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CURRICULUM VITAE

PAMELA J. LEIN

Business Address:
University of California, Davis
School of Veterinary Medicine
Department of Molecular Biosciences
pjlein@ucdavis.edu
1089 Veterinary Medicine Drive, Davis, CA 95616
Website: https://leinlab.vetmed.ucdavis.edu/

Phone: 530-752-1970
Fax: 530-752-7690
Email:

EDUCATION AND TRAINING

Postdoctoral Training

1990-1992	Roswell Park Cancer Institute, Buffalo, NY, Molecular Immunology
Ph.D./1990	State University of New York at Buffalo, Buffalo, NY, Pharmacology and Toxicology
M.S/1983	East Tennessee State University, Johnson City, TN, Environmental Health
B.S./1981	Cornell University, Ithaca, NY, Biology with Honor

PROFESSIONAL EMPLOYMENT

10/18 to 09/23	Chair, Department of Molecular Biosciences University of California School of Veterinary Medicine, Davis, CA
07/10 to present	Professor of Neurotoxicology, Department of Molecular Biosciences University of California School of Veterinary Medicine, Davis, CA
10/13 to 09/17	Vice-Chair, Department of Molecular Biosciences University of California School of Veterinary Medicine, Davis, CA
09/10 to 08/16	Chair, Pharmacology and Toxicology Graduate Group University of California, Davis, CA
12/08 to 06/10	Associate Professor of Neurotoxicology, Department of Molecular Biosciences University of California School of Veterinary Medicine, Davis, CA
9/03 to 11/08	Scientist (Associate Professor equivalent), CROET Oregon Health & Science University, Portland, OR
07/99 to 09/03	Assistant Professor, Environmental Health Sciences/Toxicology Johns Hopkins University, Bloomberg School of Public Health, Baltimore, MD
08/93 to 06/99	Assistant Professor, Biology, Canisius College, Buffalo, NY
08/93 to 06/99	Adjunct Assistant Professor, Pharmacology and Toxicology University at Buffalo School of Medicine & Biomedical Sciences, Buffalo, NY
03/92 to 05/93	Environmental Health Analyst, Dames and Moore West Valley Nuclear Services Co., Inc., West Valley, NY
09/90 to 03/92	Postdoctoral Fellow, Molecular Immunology Roswell Park Cancer Institute, Buffalo, NY
08/85 to 09/90	Predoctoral Fellow, Pharmacology and Toxicology School of Medicine, State University of New York at Buffalo, Buffalo, NY
08/83 to 08/85	Research Associate, Medicine, Division of Gastroenterology Buffalo General Hospital, Buffalo, NY
01/81 to 08/81	Laboratory Technician, Physiology, New York State College of Veterinary Medicine, Cornell University, Ithaca, NY

AWARDS

- 2022 Mentoring Award, Women in Toxicology Special Interest Group, Society of Toxicology
- 2022 Distinguished Neurotoxicologist Award, Neurotoxicology Specialty Section, Society of Toxicology
- 2022 Selected by the UC Davis Office of Graduate Studies for recognition during the National Mentoring Month (Twitter handle #NationalMentoringMonth), January 2022
- 2021 Inaugural Fellow, Graduate Mentoring Initiative, UC Davis Office of Graduate Studies
- 2020 Graduate Program Advising and Mentoring Award, UC Davis Office of Graduate Studies
- 2018 INA-*NeuroToxicology* Best Paper Award
- 2015 Zoetis Award for Veterinary Research Excellence, UC Davis School of Veterinary Medicine
- 1995, 1996 Dean's Grant, Arts and Sciences, Canisius College
- 1994 National Science Foundation Research Opportunity Award
- 1991 NIH NCI National Research Service Award (Postdoctoral fellowship), *Cell biology of human TILs engrafted into SCID mice* (1 F32 CA09177-01)
- 1987 – 1990 March of Dimes Predoctoral Fellowship

PROFESSIONAL ACTIVITIES

Professional Society Membership

- American Association for the Advancement of Science (AAAS)
- American Society of Neurochemistry (ASN)
- Developmental Neurotoxicology Society (DNTS)
- International Neurotoxicology Association (INA)
- Society for Neuroscience (SFN)
- Society of Toxicology (SOT)

Participation on Advisory Panels

- External Advisory Committee, Iowa Superfund Research program (ISRP), NIEHS-funded "Airborne PCBs: Sources, Exposures, Toxicity and Remediation", The University of Iowa, Iowa City, IA, Member 2021 - present
- Board of Scientific Counselors, National Toxicology Program, Member, 2021-2024
- Committee for the Peer Review of the NTP Monograph on Systematic Review of Fluoride Exposure and Neurodevelopmental and Cognitive Health Effects, The National Academies of Sciences, Engineering, and Medicine, Member, 2019-2021
- Standing Committee to Advise the Department of State on Unexplained Health Effects on US Government Employees and Their Families at Overseas Embassies, The National Academies of Sciences, Engineering and Medicine, Member, 2019-2020
- Society of Toxicology, Education and Career Development Committee, Vice-Chair, 2019-2020, Chair, 2020-2021
- ENDpoiNTS, EU research consortium, European H2020 EDC Program, Utrecht University, Utrecht, Netherlands, Scientific Advisor, 2019-2024
- External Advisory Committee, NIEHS T32 Training Program, University of California, Riverside, Member, 2019-present
- Program Review of the Department of Comparative Biosciences, College of Veterinary Medicine, University of Illinois at Urbana-Champaign, IL, Member, 2019
- Search Committee, National Center for Toxicological Research (NCTR), Neurotoxicology Division Director, Food and Drug Administration (FDA), 2018

- External Advisory Board, NIA-funded Program Project Grant, "Urban Air Pollution and Alzheimer's Disease: Risk, Heterogeneity and Mechanisms", University of Southern California, Los Angeles, CA, 2018-present
- National Academies of Sciences, Engineering and Medicine, Committee to Review Report on Long-Term Health Effects on Army Test Subjects, 2017-2018
- Society of Toxicology, Education Committee, Subcommittee on Graduate Education, Member, 2017-2019, Vice-Chair, 2018-2019
- USEPA IRIS Assessment of PCBs, Expert Author, 2016-2021
- External Advisory Committee, NIEHS T32 Training Program, University of Illinois at Urbana-Champaign, 2016-present
- Society of Toxicology, Neurotoxicology Specialty Section, Endowment Fund Steward, 2015-present
- Scientific Advisory Board, U.S. Food and Drug Administration, National Center for Toxicological Research, Member, 2014-2016; Chair, 2017-2019
- International Neurotoxicology Association, Councilor, 2013-2017; President-Elect, 2019-2022, President, 2022-2024
- Society of Toxicology, Northern California Regional Chapter Board of Directors, Vice-President, 2013-2014, President, 2014-2015, Past-President, 2015-2016
- External Advisory Panel NIEHS Core Center of Excellence at the University of Rochester, Rochester, NY, 2011-present
- Steering Committee, NIH NINDS CounterACT Program, 2011-2016
- Society of Toxicology, Neurotoxicology Specialty Section Executive Committee, Councilor, 2005-2007, Vice-President-Elect, 2010-2011, Vice-President, 2011-2012, President, 2012-2013, Past-President, 2013-2014
- Center for Alternatives to Animal Testing (CAAT), Johns Hopkins University, 2000-2014
- European Centre for the Validation of Alternative Methods, Developmental Neurotoxicity Testing, Ispra, Italy, April 2005, March 2007
- Scientific Advisory Panel, U.S. Environmental Protection Agency, 2004-Present
- Scientific Advisory Panel on Dimethoate, U.S. Environmental Protection Agency, 2004-2005
- Committee on Developmental Neurotoxicity Testing, OECD, 2001-2002
- Urban Environmental Health Research Council, NIEHS Center in Urban Environmental Health, Johns Hopkins University Bloomberg School of Public Health, 2000-2003

Program or Project Development

- Chair, Endocrine Disruption as a Mechanism of Developmental Neurotoxicity, INA-sponsored webinar, September 15, 2021
- Chair, Key Characteristics of Neurotoxic Chemicals, CalEPA-sponsored working group, 2019-2022
- Chair, The 10th Annual CounterACT Conference, June 2016
- Co-Chair, The 21st International Symposium on Microsomes and Drug Oxidations (MDO), 2015-2016.
- Co-Chair, Neuroprotection Workshop, NINDS CounterACT Program, 2013-2014
- Steering Committee Member, TestSmart: Developmental Neurotoxicity Testing IV, Center for Alternatives to Animal Testing, The Johns Hopkins University, 2012-2014
- Conference Co-Chair, Environmentally-Triggered Neurodevelopmental Disorders: Focus on Endocrine Disruption and Sex Differences in Autism, ADHD and Schizophrenia, 27th International Neurotoxicology Conference, October 2011

- Session Chair, Biological Basis for Endocrine Disruption and Sex Differences in Susceptibility to Neurodevelopmental Disorders, 27th International Neurotoxicology Conference, October 2011
- Session Chair, Human Pluripotent Stem Cells and Neural Progenitors as Models of Gene-Environment Interactions in Neurological Diseases, Society of Toxicology, 50th Annual Meeting, March 2011
- Session Chair, Neuroscience session: Alternatives in DNT, World Congress 7, September 2009
- Session Co-Chair, Animal Models of Autism, 25th International Neurotoxicology Conference, October 2008
- Session Co-Chair, Models of Neuroprotectant Screening for Chemically-Induced Neurodegeneration, 25th International Neurotoxicology Conference, October 2008
- Session Co-Chair,Fetal Basis of Adult Onset Disease, 24th International Neurotoxicology Conference, November 2007
- Steering Committee Member, TestSmart: Developmental Neurotoxicity Testing III, Joint Research Council, European Commission, 2009-2011
- Steering Committee Member, TestSmart: Developmental Neurotoxicity Testing II, Johns Hopkins University Center for Alternatives to Animal Testing (CAAT), 2006-2009
- Steering Committee Member, TestSmart: Developmental Neurotoxicity Testing I, Johns Hopkins University Center for Alternatives to Animal Testing (CAAT), 2003-2006
- Workshop Coordinator, TestSmart: Endocrine Disruptors, Johns Hopkins University Center for Alternatives to Animal Testing (CAAT), Workshop II, Feb 2002, 2001-2002
- Workshop Coordinator, TestSmart - Endocrine Disrupters, Johns Hopkins University Center for Alternatives to Animal Testing (CAAT), Workshop I, Feb 2001, 2000-2001
- P.I., Incorporation of imaging techniques into undergraduate cell and molecular laboratories, Biology Dept, Canisius College, 1998-1999
- Co-P.I., Laboratory revision in genetics and improvements in cell and molecular courses, Biology Dept, Canisius College, 1997-1999
- Co-P.I., Howard Hughes Medical Institute Program for Undergraduate Science Education, School of Arts and Sciences, Canisius College, 1996-1999
- Leader, Curricular reform committee, Introductory Biology Core, Biology Dept, Canisius College, 1993-1995

Consultations

- Consultant to McLarens Young International, Global Claims Services, 2010-2011
- Technical consultant to emGene, Inc., Columbia, MD, 2002-2003
- Consultant to Law Offices of Kysor & Della Posta, Gowanda, NY representing Andrew V Rupp in the State of New York Worker's Compensation Board in regard to Andrew V Rupp, WCB Case #8930-4882, 1998

EDITORIAL ACTIVITIES

Editorial Board Membership

- ***NeuroToxicology***, Editorial Board, 2007-2009; Associate Editor, 2009-2017, **Editor-in-Chief**, 2017-present
- *Current Research in Toxicology,* Editorial Board, 2019-present

- *Chemical Research in Toxicology*, Editorial Advisory Board, 2018-present
- *Toxics*, Editorial Board, 2013-present
- *Toxicological Sciences*, Editorial Board, 2011-present
- *International Journal of Molecular Sciences*, Molecular Toxicology Section, Associate Editor, 2014-present
- *Neurotoxicology and Teratology*, Associate Editor, 2013-2017
- *Toxicology and Applied Pharmacology*, Editorial Board, 2007 – 2011, Associate Editor 2012-2017
- *Journal of Toxicology*, Editorial Board, 2007-2010
- *Toxicology Letters*, Editorial Board, 2001-2004

