonian symptoms. Platform presentation in the 2nd HSCI Research Retreat. April 2, 2021.
17. **Zheng** W and Ali S (2021). Impaired brain barrier systems: Relationship to chemical-induced neurotoxicities. Symposium abstract for 2021 annual meeting of SOT.
18. **Zheng** W (2021). Structure, function and transporters in brain barriers: Implication in metal neurotoxicology. Abstract for a symposium presentation in virtual 2021 annual meeting of SOT.
19. Liu L, Jiang W and **Zheng** W (2021). Excessive copper impairs adult neurogenesis in brain subventricular zone in vitro. Accepted abstract for 2021 SOT virtual annual meeting (#3072).
20. Webb A, Spiers K, Falkenberg G, Gu H, Dwibhashyam SS, Du Y, Zheng W, and Nie LH (2021). Distribution of lead (Pb) and selenium (Se) in mouse brain following subchronic Pb exposure by using synchrotron X-ray fluorescence. Accepted abstract for 2021 SOT virtual annual meeting (#3073)
21. Gu HY, Territo P, **Zheng** W and Du YS (2021). Pathogenic role of subchronic lead exposure in cerebral amyloid angiopathy and Alzheimer's disease. Accepted abstract for 2021 SOT virtual annual meeting (#3077).
22. Liu L, Jiang W, and **Zheng** W (2020). Adverse effect of manganese exposure on adult neurogenesis: Evidence from the subventricular zone (SVZ)-derived neurosphere assay in vitro. Accepted abstract for 2020 SOT annual meeting.
23. Du D, Liu L, Jiang W, and **Zheng** W (2020). Expression of copper transport protein-2 (CTR2) in the blood-CSF barrier: Effect of lead exposure in vitro. Accepted abstract for 2020 SOT annual meeting.
24. Sang TY, Liu L, and **Zheng**, W (2020). Expression of ADP-ribosylation Factor 1 (Arf1) in the Blood-CSF Barrier: Effect of Lead Exposure In Vitro. Accepted abstract for 2020 SOT annual meeting.
25. Gu HY, Territo PR, Persohn SA, Bedwell AA, Chen Z, **Zheng** W, and Du YS (2020). Pb plays a role in AD pathogenesis by impairing the function of the Brain Barrier System. Accepted abstract for 2020-SOT annual meeting.

26. Gaire S, **Zheng W**, Scharf M, and Gondhalekar A (2020). Plant essential oil constituents synergize deltamethrin toxicity in resistant bed bugs (Cimex lectularius L.) by inhibiting cytochrome P450 enzymes. 2020 Joint North Central Branch and Southwestern Branch Meeting of Entomological Society of America. Presentation #149944.
27. Liu L, Du D, and **Zheng** W (2019). Expression of copper transport protein-2 (CTR2) in the blood-CSF barrier: Effect of lead exposure in vitro. Poster presentation in OV-SOT in Cincinnati Oct 18.
28. **Zheng** W (2019). Role of copper in regulating adult neurogenesis: Relevance to non-motor dysfunction in manganese-induced Parkinsonism". Oral presentation in 13th conference of Int'l Society for Trace Element Research in Humans in Bali, Indonesia, Sept 22-26.
29. **Zheng** W (2019). Environmental causes of disrupted neurogenesis in adults. Invited Keynote Speaker in Chinse Society of Environmental Teratology in Zunyi, China, June 18-22.
30. **Zheng**, W (2019) Involvement of copper in regulation of adult neurogenesis in rodent brain. Oral presentation in Neurology conference in Barcelona, Spain, May 15-17.
31. **Zheng** W (2019). Alpha-synuclein: A good protein turned bad in chronic brain diseases with toxicological implications. (symposium presentation, Chair) Toxicologist 168(1):1021. Baltimore March 10-14, 2019.
32. **Zheng** W (2019). Toxicity of manganese exposure on neural progenitors and adult neurogenesis. (symposium presentation) Toxicologist 168(1):1679.
33. Xu Y, Wu X, Liu Q, **Zheng** W, and Zhao G (2019). Beneficial effect of resveratrol in combined treatment with cisplatin on growth inhibition and apoptosis induction in gastric cancer SGC-7901 cells. Toxicologist 168(1):1204.
34. Gu H-Y, Territo P, Persohn S, Bedwell A, Chen Z, **Zheng** W, and Du Y (2019). Pb-induced neurotoxicology of the brain barrier system: New implications. Toxicologist 168(1):1405.
35. Shen X-L, Xia L, Jiang W, Du Y, and **Zheng** W (2019). Lead(Pb) exposure stimulates RAGE relocation and expression in choroid plexus: Implication in amyloidal aggregation in brain. Toxicologist 168(1):1406.
36. Xia L, Shen X-L, and **Zheng** W (2019). LRP-1 expressions and distribution across BBB and BCB following subchronic lead exposure. Toxicologist 168(1):1408.
37. Du X-Q, **Zheng** W, and Ye Q (2019). A rare case of severe life-threatening lead poisoning due to accidental exposure: Diagnosis, treatment, and prognosis. Toxicologist 168(1):2344.

Major Contributions Made to the Metal Neurotoxicology Research Field:

1) Dr. Zheng's recent novel discovery of enriched Cu in brain subventricular zone (SVZ) and its relationships to self-repair and adult neurogenesis in metal-induced neurotoxicities, leading a new concept of the CP-SVZ regulatory axis in controlling neurogenesis in adult brain.
2) Dr. Zheng's original research on brain barrier transport of toxicants (i.e., Fe, Mn, Cu) with a focus on the blood-CSF barrier in choroid plexus (CP), leading to the establishment of a new research field widely recognized as "Toxicology of Brain Barrier Systems".
3) Dr. Zheng's translational research from the lab to human cohorts for biomarker discovery for early diagnosis and for clinical treatment of Mn-induced Parkinsonian disorder.
4) Dr. Zheng's original discovery of a distinct function of Pb in the formation of amyloid plaques in Alzheimer's disease.