Peer Review Activities

ACS Neurochemistry ◆ ACS Neuroscience ◆ Advanced Biosystems ◆ Aging Cell ◆ Anatomia, Histologia, Embryologia ◆ Annals of the New York Academy of Sciences ◆ Aquatic Toxicology ◆ Archives of Toxicology ◆ Behavioral Brain Research ◆ Biochemical Pharmacology ◆ Brain and Behavior ◆ Brain Research ◆ Chemical Research in Toxicology ◆ Chemico-Biological Interactions ◆ Chemosphere ◆ Current Research in Toxicology ◆ Developmental Biology ◆ Environment International ◆ Environmental Health Perspectives ◆ Environmental Pollution ◆ Environmental Science & Technology ◆ Epilepsia ◆ European Journal of Neuroscience ◆ FASEB J ◆ Front Pharmacol ◆ Integrative and Comparative Biology ◆ International J Toxicology ◆ J Alzheimer's Disease ◆ J Cell Biology ◆ J Neurobiology ◆ J Neurochemistry ◆ J Neuroinflammation ◆ J Neuroscience ◆ J Neuroscience Methods ◆ J Neuroscience Research ◆ J Pharmacology & Experimental Therapeutics ◆ Molecular Neurobiology ◆ Neurobiology of Disease ◆ Neurochemical Research ◆ Neuropharmacology ◆ Neuroscience Letters ◆ Neurotherapeutics ◆ Neurotoxicity Research ◆ NeuroToxicology ◆ Neurotoxicology and Teratology ◆ Proceedings of the National Academy of Science ◆ The Veterinary Journal ◆ Toxicology ◆ Toxicology Letters ◆ Toxicology and Applied Pharmacology ◆ Toxicological Sciences ◆ Translational Psychiatry

Review of Proposals

- *Ad hoc*, NIH Fellowship Review Panel, Neurodevelopment, Synaptic Plasticity, and Neurodegeneration Study Section F03A, February 2022
- *Ad hoc*, UK Alzheimer's Society www.alzheimers.org.uk/researchfunding. Research application, December 2021
- *Ad hoc,* NIH Study Section, Environmental Health Sciences Review Committee (EHSRC), the NIEHS chartered review committee, Peer review of T32 Training Applications, November 9, 2021
- *Ad hoc*, NIH Study Section, 2021/01 ZES1 LWJ-D (R3) 1, NIEHS Initiative on Revolutionizing Innovative, Visionary Environmental Health Research (RIVER) Scientists, November 12, 2020
- *Ad hoc*, Research Foundation – Flanders (Fonds voor Wetenschappelijk Onderzoek – Vlaanderen – FWO (www.fwo.be), Fundamental Research Projects, July, 2020
- *Ad hoc*, NIH Study Section, 2020/05 ZES1 JAB-D (VT) A, National Institute of Environmental Health Sciences Special Emphasis Panel, ViCTER, March 25-26, 2020
- *Ad hoc*, NIH Study Section, ZES1 LWJ-S (R3)1, National Institue of Environmental Health Sciences Special Emphasis Panel, RIVER, November 14, 2019
- *Ad hoc*, NCN OPUS, National Science Centre (Narodowe Centrum Nauki – NCN), Kraków, Poland, October 2019
- *Ad hoc*, The Croatian Science Foundation (HRZZ), Research Projects, 2019
- *Ad hoc*, NIH Study Section, NAL, Neurotoxicology and Alcoholism, February 2019
- *Ad hoc*, UC Davis Memory and Plasticity (MAP) Program seed grants, July 2018

- *Ad hoc*, NIH Special Emphasis Panel/Scientific Review Group 201888/10 ZES1 LKB-S (R6) 1, Summer Research Education Experience Programs R25, June 2018
- *Ad hoc*, Medical Research Council, UK Research and Innovation Peer Review, May 2018
- *Ad hoc*, The Israel Science Foundation, March 2018
- *Ad hoc*, NIH Special Emphsis Panel/Scientific Review Group ZES1 LKB-K, Centers for Oceans and Human Health, September 20-22, 2017
- *Ad hoc*, NIH Special Emphasis Panel/Scientific Review Group ZES1 LKB-K, Summer Research Education Experience Programs R25, June 20, 2017
- *Ad hoc*, NIH Study Section, ZRG1 MDCN-B (55) CounterACT Exploratory Grants, July 8, 2016
- *Ad hoc*, NIH Special Emphasis Panel/Scientific Review Group ZES1 LKB-J, Summer Research Training and Development, June 14, 2016
- *Ad hoc*, NIH Study Section, NAL, Neurotoxicology and Alcohol, June 13, 2016
- *Ad hoc*, Agence Nationale de la Recherche (ANR), French National Research Agency, May 2015
- *Ad hoc*, NIH study section, ZRG1 DKUS-C (54), Environmental Contributors to Autism Spectrum Disorders (R01s), April 2015
- Pilot project review, NIEHS Core Center of Excellence, Texas A&M, College Station, TX, August 2014
- *Ad hoc*, NIH study section, ZES1 LWJ-K, Neurodegenerative Disorders, March 2014
- *Ad hoc*, NIH study section, ZES1 LKB-J, Career Training in Environmental Health Sciences, March 2014
- Standing Member, NIH, study section, Environmental Health Sciences Review Committee (EHSRC), the NIEHS chartered review committee, Sept 2011-August 2015
- Center for Alternatives to Animal Testing (CAAT), 2001-2004, 2009-2014
- Pilot project review, UC Davis Alzheimer's Disease Center, University of California, Davis, CA, April 2012
- Pilot project review, NIEHS Center for Environmental Health, Columbia University, New York, NY, April 2012
- *Ad hoc*, NIH study section, ZRG1 IFCN-A02, Neurotoxicology Special Emphasis Panel, March 2012
- *Ad hoc*, NIH study section, EHSRC, Environmental Health Sciences Review Committee, The NIEHS chartered review committee, Nov 2010, April 2011
- Standing Member, NIH study section, NAL, Neurotoxicology and Alcoholism, Oct 2007-Sept 2011
- *Ad hoc*, NIH study section, ZRG1 BDCN-N, Neurotransmitters and Neuroplasticity, Apr 2007
- *Ad hoc*, NIH study section, NAL, Neurotoxicology and Alcoholism, Oct 2006
- *Ad hoc*, NIH study section, NIGMS, Minority Biomedical Research Support (MBRS) Support of Continuous Research Excellence (SCORE) in Neuroscience, 2006
- *Ad hoc*, NIH study section, NIEHS, Conference Grant Applications (R13), 2002-2005
- Chair, NIH study section, NIEHS, Special Emphasis Panel, 2002
- Member, NSF Integrative Organismal Biology/Developmental Systems Cluster, 2005-2007
- *Ad hoc*, NSF, Developmental Neuroscience Program, 1999-2002, 2004-2006
- *Ad hoc*, NSF, Research Experience for Undergraduates Program, 2001
- The Davidson Institute for Talent Development, Davidson Fellows Submission Review, 2004
- Johns Hopkins Center in Urban Environmental Health, 2001, 2004, 2009

PUBLICATIONS *in chronological order*

Refereed Journal Articles (Underlined names are Lein lab trainees)

1. Pancorbo OC, **Lein PJ,** Blevins RD (1987) Mutagenic activity of surface waters adjacent to a nuclear fuel processing facility. *Arch Environ Contamin Toxicol* 16:531-537. PMID: 3632040
2. Kung MP, Nickerson PA, Sansone FM, Olson JR, Kostyniak PJ, Adolf MA, **Lein PJ,** Roth JA (1988) Effect of short-term exposure to hexachlorophene on rat brain cell specific marker enzymes. *Fund Appl Toxicol* 11:519-527. PMID2906023
3. **Lein PJ,** Higgins D (1989) Laminin and a basement membrane extract have different effects on axonal and dendritic outgrowth from embryonic rat sympathetic neurons in vitro. *Dev Biol* 136:330-345. PMID2479584
4. Bruckenstein DA, **Lein PJ**, Higgins, Fremeau RT (1990) Distinct spatial localization of specific mRNAs in cultured sympathetic neurons. *Neuron* 5:809-819. PMID2148487
5. **Lein PJ**, Higgins D, Turner DC, Flier LA, Terranova VP (1991) The NC1 domain of type IV collagen promotes axonal growth in sympathetic neurons through interaction with the $\alpha_1\beta_1$ integrin. *J Cell Biol* 113:417-428. PMC2288935
6. **Lein PJ**, Higgins D (1991) Protein synthesis is required for the initiation of dendritic growth in embryonic rat sympathetic neurons *in vitro*. *Dev Brain Res* 60:187-196. PMID1716531
7. **Lein PJ**, Banker GA, Higgins D (1992) Laminin selectively enhances axonal growth and accelerates the development of polarity by hippocampal neurons in culture. *Dev Brain Res* 69:191-197. PMID1424096
8. Craig DK, Davis JS, Lee LG, **Lein PJ,** Hoffman PW (April 1993) Toxic Chemical Risk Acceptance Guidelines for Use in DOE Facilities. *WSRC-MS-92-206-Rev 1.*
9. **Lein PJ**, Johnson M, Guo X, Rueger D, Higgins D (1995) Osteogenic protein-1 induces dendritic growth in rat sympathetic neurons. *Neuron* 15:597-605. PMID7546739
10. **Lein PJ**, Higgins D (1996) Antibodies to β1 integrins inhibit dendritic growth in rat sympathetic neurons. *Biomed Res* 7:101-112. PMC5724964
11. **Lein P**, Guo X, Hedges AM, Rueger D, Johnson M, Higgins D (1996) The effects of extracellular matrix and osteogenic protein-1 on the morphological differentiation of rat sympathetic neurons. *Intl J Develop Neurosci* 14:203-215. PMID8842799
12. Guo X, Metzler-Northrup J, **Lein P**, Rueger D, Higgins D (1997) Leukemia inhibitory factor and ciliary neurotrophic factor regulate dendritic growth in cultures of rat sympathetic neurons. *Dev Brain Res* 104:101-110. PMID9466712
13. Higgins D, Burack M, **Lein P**, Banker G (1997) Mechanisms of neuronal polarity. *Curr Opinion Neurobiol* 7:599-604. PMID9384542
14. Gadient RA, **Lein P**, Higgins D, Patterson PH (1998) Effect of leukemia inhibitory factor (LIF) on morphology and survival of hippocampal neurons and glia cells. *Brain Res* 798:140-146. PMID9666105
15. Guo X, Chandrasekaran V, **Lein P**, Kaplan PL, Higgins D (1999) Leukemia inhibitory factor and ciliary neurotrophic factor cause dendritic retraction in cultured rat sympathetic neurons. *J Neurosci* 19:2113-2121. PMID10066264
16. **Lein P**, Gallagher PJ, Amodeo J, Howie H, Roth JA (2000) Manganese induces neurite outgrowth in PC12 cells via upregulation of alpha(v) integrins. *Brain Res* 885:220-230. PMID11102576
17. Guo X, Lin Y, Horbinski C, Drahushuk K, Kim I-J, Kaplan PL, **Lein P**, Wang T, Higgins D (2001) Dendritic growth induced by BMP-7 requires Smad1 and proteasome activity. *J Neurobiol* 48:120-130. PMID11438941

18. Dattatreyamurty B, Roux E, Kaplan PL, Robak LA, Horbinski C, **Lein P**, Higgins D, Chandrasekaran V (2001) Cerebrospinal fluid contains biologically active bone morphogenetic protein-7. *Exp Neurol* 172:273-281. PMID11716552
19. Beck HN, Drahushuk K, Jacoby DB, Higgins D, **Lein PJ** (2001) Bone morphogenetic protein-5 (BMP-5) promotes dendritic growth in cultured sympathetic neurons. *BMC Neurosci* 2:12. PMC56999
20. Roth JA, Horbinski C, Higgins D, **Lein P**, Garrick MD (2002) Mechanisms of manganese-induced rat pheochromocytoma (PC12) cell death and cell differentiation. *NeuroToxicol* 23:147-157. PMID12224755
21. Kim IJ, Beck HN, **Lein PJ**, Higgins D (2002) Interferon gamma induces retrograde dendritic retraction and inhibits synapse formation. *J Neurosci* 22:4530-4539. PMID12040060
22. Schuh RA, **Lein PJ**, Beckles RA, Jett DA (2002) Noncholinesterase mechanisms of chlorpyrifos neurotoxicity: altered phosphorylation of Ca^{2+}/cAMP response element binding protein in cultured neurons. *Toxicol Appl Pharmacol* 182:176-185. PMID12140181
23. **Lein PJ,** Beck HN, Chandrasekaran V, Gallagher PJ, Lin Y, Guo X, Hedges AM, Kaplan PL, Tiedge H, Higgins D (2002) Glia induce dendritic growth in cultured sympathetic neurons by modulating the balance between bone morphogenetic proteins (BMPs) and BMP antagonists. *J Neurosci* 22:10377-10387. PMID12451137
24. Chang CF, Lin SZ, Chiang YH, Morales M, Chou J, **Lein P**, Chen HL, Hoffer BJ, Wang Y (2003) Intravenous administration of bone morphogenetic protein-7 after ischemia improves motor function in stroke rats. *Stroke* 34:558-564. PMID12574575
25. Howard AS, Fitzpatrick R, Pessah I, Kostyniak P, **Lein P** (2003) Polychlorinated biphenyls induce caspase-dependent cell death in cultured embryonic rat hippocampal but not cortical neurons via activation of the ryanodine receptor. *Toxicol Appl Pharmacol* 190:72-86. PMID12831785
26. Chen HL, **Lein PJ**, Wang, JY, Gash D, Hoffer BJ, Chiang YH (2003) Expression of bone morphogenetic proteins in the brain during normal aging and in 6-hydroxydopmaine-lesioned animals. *Brain Res* 994:81-90. PMID14642451
27. Fryer AD, **Lein PJ**, Howard AS, Yost B, Beckles RA, Jett DA (2004) Mechanisms of organophosphate insecticide-induced airway hyperreactivity. *Am J Physiol Lung Cell Mol Physiol* 286:L963-L969. PMID14704222
28. Kim IJ, Drahushuk KM, Kim WY, **Lein P**, Andres DA, Higgins D (2004) Extracellular signal-regulated kinases regulate dendritic growth in rat sympathetic neurons. *J Neurosci* 24:3304-3312. PMID15056710
29. Shen W, Finnegan S, **Lein P**, Sullivan S, Slaughter M, Higgins D (2004) Bone morphogenetic proteins regulate ionotropic glutamate receptors in human retina. *Eur J Neurosci* 20:2031-2037. PMID15450082
30. **Lein PJ,** Fryer AD (2005) Organophosphorus insecticides induce airway hyperreactivity by decreasing neuronal M2 muscarinic receptor function independent of acetylcholinesterase inhibition. *Toxicol Sci* 83:166-176. PMID15470232
31. **Lein P,** Goldberg A, Locke P, Silbergeld E (2005) *In vitro* and other alternative approaches to developmental neurotoxicity testing (DNT). *Environ Toxicol Pharmacol* 19:735-744. PMID21783550
32. Howard AS, Bucelli R, Jett DA, Bruun D, Yang D, **Lein PJ** (2005) Chlorpyrifos exerts opposing effects on axonal and dendritic growth in primary neuronal cultures. *Toxicol Appl Pharmacol* 207:112-124. PMID16102564
33. Pin S, Chen HL, **Lein PJ**, Wang MM (2006) Nucleic acid binding agents exert local toxic effects on neurites via a non-nuclear mechanism *J Neurochem* 96:1253-1266. PMID16441515
34. **Lein PJ**, Mervis RF, Bachstetter AD, Yang D, Tilson HA, Harry GJ, Kodavanti PRS (2007) Ontogenetic alterations in molecular and structural correlates of dendritic growth after

developmental exposure to polychlorinated biphenyls. *Environ Health Perspect* 115:556-563. PMC1852648

35. **Lein PJ**, Guo X, Shi GX, Moholt-Siebert M, Bruun D, Andres DA (2007) The novel GTPase Rit differentially regulates axonal and dendritic growth. *J Neurosci* 27(17): 4725-4736. PMC3495986
36. **Lein P**, Locke P, Goldberg A (2007) Meeting report: alternatives for developmental neurotoxicity testing. *Environ Health Perspect* 115:764-768. PMC1867989
37. Coecke S, Goldberg AM, Allen S, Buzanska L, Calamandrei G, Crofton K, Hareng L, Hartung T, Knaut H, Honegger P, Jacobs M, **Lein P**, Li A, Mundy W, Owen D, Schneider S, Silbergeld E, Reum T, Trnovec T, Monnet-Tschudi F, Bal-Price A (2007) Workgroup report: incorporating *in vitro* alternative methods for developmental neurotoxicity into international hazard and risk assessment strategies. *Environ Health Perspect* 115:924-931. PMC1892131
38. **Lein PJ**, Yang D, Bachstetter AD, Tilson HA, Harry GJ, Mervis RF, Kodavanti PRS (2007) Ontogenetic alterations in molecular and structural correlates of dendritic growth following developmental exposure to polychlorinated biphenyls. *Organohalogen Compounds* 69:417-420.
39. Bucelli RC, Gonsiorek EA, Kim W-Y, Bruun D, Rabin RA, Higgins D, **Lein PJ** (2008) Statins decrease expression of the proinflammatory neuropeptides calcitonin gene-related peptide and substance P in sensory neurons. *J Pharmacol Exp Therap* 324(3): 1172-1180. PMID18079356
40. Proskocil BJ, Bruun DA, Lorton JK, Blensly KA, Jacoby DB, **Lein PJ,** Fryer AD (2008) Antigen sensitization influences organophosphorus pesticide-induced airway hyperreactivity. *Environ Health Perspect* 116(3): 381-388. PMC2265045
41. Yang D, Howard A, Bruun D, Ajua-Alemanj M, Pickart C, **Lein PJ** (2008) Chlorpyrifos and chlorpyrifos-oxon inhibit axon outgrowth by interfering with the morphogenic activity of acetylcholinesterase. *Toxicol Appl Pharmacol* 228: 32-41. PMC2408880
42. Dziennis S, Yang D, Cheng J, Anderson K, Alkayed NJ, Hurn PD, **Lein PJ** (2008) Developmental exposure to polychlorinated biphenyls influences stroke outcome in adult rats. *Environ Health Perspect* 116(4): 474-480. PMC2291013
43. Boswell B, **Lein P**, Musil L (2008) Cross-talk between fibroblast growth factor and bone morphogenetic proteins regulates gap junction-mediated intercellular communication in lens cells. *Mol Biol Cell* 19:2631-2641. PMC2397318
44. Pessah IN, Seegal RF, **Lein PJ**, LaSalle J, Yee BK, Van De Water J, Berman RF (2008) Immunologic and neurodevelopmental susceptibilities of autism. *NeuroToxicol* 29:532-545. PMC2475601
45. Andres DA, Shi GX, Bruun D, Barnhart C, **Lein PJ** (2008) Rit signaling contributes to interferon-gamma-induced dendritic retraction via p38 mitogen-activated protein kinase activation. *J Neurochem* 107:1436-1447. PMC2857931
46. Kim WY, Gonsiorek EA, Barnhart C, Davare MA, Engebose AJ, Lauridsen H, Bruun D, Lesiak A, Wayman G, Bucelli RC, Higgins D, **Lein PJ** (2009) Statins decrease dendritic arborization in rat sympathetic neurons by blocking RhoA activation. *J Neurochem* 108:1057-1071. PMC4277848
47. Yang D, Kim KH, Phimister A, Bachstetter AD, Ward TR, Stackman RW, Mervis RF, Wisniewski AB, Klein SL, Kodavanti PRS, Anderson KA, Wayman G, Pessah IN, **Lein PJ** (2009) Developmental exposure to polychlorinated biphenyls interferes with experience-dependent dendritic plasticity and ryanodine receptor expression in weanling rats. *Environ Health Perspect* 117:426-435. PMC2661913
48. Halladay A, Amaral D, Aschner M, Bolivar V, Bowman A, DiCicco-Bloom E, Hyman S, Keller F, **Lein P**, Pessah I, Restifo L, Threadgill DW (2009) Animal models of autism spectrum disorders: information for neurotoxicologists. *NeuroToxicol* 30:811-821. PMC3014989.

49. Pessah IN, Cherednichenko G, **Lein PJ** (2010) Minding the calcium store: Ryanodine receptor activation as a convergent mechanism of PCB toxicity. *Pharmacol Therap* 125(2):260-285. PMC2823855
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RESEARCH GRANT PARTICIPATION

Active

RF1 AG074709 (Bein, LEIN, Van Winkle, MPI) 05/01/21-04/30/26
NIH/NIA
Traffic-related air pollution exacerbates AD-relevant phenotypes in a genetically susceptible rat model via neuroinflammatory mechanism(s)
The main objective of the project is to test the hypothesis that TRAP decreases the time to onset and/or increases severity of AD-like phenotypes in genetically susceptible individuals via microglial cell activation secondary to lung inflammation.

R01 ES014901 (Lein [Contact] and Lehmler, MPI) 12/01/08-10/31/25
NIH NIEHS
Molecular and Cellular Basis of PCB Developmental Neurotoxicity
The main objective of this grant is to test the hypothesis that cytochrome P450-mediated metabolism influences the neurotoxic effects of lower chlorinated PCBs on CREB-dependent neurodevelopmental effects. The current grant is a 5-year extension of a 10-year collaborative project with Dr. Isaac Pessah as MPI.

P50 HD103526 (Abbeduto) 07/01/20-06/30/25
NIH/NICHD
UC Davis MIND Institute IDDRC
The MIND Institute IDDRC supports ground-breaking studies of the early behavioral indicators of autism spectrum disorder (ASD); the role of immune dysfunction in ASD risk; interactions between genetic susceptibilities and exposure to teratogens in risk for ASD and IDD; the range of phenotypes associated with expansions of the FMR1 gene; structural and functional brain abnormalities underlying ASD, fragile X syndrome (FXS), chromosome 22q11.2 deletion syndrome (22q), and other IDD conditions.

P30 ES023513 (Hertz-Picciotto) 05/05/15-03/31/25
NIH/NIEHS
UC Davis Environmental Health Science Core Center
The overarching goal of the UC Davis Environmental Health Sciences Core Center is to expand the scope, innovation, and impact of EHS research so as to improve environmental public health in northern California, the Central Valley, and across the globe.
Role: Leader, Career Development Program

R01 ES031098 (Cui/Lehmler [Contact]/Lein, MPI) 02/01/20-11/30/24
NIH/NIEHS
PCB-mediated dysbiosis of the gut microbiome: A missing link in PCB-mediated neurodevelopmental disorders? The goal of this project is to test the central hypothesis that dysbiosis of the gut microbiome associated with developmental expo-sure to varying doses of PCBs contributes to adverse neurodevelopmental outcomes.

R01 ES029213 (LaSalle [Contact]/Lein/Schmidt, MPI) 06/01/18-05/31/23
NIH/NIEHS
PCB Epigenomic Brain & Behavior Lasting Effects Study (PEBBLES)
This study will leverage existing samples and behavioral outcome data from mice exposed perinatally to a mix of PCBs simulating the congener profile found in the serum of mothers in the MARBLES cohort with a new goal of identifying epigenetic placental biomarkers of PCB exposures and NDD risk. The unifying hypothesis is that genetic and PCB interactions can be detected as DNA methylation signatures in placenta to predict NDD.

R01 AG056710 (Knowlton [Contact]/Lein/Gelli, MPI) 03/15/18-02/28/23
NIH/NIA
Vascular Inflammation and Exosomes as Mediators in Aging and Dementia
The goal of this project is to test the hypothesis that senescent endothelial cells, which accumulate with aging, create a pro-inflammatory environment that adversely affects the blood brain barrier (BBB) and contribute to neuropathology implicated in age-associated dementias such as Alzheimer's disease.

R21 HD095391 (Taha) 02/01/19-12/31/22
NIH/NICHD
Role of excess maternal linoleic acid intake on infant neurodevelopment
The goal is to assess the impacts of dietary linoleic acid (LA) and its oxidized metabolites (OXLAMS) during pregnancy and lactation on child brain development and to identify specific metabolites responsible for possible adverse effects. **Role**: Co-Investigator.

R01 NS097808 (Silverman) 09/01/17-
08/31/22
NIH/NINDS
Phenotypic Characterization of Novel Models of Dup15q Syndrome
The goal of this project is to identify behavioral, neuroanatomical and epigenetic mechanisms of isoform-specific *Ube3a* overexpression to address important questions regarding our main scientific premise that overexpression of UBE3A is the principal pathogenic mechanism causing Dup15q impairments. **Role**: Co-Investigator.

R03 NS118156 (Seker) 08/01/20-07/31/22
NIH/NINDS
Neuronal contribution to the propagation of inflammation in the central nervous system
The goal of this project is to generate preliminary data to support our central hypothesis that intra-axonal (anterograde and retrograde) signaling and electrophysiological signals (e.g., excitotoxicity) contribute to the transmission of neuroinflammatory triggers from the site of insult to distal regions within the CNS.

U54 NS079202 (Lein) 09/01/12-05/31/22
NIH/NINDS CounterACT Program
Novel anticonvulsant and neuroprotective therapies for TETS and OP intoxication
The unifying goal of the UC Davis CounterACT Center of Excellence is to identify improved medical countermeasures for treating acute intoxication with seizure-inducing chemical threat agents.
Role: Center Director and PI of Project 2 of the Center

R21 AG064290 (Lein/Ramsey [Contact], MPI) 05/01/20-02/28/22
NIH/NIA
Ketogenic diet approaches to slow disease progression in a rat model of Alzheimer's disease
The goal of this project is to test the hypothesis that isocaloric ketogenic diet feeding approaches that produce either sustained or intermittent ketosis will decrease inflammation and delay the onset or lessen the severity of disease progression in the TgF344-AD rat model

of Alzheimer's disease.

R21 AG065908 (Gorin/Lein [Contact], MPI) 01/15/20-11/30/22
NIH/NIA
Inhibiting AD inflammation with a novel class of small molecule PAI-1 antagonists
The objective of this project is to test the hypothesis that selectively killing microglia and astrocytes that express the serine protease inhibitor PAI-1 will: (i) reduce the neuro-inflammatory response; and (ii) improve clearance of Aβ protein in the brain, thereby slowing or preventing cognitive decline in a preclinical model of Alzheimer's disease (AD).

R21 NS110647 (Lein [Contact]/Wulff, MPI) 07/01/19-06/30/22
NIH/NINDS
Identifying molecular targets for the proconvulsant activity of TETS
The goal of this project is to test the central hypothesis that α2β3γ2 receptors, which are far more abundant in the mammalian CNS than α6β3γ2 receptors, constitute the major molecular target of TETS and, based on the structural similarity between the two compounds, also of RDX.

R21 AG064599 (Chaudhari [Contact]/Lein, MPI) 08/01/19-04/30/22
NIH/NIA
Imaging biomarkers of early synaptic changes in a preclinical model of Alzheimer's disease
The goal of this project is to test the hypothesis that in vivo imaging of synapse density is a predictive biomarker of AD pathology that precedes detection of amyloid deposition and neurofibrillary tangles by in vivo imaging.

R21 EB024635 (Seker) 04/01/18-03/31/22
NIH/NIBIB
Next Generation Neural Interfaces Based on Axonal Confinement in Micro-Channel Electrode Arrays
The main hypothesis of this proposal is that the axons growing through micron scale channels can spontaneously form an electrical seal that isolates the axonal membrane patches to yield high signal-to-noise ratio (SNR) recording and immunity to mechanical vibrations or gliotic encapsulation of the electrodes. **Role**: Co-Investigator

R01 ES024946 (La Merrill) 03/01/16-02/28/22
NIH/NIEHS
Perinatal DDT exposure causes insulin resistance in mice through impaired thermogenesis
The overall objective of this proposal is to identify mechanism(s) by which environmentally relevant exposure to DDT during development increases risk of T2D in adulthood. **Role**: Co-Investigator

Completed

R01 ES014901-09S1 (Lein [Contact]/Pessah, MPI) 12/01/17-11/30/20
NIH/NIEHS
Molecular and Cellular Basis of PCB Developmental Neurotoxicity: ViCTER Supplement
This ViCTER project will investigate a PCB congener (PCB 11), route of exposure (inhalation) and target organ (developing lung) not addressed in the parent grant. Additionally, this ViCTER project will exploit state-of-the art optogenetic techniques to translate in vitro observations of PCB 11 effects on structural connectivity to in vivo changes in structural and functional connectivity.

U54 HD079125 (Abbeduto) 09/01/13-08/31/19
NIH/NICHD

MIND Institute Intellectual and Developmental Disabilities Research Center (IDDRC)
The goal is to support a translational science agenda focused on intellectual and developmental delays (IDD). The IDDRC will integrate research from multiple disciplines and bridge basic and clinical science to arrive at treatments for IDD conditions. The range of IDD conditions include autism spectrum disorder, fragile X syndrome, Down syndrome, ADHD, chromosome 22q11.2 deletion syndrome, and many others. **Roles:** Core C Co-Director; Project 1 Co-Investigator

P01 ES011269 (Van de Water) 06/01/13-05/31/19
NIH NIEHS/USEPA
The UC Davis Center for Children's Environmental Health and Disease Prevention
Project 4: Calcium Signaling Defects in Autism (Pessah and Lein, Co-Leaders)
Project 4 will test the hypothesis that CGG trinucleotide repeats in the FMR1 gene, the most prevalent single gene disorder contributing to autism risk, influence susceptibility to non-dioxin-like (NDL) persistent organic pollutants (POPs) identified in Core 3 and pro-inflammatory cytokine profiles identified in Project 3 to predominate in plasma of women participating in the MARBLES study during pregnancy. **Role on project**: Co-Leader of Project 4

R21 ES026515 (Lein) 04/01/16-03/31/19
NIH NIEHS
Does air pollution increase risk of AD in a genetically susceptible animal model?
The goal is to test the hypothesis that chronic exposure to traffic-related air pollution triggers inflammatory responses in the brain to initiate or accelerate the progression of Alzheimer's disease-like pathology and cognitive dysfunction in a novel transgenic rat expressing AD susceptibility genes.

P30AG010129 (DeCarli)/Pilot Project Grant (Lein) 07/01/17-06/30/18
NIH NIA
UC Davis Alzheimer's Disease Center/Influence of air pollution on AD phenotype in a genetically susceptible rat model
The pilot project funding is being used to extend the duration of the exposure period proposed in the parent R21 that is testing the novel hypothesis that chronic exposure to traffic-related air pollution (TRAP) triggers inflammatory responses in the brain that initiate or accelerate the progression of AD pathology and cognitive dysfunction.

P30 ES023513-03S1 (Hertz-Picciotto) 09/15/17-03/31/18
NIH/NIEHS
Environmental Health Sciences Research Center (EHSRC) Competitive Supplement: Organosulfates: A missing link between air pollution and an increased risk of Alzheimer's Disease?
The objective of this NIEHS P30 administrative supplement is to characterize the exposure of rats to organosulfates present in air pollution in the Caldecott tunnel in California using untargeted and targeted analyses. **Role**: Principal investigator of the supplement award to the UC Davis EHSC.

P30 ES023513-03S2 (Hertz-Picciotto) 09/15/17-03/31/18
NIH/NIEHS
Environmental Health Sciences Research Center (EHSRC) Competitive Supplement: The role of the gut microbiome in the exacerbation of Alzheimer's Disease by traffic-related air pollution
The objective of this NIEHS P30 administrative supplement to test the central hypothesis that dysbiosis of the intestinal microbiome influences the impact of gene (AD risk genes) by environment (traffic-related air pollution) interactions on AD-relevant phenotypes. **Role**: Principal investigator of the supplement award to the UC Davis EHSC.

R21 ES025570 (Silverman) 07/01/15-

06/30/17
NIH/NIEHS
Functional Outcomes of Interactions between an ASD-Relevant Gene and Air Pollution
The goal of this project is to test the hypothesis that developmental exposure to traffic-related pollution impairs behavioral phenotypes relevant to ASD coincident with neuroinflammation and/or altered neuronal connectivity. **Role:** Co-Investigator

RD835550 (Lein) 11/01/13-10/31/16
USEPA
Identification and scientific validation of AOPs involving genomic and nongenomic intracellular thyroid hormone signaling in neurodevelopment
Goal: Identify neurodevelopmental processes regulated by thyroid hormone (TH) and determine whether these are mediated by genomic or non-genomic mechanisms and differ significantly between species.

R01 ES017425 (Lehmler (Contact), Lein, Pessah, MPI) 12/1/09-11/30/15
NIH/NIEHS
Enantioselective Metabolism Influences PCB Developmental Neurotoxicity.
The primary goal of the project is to explore whether the PCB atropisomers have differential potency and efficacy towards ryanodine receptors.

R01 ES017592 (Lein(Contact) and Fryer, MPI) 07/1/10-06/30/15
NIH NIEHS
Role of Macrophages in Organophosphorus Pesticide-Induced Airway Hyperreactivity.
The main goal is to test the hypothesis that airway macrophages mediate organophosphorus pesticide-induced airway hyperreactivity in non-atopic hosts.

R21 NS072094 (Lein (Contact) and Rogawski, MPI) 09/30/10-08/31/13
NIH NINDS
Identification of novel therapeutic approaches to TETS and OP intoxication
The goal is to obtain preliminary data in support of our hypothesis that AMPA receptor (AMPA-R) antagonists and/or inhibitors of soluble epoxide hydrolases (sEHi) will significantly improve clinical management of acute TETS and parathion intoxication by extending the therapeutic window, enhancing neuroprotection and providing therapeutic efficacy against diverse chemical threat agents.

R01 ES 016308 (Anger [Contact] and Lein, MPI) 06/01/08-04/30/13
NIH NIEHS
Biomarkers of Organophosphorus Pesticide-Induced Neurotoxicity.
The main objective of this project is to test the hypotheses that OP-induced neurobehavioral deficits in humans are dose-related and that biomarkers of oxidative stress and inflammation are better predictors of neurobehavioral deficits than cholinesterase inhibition.

U01 NS 057993 (Ford) 09/27/06-05/31/11
NIH NINDS
Neuroprotective Roles for Neuregulins in Neurotoxin-Mediated Neuronal Injury.
The major goal of this project is to test the hypothesis that neuregulins will be neuroprotective against CNS damage caused by OPs. (**Role on project**: PI on subcontract)

UC Davis M.I.N.D. Institute Pilot Project (Lein) 07/01/09-6/30/10
University of California, Davis
Potential Gene-Environment Interactions in ASD: Disruption of neuroligin-mediated synaptogenesis by organophosphorus pesticides.

The major goal of this project is to test the hypothesis that organophosphorus pesticides interfere with neuroligin-mediated synapse formation in cultured hippocampal neurons.

R01 ES014601 (Fryer) 12/01/06-11/30/11
NIH/NIEHS
Asthma exacerbation by organophosphate pesticides
The goal of this project is to test the hypothesis that sensitized animals will be more sensitive to organophosphorus pesticides than non-sensitized animals and that organophosphorus pesticides will interact with eosinophils to further exacerbate airway hyperreactivity in this susceptible population. **Role on grant**: Co-Investigator

R01 NS046649 (Lein) 07/01/03-04/30/08
NIH/NINDS
Retrograde dystrophic influence of IFN-gamma on neurons
The main grant objective was to test the hypothesis that the pro-inflammatory cytokine gamma interferon contributes to inflammation-associated neuropathology by acting directly on neurons to induce dendrite retraction and synapse loss.

R56 ES014901 (Lein) 07/01/07-06/30/08
NIH NIEHS
Molecular and Cellular Basis of PCB Developmental Neurotoxicity
The main grant objective was to test the hypothesis that non-coplanar PCBs disrupt neuronal connectivity via ryanodine receptor (RyR)-mediated mechanisms that modulate Ca^{2+}-dependent signaling pathways linked to activity-dependent dendritic growth and plasticity.

Project #2007-27 (Lein and Tanguay) 01/01/06-02/01/08
Johns Hopkins University Center for Alternatives to Animal Testing (CAAT)
Zebrafish as an In Vivo Model System for Identifying Developmental Neurotoxicants
The overall goal of this project is to evaluate zebrafish as an alternative model for developmental neurotoxicity testing.

R21 NS45037 (Lein) 01/01/04-12/31/06
NIH NINDS
Molecular regulation of primary dendritogenesis
The main grant objective was to identify genes that control the growth of primary dendrites in mammalian neurons by using subtractive hybridization techniques to isolate genes that are differentially regulated in sympathetic neurons during BMP-induced dendritic growth.

MRF Seed grant (Lein) 12/01/05-11/30/06
Medical Research Foundation of Oregon
Mechanisms of organophosphate-induced neuronal M2 receptor dysfunction
The goal of this project is to address the question of how organophosphorus pesticides inhibit M2 receptors in parasympathetic nerves that innervate the airways.

R21 ES11771 (Lein) 04/30/02-07/31/05
NIH NIEHS
Mechanism of organophosphate developmental toxicity
The goal was to test the hypothesis that organophosphate insecticides disrupt axonal growth in the developing nervous system by interfering with the morphogenic activity of AChE.

PR012236 (Fryer) 01/31/02-03/31/05
United States Department of Defense
Mechanistic studies investigating the role of organophosphate insecticide exposure in the development and exacerbation of asthma The goal was to test the hypothesis that organophosphate insecticides alter airway responsiveness by altering cholinergic

neurotransmission in the lung.
Role on grant: Co-Investigator

R03 HD40936 (Lein) 03/01/02-08/31/04
NIH NICHD
Do PCBs alter developing brain structure and cognition? The goal was to test the hypothesis that PCBs alter cognitive behavior in juveniles via effects on dendritic morphogenesis.

P30 ES03819 (Groopman) 04/01/01-03/31/08
NIH NIEHS *Johns Hopkins Center in Urban Environmental Health*
The major goal of this project is to identify environmental chemical exposures and susceptibility factors that alone or together increase risk of disease for people living in urban environments.
Role on grant: Director, Facility Core for Cell and Tissue Analysis, Apr 01 to Aug 03

Pilot grant (Lein) 05/01/01-04/30/02
The Thomas and Carol McCann Innovative Research Fund for Asthma and Respiratory Disease
Modulation of muscarinic receptor expression on sympathetic neurons by pro- and anti-inflammatory agents associated with asthma The goal was to test the hypothesis that pro- and anti-inflammatory agents (IFN-γ and dexamethasone) modulate M2 receptor expression in sympathetic neurons**.**

Pilot project proposal 00-12 (Lein) 04/01/00-03/31/01
NIEHS, Johns Hopkins University Center in Urban Environmental Health
Effects of polychlorinated biphenyls on estrogen metabolism in the developing hippocampus
The purpose of the proposed pilot study is to test the hypothesis that perinatal exposure to PCBs causes neural deficits by altering estrogen metabolism in neural structures critical to cognitive function, such as the hippocampus.

Pilot project (Lein) 05/01/00-04/30/02
Johns Hopkins University Bloomberg School of Public Health
Regulation of dendritic growth by target-derived bone morphogenetic proteins
The specific aims of this pilot grant are to test the hypothesis that BMPs derived from target tissues regulate dendritic growth in sympathetic neurons. The long-term objective is to develop testable hypotheses regarding molecular mechanism(s) by which neurotoxins disrupt neuronal morphogenesis.

Pilot Project Proposal 99-12 (Lein) 07/01/99-06/30/00
NIEHS, Johns Hopkins University Center in Urban Environmental Health
Assessment of dendritic growth as a targeted process in the developmental neurotoxicity of polychlorinated biphenyls (PCBs) The hypothesis being tested in this pilot project is that PCBs alter dendritic growth in primary neuronal cultures.

AREA NS/OD36401 (Lein) 04/01/97-08/31/99
NIH NINDS
Regulation of dendritic growth by osteogenic protein-1
The goal was to characterize effects of OP-1 on dendritic growth in cultured sympathetic neurons, and determine whether the spatial and temporal distribution of OP-1 in sympathetic ganglia and target tissues supported with their proposed role in regulating dendritic development in sympathetic neurons.

Pilot project (Lein) 01/01/91-12/31/91
American Cancer Society, Roswell Park Cancer Institute

Cell biology of human TILs engrafted into SCID mice The goal was to compare the integrin expression profile on tumor infiltrating lymphocytes versus peripheral blood lymphocytes.

TRAINING GRANT PARTICIPATION

Active

T32 ES007059 (Van Winkle) 07/01/20-06/30/23
NIH NIEHS
Advanced Training in Environmental Health Sciences
The objective of this grant is to support pre- and postdoctoral trainees in the area of environmental health sciences research. Role: Executive Committee member and Faculty preceptor

T32 MH073124 (Amaral)
NIH NIMH
Interdisciplinary Training for Autism Researchers
The objective of this grant is to train postdoctoral scholars in basic and applied aspects of autism spectrum disorders and other neurodevelopmental disorders.
Role: Core Course Instructor and Faculty Preceptor

T32 MH112507 (McAllister)
NIH NIMH
Learning, Plasticity and Memory (LaMP)
The goal is to provide training to predoctoral scholars in learning, plasticity and memory.
Role: Core Course Instructor and Faculty Preceptor

T32 GM099608 (Hell)
NIH NIGMS
Pharmacology Training: Bench to Bedside
The goal is to provide training to predoctoral scholars in all aspects of drug discovery.
Role: Executive Committee Member and Faculty Preceptor

T32 HL007013 (Kenyon)
NIH NHLBI
Training in Comparative Lung Biology and Medicine
The goal is to train predoctoral and postdoctoral trainees in basic and applied lung biology research.
Role: Faculty Preceptor

T35 OD010956 (Pessah)
NIH Office of the Director
Students Training in Advanced Research
The goal is to support research training for DVM students.
Role: Faculty Preceptor

T34 GM126469 (Gomes)
MARC at University of California, Davis
The goal is to support URM undergraduate students in research.
Role: Faculty Preceptor

R25 NS112130 (Usrey)
NIH NINDS
The Advancing Diversity in Neuroscience Research (ADNR) Honors Program

The goal is to provide summer research training in neuroscience to URM undergraduate students.
Role: Faculty Preceptor

Completed

T32 ES007059 (Lein) 07/01/10-06/30/20
NIH NIEHS
Advanced Training in Environmental Health Sciences
The objective of this grant is to support pre- and postdoctoral trainees in the area of environmental health sciences research. Role: PI and Faculty Preceptor

P42 ES04699 (Hammock) 04/01/10-03/31/15
NIH NIEHS Superfund Research Program
Biomarkers of exposure to hazardous substances, Training Core C of the program project
The Training Core aims to produce doctoral level engineers and scientists with the interdisciplinary educational experience necessary to address complex research problems posed by hazardous waste sites. **Role on project**: PI of Training Core C

T35 ES07308 (Lein) 04/01/03-03/31/04
NIH NIEHS
Short Term Research Training for Minority Students The main objective was to provide opportunities for qualified undergraduate under-represented students to participate in research on the mechanisms of the adverse effects of environmental agents on human health.

DUE-9850762 (Lein) 1998-1999
NSF
Incorporation of imaging techniques into undergraduate cell and molecular laboratories
Provided funding to set up confocal imaging lab in the Department of Biology, Canisisu College
Howard Hughes Medical Institute Program for Undergraduate Science Education
Awarded to Canisisu College, 1996-1999
Role on project: Co-Investigator

Grass Fellowship Exchange, The Grass Foundation (Lein) 1994-97
Provided funds supplies and travel for Dr. Pamela Lein to teach an undergraduate laboratory in primary neuronal cell culture and immunocytochemistry at Hamilton College and for Dr. Douglas Weldon to teach an undergraduate laboratory in electrophysiology in the cockroach at Canisius College.

TEACHING and MENTORING

Advisees

Junior Faculty Mentees
University of California, Davis

- Ahmed Abdelmoneim, Assistant Professor, Lousiana State University School of Veterinary Medicine, December 2021 – present
- Jessica Plavicki, NIEHS ONES awardee, Assistant Professor, Brown University, Providence, RI, 2020 – present
- Kimberly Mulligan, NIH SCORE awardee, Asst Professor, Biological Sciences, California State University, Sacramento, 2018-present
- Christine Toedebusch, Asst Professor, Surgical and Radiological Sciences, SVM, 2018 – 2021

- Luke Wittenburg, Asst Professor, Surgical and Radiological Sciences, SVM, 2016 – 2019
- Benjamin Moeller, Asst Professor, Molecular Biosciences, SVM, 2016 – 2019
- Melanie Gareau, Asst Professor, Anatomy, Physiology & Cell Biology, SVM, 2016 – 2018
- Lillian Cruz-Orengo, Asst Professor, Anatomy, Physiology & Cell Biology, SVM, 2016 – 2017
- James Angelastro, Assc Professor, Molecular Biosciences, SVM, 2015 – 2018
- Heather Knych, Asst Professor, Molecular Bioscience, SVM, 2015 – 2017
- Jill Silverman, Asst Professor, Psychiatry, SOM, 2014 – 2017
- Michele La Merrill, Asst Professor, Environmental Toxicology, CAES, 2014 – 2016
- Colin Reardon, Asst Professor, Anatomy, Physiology & Cell Biology, SVM, 2014 – 2015

Project Scientist/Staff Scientist Mentor

University of California, Davis

- Ana Cristina Goncalves Grodzki, 2010 – present
- Dongren Yang, 2009 – 2012

Oregon Health & Science University

- Dongren Yang, 2006 – 2009

Postdoctoral Fellow Mentor

University of California, Davis

- Xiuzhen Liu, July 2021 - present
- Paige Mundy, April 2020 - present
- Felipe Da Costa Souza, Sept 2019 - present
- Lauren Matelski, Sept 2019 – Dec 2021
- Lan Liu, June 2020 – October 2021
- Carolyn Klocke, Apr 2018 – Apr 2020
- Rhianna Morgan, Apr 2018 – Oct 2019
- Dennis Carty, Jan 2018 – July 2019
- Annalise VonderEmbse, Sept 2017 – 2020
- Martin Schmuck, Jan 2017 – April 2018
- Katharina Dach, Jan 2017 – Apr 2018
- Suangsuda Supasai, Jan 2016 – Mar 2018
- Kimberly Keil, Jan 2015 – Oct 2019
- Suren Bandara, Jun 2015 – Aug 2017
- Kiran Dhakal, Jun 2014 – Jul 2015
- Keri Hayakawa, Oct 2013 – Dec 2016
- Brenna Flannery, Jan 2013 – Aug 2014
- Galen W. Miller, Sept 2012 – Jun 2017
- Karin Streifel, Sept 2012 – Aug 2015
- Paula Goines, Sept 2011 – Aug 2013
- Christopher Banks, Jan 2010 – Nov 2011
- Ana Cristina Goncalves Grodzki, Jan 2009 – Jan 2010

Oregon Health & Science University

- Lauren Courter, 2007 – 2009
- Veronica Ledoux, 2007 – 2008
- Dongren Yang, 2003 – 2007

Johns Hopkins University

- Xin Guo, 2002 – 2003

Ph.D. Thesis Mentor

University of California, Davis

- Heehay Park, Pharmacology and Toxicology, 2022 – present
- Mei-Yun Tang, Molecular, Cellular and Integrative Physiology, 2022 - present
- Alicia Werner, Molecular, Cellular and Integrative Physiology, 2021 – present
- Pedro Bernadino, Integrative Pathobiology, 2021 – present
- Jessie Badley, Pharmacology and Toxicology, 2021 – present
- Ryan Hogans, Molecular, Cellular and Integrative Physiology, 2021 – present
- Rebecca Wilson, Neuroscience, 2020 – present
- Jeremy Macmahon, Pharmacology and Toxicology, 2020 – present
- Peter Andrew, Pharmacology and Toxicology, 2019 – present
- Harmanpreet Panesar, Immunology, 2018 – present
- Ariga (Bianca) Yaghoobi, Pharmacology and Toxicology, 2017 – present
- Yi-Hua Tsai, Molecular, Cellular and Integrative Physiology, 2015 – present
- Casey Boosalis, Molecular, Cellular and Integrative Physiology, 2014 – present
- Jonas Calsbeek, Pharmacology and Toxicology, 2021
- Eduardo González, Pharmacology and Toxicology, 2021
- Kelley Patten, Pharmacology and Toxicology, 2020
- Michelle Guignet, Pharmacology and Toxicology, 2019
- Sunjay Sethi, Pharmacology and Toxicology, 2018
- Frances Shaffo, Pharmacology and Toxicology, 2018
- Brad Hobson, Pharmacology and Toxicology, 2017
- Hao Chen, Pharmacology and Toxicology, 2016
- Marianna Stamou, Pharmacology and Toxicology, 2015
- Christopher Barnhart, Pharmacology and Toxicology, 2015

Johns Hopkins University

- Hui-Ling Chen, Ph.D., Neuroscience, 2003
- Angela Howard, Ph.D., Environmental Health Sciences, 2003

Ph.D. Thesis Committee Member

University of California, Davis

- Nicole McNabb, Pharmacology and Toxicology, 2021 – present
- Jogen Atone, Pharmacology and Toxicology, 2020 – present
- Juan Tamayo, Immunology, 2019 – present
- Maxemiliano Vargas, Neuroscience, 2019 – present
- Priya Upadhyay, Pharmacology and Toxicology, 2019 – present
- Robert Stewart, Neuroscience, 2018 – present
- Noah Goshi, Bioengineering, 2018 – present
- Katelyn Ondek, Neuroscience, 2020
- Michelle Kossack, Pharmacology and Toxicology, 2019
- Kim Truong, Pharmacology and Toxicology, 2019
- Lauren Matelski, Immunology, 2019
- Kyla Walter, Pharmacology and Toxicology, 2018
- Anna Kreutz, Neuroscience, 2018
- Keith Dunaway, Genetics, 2017
- Christopher Chapman, Bioengineering, 2017

- Beth Fox, Immunology, 2016
- Carly Moore, Pharmacology and Toxicology, 2016
- Suangsuda Supasai, Nutrition, 2015
- Myka Estes, Neuroscience, 2015
- Emir Leon, Pharmacology and Toxicology, 2014
- Yassaman Niknam, Pharmacology and Toxicology, 2014
- Shannon Murphy, Pharmacology and Toxicology, 2013
- Claire Koenig, Pharmacology and Toxicology, 2012

Oregon Health & Science University

- Christina Lorentz, Ph.D., Physiology and Pharmacology, 2010
- Jill Wentzel, Ph.D., Neuroscience Graduate Program, 2010
- Linda Ruggiero, Ph.D., Neuroscience Graduate Program, 2008
- Norah Verbout, Ph.D., Physiology and Pharmacology, 2008
- Lavakumar Ranganathan, Ph.D., Biomedical Engineering, 2007

SUNY at Buffalo

- Eugene Gonsiorek, Ph.D., Pharmacology and Toxicology, 2006

Johns Hopkins University

- Anne Sullivan, Ph.D., Environmental Health Sciences, 2005
- Lilian Morena, Ph.D., Environmental Health Sciences, 2003

M.S. Thesis Mentor

University of California, Davis

- Jason Loxterkamp, Forensic Science, 2019 – present
- Thomas Blackmon, Pharmacology and Toxicology, 2021
- Bhasirie Thuamsang, Forensic Science, 2019
- Monika Rozkowska, Forensic Science, 2018
- Christine Shieh, Pharmacology and Toxicology, 2018
- Janice Ott, M.S. Pharmacology and Toxicology, 2018
- Alexa Rindy, M.S., Forensic Science, 2016
- Ashneel Krishna, Pharmacology and Toxicology, 2015
- Suzanne Levoe, M.S., Forensic Science, 2014

M.S. Thesis Committee Member

University of California, Davis

- Amara Pouv, Pharmacology and Toxicology, 2021
- Jennifer Rithika William, Forensic Science, 2021
- Vivian Perng, Animal Biology, 2021
- Jocelyn Munoz Jaramillo, Forensic Science, 2018
- Sichong Peng, Forensic Science, 2017
- Grace Lau, Forensic Science, 2016
- Stephen Vito, Pharmacology and Toxicology, 2014

Johns Hopkins University

- Rosemary Schuh, M.Sc., Environmental Health Sciences, 2001

Outside Thesis Reader

Johns Hopkins University

- Stacey Wooden, Ph.D., Molecular Microbiology and Immunology, 2003
- Lily Somwaru, M.Sc., Public Health, 2002

- Crystal D. Bennett, M.Sc., Public Health, 2001

Undergraduate Research Advisor

University of California, Davis

- Sienna Mann, GDB practicum, 2021
- An Nguyen, Senior Honors Thesis, 2021
- Palavi Lodhia, Senior Honors Thesis, 2020
- Nicolina Sandoval, High School Student, NexGeneGirls Summer Research program, 2019
- Kelly Morales, UC Davis Biology Undergraduate Scholars Program Summer Honors Research, 2018
- Ji Won Kim, UC Davis, UC Davis Biology Undergraduate Scholars Program Summer Research, 2014-2016
- Tiani Calip, UC Davis, UC Davis Biology Undergraduate Scholars Program Summer Honors Research (BUSP-SHR), 2014
- Jonathan Ho, UC Davis, NIEHS Undergraduate Research Program, 2012
- Rachel Shaffer, Yale University, NIEHS Undergraduate Research Program, 2011
- Linley Mangini, UC Davis, NIEHS Undergraduate Research Program, 2010 - 2012
- Sarah Valez, Colorado College, NIEHS Undergraduate Research Program, 2009

Oregon Health & Science University

- Holly Lauridsen, Brown University, CROET Undergrad Summer Research Program, 2008
- Abby Engebose, Beloit College, CROET Undergrad Summer Research Program, 2006, 2007
- Levanna Goldberg, Lincoln H.S., CROET Undergrad Summer Research Program, 2005
- Stacy Brendtro, Middlebury College, CROET Undergrad Summer Research Program, 2004

Johns Hopkins University

- Jennie Huang, Johns Hopkins University, 2002
- Camille Henson, Hampton University, 2001
- Delise Charles, Morgan State University, 2001
- Kroshona Tabb, Alabama State University, 2001
- Robert Bucelli, Canisius College, 2000

Undergraduate Honors Thesis Advisor

University of California, Davis

- Audrey Luo, 2021-2022
- Audrey Er, 2020-2022
- Alexandria Li, 2020-2021
- Palavi Lodhia, 2020-2021
- Christopher Edelenbos, 2017-2018
- Joan Vu, 2017-2018
- Kelly Morales, 2017-2018
- My-Le Nguyen, 2017-2018
- Ji Won Kim, 2015-2016
- Tiani Calip, 2013-2014; 2014-2016
- Linley Mangini, 2010-2011; 2011-2012

Canisius College, Buffalo, NY

- Danielle Dorsaneo, Hiroko Nagasawa, Laurie Robak, 1999

- Patrick J. Gallagher, Christopher Lang, Rachelle Toman, 1998
- Ann Marie Hedges, 1997
- Jeffrey Amodeo, 1996

Classroom Instruction

University of California, Davis

Biological Effects of Toxic Agents, ETX 103A, Winter quarter, 2016-present
- *Neurotoxicology* (3 hours)

Neuroanatomy, NSC 201, Fall quarter, 2018-present
- *Neuroanatomy of the Autonomic Nervous System (ANS)* (1 hour)

LAMP Course Winter, NSC 271B, Winter quarter, 2018-present
- *Circuit modulation* (2 hours)

Principles of Pharmacology and Toxicology, PTX 201, Fall quarter, 2010-present
- *How to review a scientific article* (1 hour)
- *Adverse drug reactions (ADRs)* (1 hour)

Principles of Pharmacology and Toxicology, PTX 203, Spring quarter, 2014-present, Instructor of Record 2017 - present
- *Autonomic pharmacology and toxicology* (3 hours)
- *Endocannibinoids* (2 hourd)

Neurotoxicology, VMB/ETX 234, Spring quarter 2010-present, Instructor of Record 2010 - present
- Lectures (15-20 hours)

Respiratory Toxicology, VMB 254, Winter 2012-present
- *Innervation of the Lung* (1 hour)

Toxic Mechanisms of Action, ETX 214, Fall 2020, Instructor of Record
- Lectures (17 hours)

Ethics, VET 400, Fall semester, 2019
- *Problem-based learning* (6 hours)

Foundations, VET 401, Fall semester, 2014-present
- *Neurotransmission* (1 hour)

Neuroscience Block, VET 404, Spring quarter 2012-present
- *ANS Pharmacology* (3 hours)
- *ANS Toxicology* (2 hours)
- *Case-based lectures in ANS pharmacology/toxicology* (6 hours)

Nutrition/Toxicology Block, VET 406, Fall quarter 2012-present
- *Metals Toxicology* (3 hours)
- *Overview of Neurochemistry/Neuropharmacology* (1 hour)

UC Davis M.I.N.D. Institute, Autism Research Training Program

Neurotoxicology, Summer 2009, Spring 2011, Spring 2013, Spring 2015, Spring 2017, Spring 2020
- Course coordinater, 2013, 2015, 2017, 2020
- *Overview of Developmental Neurotoxicology* (1.5 hours)
- *OPs as Environmental Risk Factors for Autism* (1.5 hours)

Oregon Health & Science University, 2003-2008

Cell and Molecular Neurobiology, NEUS 625, Course Coordinator
Cell and Molecular Neurobiology, NEUS 625, Lecturer
- *Overview: Cells of the Nervous System*
- *Overview: Neurodevelopment*
- *Neuroglial Interactions*
- *Discussion of Programmed Cell Death*

Systems Processes and Homeostasis, MSCI 613
- *Pharmacology Tutorial IV – Drug Overdose,* Faculty Facilitator

- *Cholinergic Pharmacology Tutorial – Drug Action at NMJ,* Faculty Facilitator

Organ Systems, CON 667, Lecturer

- *Neural Plasticity*

Advanced Topics in Developmental Neuroscience, CELL 615

- *Axon specification in vitro: a model of neuronal morphogenesis in vivo?*
- *Target-dependent regulation of dendritic growth and plasticity*

Oregon State University, 2009

Target Organ Toxicology, TOX 512, OP Module

- *Pathophysiological effects of OPs on biological systems*

Johns Hopkins University School of Public Health, 1999-2003

Fundamentals of Neurotoxicology, 187.661, Course Coordinator

Fundamentals of Neurotoxicology, 187.661, Lecturer

- *Introduction and overview*
- *Neurotoxins and axonopathy*
- *Transmission toxicity*
- *Special issues: developmental neurotoxicity*

Introduction to Physiology, 020.130

- *Muscle Physiology*
- *Environmental Health Relevance of Nervous System Physiology*

Principles of Toxicology, 187.610

- *Case Studies in Toxicology: Persistent Organic Pollutants and Dioxins*
- *Case Studies in Toxicology: Neurotoxins*

Environmental Health, 180.601

- *Xenoestrogens - New Man-Made Threats*

Fundamentals of Reproductive Biology, 120.620

- *Endocrine Disruptors*

Topics in Molecular Endocrinology, 120.621.01

- *NeuroEndocrine Disruptors*

Fundamentals of Human Physiology, 183.631

- *Environmental Health Relevance of Nervous System Physiology*
- *Muscle Physiology*

The Environment and Your Health, 570.303

- *Risk Analysis*
- *Case Study: Endocrine Disruptors*

Morgan State University, Baltimore, MD

April 2001 *Role of BMPs in Plasticity in the Adult Brain*

SUNY at Buffalo School of Medicine and Biomedical Sciences, Buffalo, NY, 1993-1999

Cell Biology I, BSM 501, *Cell Polarity*

Cell Biology II, BSM 502

- *Cell Polarity* and *Integrins*
- *Neuronal Polarity*
- *Cell Adhesion Molecules*

Developmental Neurobiology, PMY 625, *Adhesion Molecules in the Nervous System*

Canisius College, 1993-1999 (instructor of record and sole/principal lecturer in all courses)

BIO 101, Introduction to Cellular/Subcellular Biology
BIO 102, Introduction to Organismal Biology
BIO 135, Environmental Biology
BIO 300, Research Techniques
BIO 352, Junior Seminar
BIO 360, Environmental Health
BIO 360L, Environmental Health Laboratory
BIO 400, Independent Study
BIO 401, Independent Research
BIO 423, Neuroscience I
BIO 423L, Neuroscience I laboratory

BIO 425, Cellular Neurobiology
BIO 425L, Cellular Neurobiology Laboratory
BIO 435, Developmental Neurobiology
BIO 430, Medicinal Botany
BIO 452, Senior Seminar
HHMI Integrated Science Course

Niagara University, Niagara Falls, NY, 1996-1999

BIO491, Bio-Analytical Techniques and Laboratory
- *Cell culture and indirect immunofluorescence*

Professional Courses, 1993-1999

PMY831, Dental Pharmacology, *Nicotinic Blocking Agents*, SUNYAB School of Dental Medicine
Professional training course, *Development of Emergency Action Levels*, West Valley Nuclear Services, Inc., West Valley, NY
PMY731, Basic Principles in Pharmacology, *Teratogenic agents*, SUNYAB School of Medicine

ACADEMIC SERVICE

University of California at Davis

Department
Chair, Molecular Biosciences, 2018-2023
Vice-Chair, Molecular Biosciences, 2013-2017
School of Veterinary Medicine
Member, Budget Advisory Commmitee, 2020-2021
Member, Mentoring Team for Assistant Professor Christine Toedebusch, 2018-2020
Rater, Multi-Mini Interview (MMI), SVM Admissions, 2018-2020
Member, SVM Research Committee, 2018-2020 (Chair 2019-2020)
Instructor, SMASH UC Davis Summer Mathematics and Science Honors Academy, Summer 2018
Interviewer, Veterinary Scientist Training Program, 2017-2019
Member, Mentoring Team for Assistant Professor Luke Wittenberg, 2016-2019
Member, Mentoring Team for Assistant Professor Ben Moeller, 2016-2019
Member, Recruitment Committee for the Asst/Assoc/Full Professor of Clinical Equine Analytical Chemistry, 2015-2016
Member, Recruitment Committee for the Asst/Assoc/Full Professor of Oncologic Drug Discovery/Cancer Therapeutics, 2015-2016
Chair, Recruitment Advisory Committee for Director of the VSTP, 2015
Member, Organizing Council for the 2015 Merial NIH STAR Symposium, 2014-2015
Member, Mentoring Team for Assistant Professor Heather Knych, SVM, 2015-2016
Member, Mentoring Team for Associate Professor James Angelastro, SVM, 2015-2018
Member, Launch Committee for Assistant Professor Colin Reardon, SVM, 2014-2015
Member, SVM Graduate Student Support Program, 2013-present
Member, Recruitment Committee for the Neuroimmunology Faculty Position in the SVM Department of Anatomy, Physiology and Cell Biology, 2013
Member, Strategic Planning Implementation Team, 2012-2013
Member, Faculty Mentor Program 2012-2015
Member, Student Affairs Committee, 2010-2012
Member, Recruitment Committee for the Toxicology Faculty Position in the Davis California Animal Health and Food Safety Laboratory (CAHFS), 2009-2011
Member, Curriculum Development Committee, Neurology/Senses/Behavior, 2009-2011
Member, Curriculum Development Committee, Pharm/Tox/Nutrition, 2009-2011
University
Faculty Reviewer, Internal Fellowships, Office of Graduate Studies, 2021-2022
Member, Oversight Committee, CTSC TL1 program, UC Davis, 2022-present

Chair, Advisory Committtee, S10 grant "Home cage indirect respiration calorimeter, home cage food intake analyzer, bomb calorimeter and NMR body composition analyzer for the assessment of murine energy balance, 2021-2022
Member, UC Davis Wellness Taskforce, 2021-2022
Faculty Academy of Graduate Student Wellness, 2021-2022
Academic Senate Representative, Research Core Advisory Council (RCAC), 2020-2023, Vice Chair, 2021-2022, Chair 2022-2023
UC Davis Graduate Mentor Fellow, 2020-2021 and 2021-2022
Member, Recruitment Advisory Committee, Associate/Full Professor of Pediatric Epilepsy Research, Department of Neurology, 2020-2021
Member, Research Ramp-(Up/Down) Taskforce (RTT), April 2020 – September 2021
Member, Committee on Research, 2019-2022
Reviewer, UC President's Postdoctoral Fellowship Program, (PPFP), Life Sciences, 2018-2020
Member, Curriculum and Educational Policy Committee, Pharmacology and Toxicology Graduate Group, 2018-2022
Member, Recruitment Advisory Committee, Vice Provost and Dean of Graduate Studies, 2018
Member, Recruitment Advisory Committee for Open Rank Faculty Position in Pulmonary Medicine, School of Medicine, 2018-2019
Member, Vet Med Central Services Work Group, 2018-2019
Member, Mouse Biology Program Review Committee, 2018
Member, Biotechnology Advisory Committee, 2018-2023
Chair, Program Review Committee, Graduate Council, Sept 1, 2016 – Aug 31, 2017
Chair, Program Review Closure Committee, Graduate Council, Sept 1, 2016 – Aug 31, 2017
Member, Recruitment Advisory Committee for Open Rank Faculty Position in Environmental Toxicology, College of Agricultural and Environmental Sciences, 2016-2018
Member, Recruitment Advisory Committee for Open Rank Faculty Position in Multiple Sclerosis/Neuroimmunity in the Department of Neurology, School of Medicine, 2016-2017
Advisory Committee, Center for Molecular and Genomic Imaging, 2016-2022
UC Davis Chancellor's Innovation Awards Selection Committee, 2016 – 2018
Review Committee, Environmental Toxicology Undergraduate Instruction Progammatic Review, April 2016
Graduate Council, 2015-2017
Faculty Research Lecture Committee, 2014-2018, Committee Chair, 2015-2018
Member, Mentoring Team for Assistant Professor Jill Silverman, SOM, 2014-2017
Member, Recruitment Advisory Committee for the Chair of Physiology, School of Medicine, 2014-2015
Member, Recruitment Advisory Committee for Associate/Full Professor in Airway Biology and Medicine in the School of Medicine Department of Internal Medicine, 2013
Member, Executive Committee and Action Group, Pharmacology Training: Bench to Bedside (T32-GM099608), 2012-present
Member, Executive Committee, The Marion Miller Endowment Fund, 2011-present
Member, Review Team, UC Davis Animal Biology Graduate Group Review, December 2011
Judge, UC Davis Interdisciplinary Graduate and Professional Student Symposium, 2011, 2012
Graduate Advisor, Pharmacology and Toxicology (PTX) Graduate Group, 2010 – present
Major Advisor, 2019 – present
Chair, Pharmacology and Toxicology (PTX) Graduate Group, 2010-2016
PI, NIEHS Training Grant, Advanced Training in Environmental Toxicology, 2010-2020
Member, Chemical and Laboratory Safety Committee, 2010-2013

Interviewer for student recruitment, Neuroscience Graduate Group, 2010-present
Member, Executive Committee, PTX Graduate Group, 2009-2016
Member, Admissions Committee, PTX Graduate Group, 2009-2010
Fellowship Reviewer, Graduate Council, Support & Welfare Committee, 2009-2010
Member, Executive Committee, NIEHS Training Grant, Advanced Training in Environmental Toxicology, 2009-present

Community

Mentor, Sister2Sister exchange program, UC Davis STEm Strategies and Global Affairs partnership with the Departmetn of State to provid a UC Davis summer experience to Women in Pakistan, Summer 2021
Member, Selection Committee for the CRT Young Investigator Award, Chemical Research in Toxicology and ACS Division of Toxicology, 2020

Oregon Health & Sciences University

Center for Research in Occupational and Environmental Toxicology (CROET)

Chair, Faculty Budget Committee, 2008
Member, Search Committee for Faculty in Occupational Safety and Health, 2004, 2005

Program in Molecular and Cellular Biology (PMCB)

Member, Graduate Admissions Committee, 2004-2007
Member, PMCB Comprehensive Exam Committee, 2007-2008
Chair, PMCB Comprehensive Exam Committee, 2008-2009

University

Member, SOM Graduate Program Awards Committee, April 2006-April 2009
Member, Institutional Animal Care and Use Committee, Nov 2005-June 2008

Community

Judge, Intel International Science and Engineering Fair, Portland, OR, May 2004
Steering Committee Member, Workshop on the Medical Impacts of Childhood Hunger, Oregon Food Bank, Portland, OR, November 2004

Johns Hopkins University

Division and/or Department

Division Representative to Departmental Seminar Committee, 2003
Director, Minority Summer Internship in Environmental Health Sciences, 2003
Coordinator, Toxicological Sciences Comprehensive Preliminary Exam, 2002, 2003
Search Committee for Assistant Professor in Toxicological Sciences, 2001, 2002, 2003
Coordinator, Divisional Journal Club in Neurotoxicology, 2000-2001

School

Reviewer, MPH Integrating Experience Projects 2000-2002
Director, Facility Core, Johns Hopkins Center in Urban Environmental Health, 2001-2003
Member, Johns Hopkins Center in Urban Environmental Health Research Council, 2002- 2003
Faculty Senator, 2002 - 2003

University

Voting Member, Institutional Animal Care and Use Committee, 2001-2003

Community

Judge, 8th Annual Undergraduate & Graduate Science Research Symposium Program, Morgan State University, Baltimore, MD, 1999, 2003
Speaker, "Women Serious about Science" program, Baltimore Polytechnic Institute, 2002

PRESENTATIONS

Scientific Meetings

International Society of Neurochemistry/American Society of Neurochemistry, August 2019, Montreal, Quebec, CANADA

- Lein PJ, Supasai S, Rowland D, *Persistent neuropathology in a rat model of acute OP intoxication*
- Patten KT, Valenzuela AE, Taha AK, Bein KJ, Wexler AS, Lein PJ, *Chronic Exposure to Real-time Traffic Related Air Pollution Increases Neuroinflammation and Exacerbates Plaque Burden in TgF344-AD rats*

Experimental Biology, April 2019, Orlando, FL

- Calsbeek JJ, Guignet MA, Dawson ME, Bruun DA, Lein PJ, *Neuroinflammatory responses in a mouse model of acute organophosphate intoxication*.
- Grodzki ACG, Schelegle EA, Lein PJ, *Developmental exposure to chlorpyrifos modulates pulmonary function in adult rats*.

Society of Toxicology, March 2019, Baltimore, MD

- Boosalis CA, Zolkowska D, Adhikari An, Silverman JL, Rogawski MA, Rowland DJ, Lein PJ, *Characterization of a mouse model of tetramethylenedisulfotetramine (TETS)-induced status epilepticus*.
- Carty DR, Lein PJ, *Using larval zebrafish as a model organism to study chemical-induced seizures*.
- González EA, Supasai S, Lein PJ, *Acute intoxication of juvenile rats with diisopropylfluorophosphate (DFP) causes sex-specific seizure behavior and neuropathology*.
- Hobson BA, Dou Y, Bandara S, Rowland D, Harmany Z, Bruun DA, Harvey DJ, Chaudhari A, Lein, PJ, *Neuroinflammation detected by longitudinal TSPO positron emission tomography (PET) is associated with deficits in learning and memory in a rat model of acute organophosphate (OP) intoxication*.
- Keil KP, Sethi S, Bjorling DE, Lein PJ, *Developmental exposure to polychlorinated biphenyls (PCBs) induces increased nerve density and inflammation in the bladder and voiding changes in young adult mice*.
- Klocke CR, Sethi S, Keil KP, Lein PJ, *Sex-specific effects of polychlorinated biphenyls (PCBs) on hippocampal dendritic arborization in weanling mice*.
- Morgan RK, DR, Lehmler HJ, Stone B, Lein PJ, *Organosulfates identified in traffic-related air pollution are neurotoxic in primary rat hippocampal and cortical neuron-glia co-cultures*.
- Yaghoobi B, Pessah IN, Lein PJ, *Evaluating the developmental toxicity of halogenated pyrroles in zebrafish*.

American Epilepsy Society, November 2018, Baltimore, MD

- Guignet M, Bruun D, Lein P, *Temporal development of chronic epilepsy in the rat following acute diisopropylfluorophosphate (DFP) intoxication*.

Society of Toxicology, March 2018, San Antonio, TX

- Bruun DA, Dhir A, Hobson BA, Supasai S, Rogawski MA, Lein PJ, *Delayed treatment with midazolam, allopregnanolone and perampanel terminates benzodiazepine-refractory seizure activity following acute diisopropylfluorophosphate (DFP) exposure.*
- Calsbeek JJ, González EA, Boosalis CA, Zolkowska D, Rogawski MA, Lein PJ, *Neuroinflammatory responses in a mouse model of tetramethylenedisulfotetramine-induced status epilepticus.*
- Dach K, Yaghoobi B, González EA, Miller GW, Koch M, Schmuck MR, Lein PJ, *Teratological and behavioral screening of the National Toxicology Program 91-compound library in zebrafish larvae*.
- González EA, Rindy AC, Guignet MA, Bruun DA, Harvey DJ, Lein PJ, *Seizure behavior and neurodegeneration are not predicted by acetylcholinesterase inhibition in a rat model of acute diisopropylfluorophosphate (DFP) intoxication*.

- Guignet M, Supasai S, Bruun DA, Lein PJ, *Spatiotemporal expression of neurodegenerative and neuroinflammatory biomarkers in the rat brain following acute diisopropylfluorophosphate (DFP) intoxication*.
- Hobson BA, Siso S, Bandara S, Rowland D, Bruun D, Harvey D, Lein PJ, *Bárain lesions detected by TSPO positron emission tomography (PET) are highly correlated with neuroinflammation and neuronal necrosis in a rat model of acute organophosphate (OP) intoxication*.
- Keil KP, Sethi S, Vogel-Ciernia Annie, Noronha A, Lehmler HJ, LaSalle JM, Pessah IN, Lein PJ, *Polychlorinated biphenyl (PCB) effects on neurobehavior in mouse pups are modulated by expression of genetic mutations*.
- Matelski L, Sethi S, Keil K, Lehmler HJ, Van de Water J, Pessah IN, Lein PJ, *Genotype and sex influences on serum cytokine levels in mice developmentally exposed to a mixture of polychlorinated biphenyls (PCBs).*
- Patten KT, Valenzuela A, Berg E, Silverman JL, Bein KJ, Wexler A., Lein PJ, Gestational and early postnatal exposure to traffic-related air pollution modulates neuroinflammation and increases neurogenesis in male and female rats.
- Supasai S, Bruun DA, Rowland DJ, Harvey DJ, Schmuck MR, Lein PJ, *Spatiotemporal progression of DFP-induced neuropathology*.
- Schmuck M, Keil KP, Sethi S, Lein PJ, *Automated analyses of dendritic morphology in primary mouse neuronal cell cultures*.
- Sethi S, Keil KP, Lehmler HJ, Pessah IN, Lein PJ, *Influence of genetic background on polychlorinated biphenyl (PCB) developmental neurotoxicity*.
- Shaffo F, Grodzki AC, Schelegle E, Lein P, *Temporal variation in rat pulmonary mechanics following single chlorpyrifos exposure*.
- Tsai YH, Supasai S, Grodzki AC, Bruun DA, Lein PJ, *Acute diisopropylfluorophosphate (DFP) intoxication promotes degeneration and senescence of neurons in the rat hippocampus and thalamus*.
- vonderEmbse AN, Elmore SE, Lein PJ, La Merrill MA, *Altered sympathetic connectivity is correlated with thermogenic impairment following perinatal DDT exposure*.
- Yaghoobi BY, Bandara SB, Miller GW, Lein PJ, *$GABA_A$ receptor subtype selectivity of chemical threat agents picrotoxin and TETS in larval zebrafish*.

Society of Toxicology, March 2017, Baltimore, MD

- Bandara SB, Feldman DH, Miller GW, Lein PJ, *Differential seizure susceptibility to GABAA receptor antagonists in larval zebrafish.*
- Boosalis C, González E, Zolkowska D, Bruun D, Silverman J, Rogawski MA, Lein P, *Characterization of a mouse model of tetramethylenedisulfotetramine (TETS)-induced status epilepticus*.
- González E, Rindy AC, Bruun DA, Guignet M, Lein PJ, *Level of acetylcholinesterase inhibition is not predictive of seizure severity in adult male rats intoxicated with diisopropylfluorophosphate (DFP)*.
- Guignet M, Bruun D, Tsai YH, Rindy A, Lein P, *Screen of mechanistically diverse compounds for neuroprotective potential in a rat model of acute diisopropylfluorophosphate (DFP) intoxication*.
- Hobson BA, Rowland DJ, Bruun DA, Harvey DJ, Garbow JR, Lein PJ, *Spatiotemporal progression of early brain injury in a rat model of acute diisopropylfluorophosphate (DFP) intoxication*.
- Keil KP, Sethi S, Lein PJ, *Primary hippocampal neurons derived from female mouse are more sensitive to the dendrite promoting activity of 2,2',3,5',6-hexachlorobiphenyl (PCB 95) than neurons from male mice*.
- Matelski L, Grodzki AC, Van de Water J, Lein P, *Effects of cytokines and chemokines on neurite outgrowth and toxicity in the human LUHMES neuronal cell line*.

- Miller GW, Frank DF, Koch M, Lein PJ, *PCB 95-induced behavioral deficits in zebrafish larvae are dependent on mTOR activation*.
- Sethi S, Keil KP, Li X, Lehmler HJ, Lein PJ, *Species and sex differences in the morphogenic response of primary neurons to 3,3'-dichlorobiphenyl (PCB 11)*.
- Shaffo F, Grodzki AC, Schelegle E, Lein P, *Chlorpyrifos induces persistent airway hyperreactivity in rats*.
- Supasai S, Rowland DJ, Hobson BA, Bruun DA, Lein PJ, *Persistent neuropathology in a rat model of acute OP intoxication*.

Society of Toxicology, March 2016, New Orleans, LA

- Bandara SB, Feldman DH, Miller GW, Lossin C, Lein PJ, *Larval zebrafish as a model for discovering therapeutics for chemical threat agent-induced seizures.*
- Boosalis C, Zolkowska D, Bruun DA, Silverman JL, Rogawski MA, Lein PJ, *Characterization of a mouse model of tetramethylenedisulfotetramine (TETS)-induced status epilepticus.*
- Bruun DA, Levoe SN, Streifel K, Flannery B, Lein PJ, *The antioxidant Trolox prevents learning and memory deficits in a rat model of subchronic chlorpyrifos (CPF) exposure.*
- Chen H, Bautista A, Hayakawa K, Lein PJ, *BDE-47 and BDE-49 inhibition of axon outgrowth in cultured hippocampal neurons is reversed with triiodothyronine or antioxidant co-treatment*.
- Guignet M, Dhakal K, Hobson B, Bruun D, Streifel K, Silverman JL, Lein PJ, *Characterization of long-term persistent behavioral deficits, neuroinflammation and oxidative stress in rat model of acute diisopropylfluorophosphate (DFP) intoxication*.
- Hayakawa KA, Walter KM, Lein PJ, *Neurodevelopmental endpoints modulated by thyroid hormone in primary rat neuron-glia co-cultures*.
- Hobson B, Rowland D, Dhakal K, Bruun D, Tancredi D, Cherry S, Garbow J, Lein PJ, *Quantitative magnetic resonance imaging (MRI) of brain lesions predicts cognitive impairment following acute organophosphate (OP) intoxication in rats*.
- Keil KP, Sethi S, Lein PJ, *DNA methylation as a mediator of 2,2',3,5',6-hexchlorobiphenyl (PCB 95)- induced dendritic arborization*.
- Miller GW, Keil K, Chen H, Dhakal K, Sethi S, Kim JW, Lein PJ, *PCB 95-induced dendritic growth in primary cultures of rat hippocampal neurons is dependent on mTOR activation*.
- Sunjay S, Keil K, Hayakawa Keri, Chen H, Wei F, Dong Y, Li X, Pessah I, Lehmler HJ, Lein PJ, *3,3'-dichlorobiphenyl (PCB 11) and its metabolites increase dendritic arborization in primary rat cortical and hippocampal neurons*.
- Shaffo F, Grodzki AC, Schelegle E, Lein P, *Chlorpyrifos induces airway hyperreactivity in rats*.
- Stamou N, Grodzki AC, Lein PJ, *Fc gamma receptors are expressed in the developing rat brain and activate downstream signaling upon cross-linking with immune complex*.
- Walter KM, Miller GW, Hayakawa K, Chen X, Puschner B, Lein PJ, *Identification of molecular, cellular and behavioral endpoints associated with developmental hyperthyroidism and hypothyroidism in larval zebrafish*.

9th Annual CounterACT meeting, June 2015, New York City, NY

- Zolkowska D, Bruun DA, Boosalis CA, Hammock BD, Lein PJ, Rogawski MA, *Diazepam and midazolam effectively terminate tetramethylenedisulfotetramine-induced status epilepticus and enhance survival in mice.*
- Hobson B, Rowland D, Dhakal K, Wahab A, Bruun D, Silverman J, Rogawski M, Tancredi D, Cherry S, Garbow J, Lein P, *Comparative efficacy of diazepam versus midazolam in mitigating persistent neuropathology in a rat model of acute OP intoxication.*
- Inceoglu B, Hwang SH, Lee KSS, Yang J, Barnych B, Vasylieva N, Kodani S, Singh V, Vito S, Bruun D, Hulsizer S, Pessah I, Lein P, Wulff H, Hammock B, *Potent inhibitor of the soluble epoxide hydrolase synergizes the efficacy of diazepam while reducing its adverse effects through independent mechanisms.*

Society of Toxicology, March 2015, San Diego, CA

- Bruun DA, Zolkowska D, Boosalis C, Rogawski MA, Lein PJ, *Persistent neuroinflammation in a mouse model of tetramethylenedisulfotetramine (TETS)-induced status epilepticus.*
- Hayakawa KA, Walter K, Miller GW, Lein PJ, *Gene expression of thyroid hormone signaling pathways during neurodevelopment.*
- Hobson BA, Siso S, Rowland D, Bruun D, Tancredi D, Cherry S, Garbow J, Lein P, *Brain lesions detected by 7T magnetic resonance imaging (MRI) are highly correlated with histological indices of neuronal necrosis in a rat model of acute organophosphate intoxication.*
- Dhakal K, Flannery B, Hobson BA, Bruun DA, Lein PJ, *Characterization of a rat model of acute diisopropylflurophosphate (DFP) intoxication.*
- Walter KM, Miller GW, Chang Y, Hayakawa K, Draper B, Lein PJ, *Development of a zebrafish model to identify adverse outcome pathways linking thyroid hormone disruption to developmental neurotoxicity.*
- Shaffo F, Grodzki AC, Walby W, Schelegle E, Lein PJ, *Effects of organophosphorus pesticides (OPs) on airway physiology.*
- Stamou M and Lein PJ, *Chlorpyrifos oxon (CPFO) and 2,2',3,5',6-pentachlorobiphenyl (PCB 95) modulate Fcγ receptor (FcγR) expression in developing neurons.*
- Streifel KM, Harrill JA, Chen H, Mundy WR, Lein PJ, *High content imaging of excitatory and inhibitory synapses in primary cultures of rat hippocampal and cortical neurons.*

Society for Neuroscience, 2014, Washington D.C.

- Jones KL, Streifel KM, Heuer L, Boosalis C, Lein PJ, Van de Water J, *Influence of a postnatal peripheral immune challenge on neuroimmune response in the developing rat brain.*
- Zolkowska D, Wulff H, Hammock B, Lein PJ, Rogawski MA, *Mouse model of tetramethylene-disulfotetramine (TETS)-induced status epilepticus.*

Society of Toxicology, 2014, Phoenix, AZ

- Barnhart C, Feng W, Dong Y, Pessah IN, Lein PJ, *Dioxin-like and non-dioxin-like polychlorinated biphenyls (PCBs) modulate basal and activity-dependent dendritic arborization in primary neuronal cell cultures.*
- Bruun DA, Cao Z, Hulsizer S, Inceoglu AB, Vito S, Pessah IN, Lein PJ, *Combined therapy with allopregnanolone and diazepam mitigates TETS-triggered hyperexcitability of neuronal networks in vitro and rescues mice from TETS-induced seizures and death.*
- Chen H, Yang D, Lein PJ, *BDE-47 and BDE-49 selectively disrupt axonal outgrowth in cultured hippocampal neurons.*
- Flannery BM, Silverman JL, Bruun DA, Crawley JN, Lein PJ, *Behavioral assessments in NIH swiss mice acutely intoxicated with tetramethylenedisulfotetramine (TETS).*
- Miller GW, Lein PJ, *Zebrafish model of PCB developmental neurotoxicity.*
- Hobson BA, Siso S, Rowland D, Bruun DA, Garbow J, Lein PJ, *High resolution 7T magnetic resonance imaging (MRI) of brain damage in a rat model of acute organophosphate intoxication.*
- Korwel I, Barnhart C, Truong KM, Lein PJ, Lehmler HJ, *Enantioselective disposition of 2,2',3,5',6-hexachlorobiphenyl 95 (PCB 95) and its metabolites in mouse dams dosed during pregnancy.*
- Levoe SN, Brignolo L, Imai DM, Bruun DA, Lein PJ, *Factors influencing adverse skin responses in rats receiving repeated subcutaneous injections and impact on behavior.*
- Stamou M, Lein PJ, *Ontogeny of Fcγ receptors (FcγR) in the developing rat brain.*
- Streifel KM, Jones KL, Van de Water J, and Lein PJ, *Cumulative vaccination alters immune responses in the developing brain.*

7th Annual CounterACT meeting, 2013, Bethesda, MD

- Lein PJ, *UC Davis CounterACT Center of Excellence: Improving medical countermeasures for acute intoxication with seizurogenic chemical threat agents.*
- Flannery B, Bruun D, Rowland D, Banks C, Silverman J, Lein P, *Spatiotemporal patterns of neuroinflammation and persistent behavioral deficits in a rat model of acute DFP intoxication.*
- Hulsizer S, Cao Z, Bruun DA, Lein PJ, Pessah IN, *Mitigation of TETS-triggered hyperexcitability of neuronal networks in vitro identifies novel therapeutic strategies for treating TETS seizures in vivo.*
- Vito S, Banks C, Inceoglu B, Bruun D, Zolkowska D, McCoy M, Rogawski M, Hammock B, Lein P, *Post-exposure administration of diazepam blocks TETS-induced tonic seizures and death but does not prevent neuroinflammation.*

Society of Toxicology, 2013, San Antonio, TX

- Anger WK, Farahat FM, Lein PJ, Olson JR, Lasarev M, Rohlman DS, *Dose-dependent behavioral deficits in Egyptian workers with chronic organophosphorus pesticide (OP) exposures*.
- Barnhart C, Yang D, Chen H, Qi L, Lein PJ, *Developmental PCB 95 exposure affects spatial memory in weanling mice*.
- Bruun DA, Vito ST, Inceoglu AB, Hammock BD, Lein PJ, *Post-exposure administration of diazepam blocks TETS-induced seizures and death but does not prevent neuroinflammation*.
- Chen H, Lesiak A, Zhu M, Appleyard SM, Impey S, Bruun DA, Wayman GA, Lein PJ, *PCB 95 stimulates synaptogenesis via ryanodine receptor-mediated miR132 upregulation*.
- Goines PE and Lein PJ, *PCB 95 and IFNγ exert opposing effects on dendritic growth in cultured rat sympathetic neurons*.
- Grodzki ACG and Lein PJ, *Organophosphorus pesticides activate mast cells ex vivo and in vivo*.
- Levoe SN, Bruun DA, Song GY, Napoli E, Milatovic D, Giulivi C, Aschner M, Lattal KM, Lein PJ, *Oxidative stress: a mechanism-based biomarker of organophosphorus pesticide-induced neurotoxicity*?

Society of Toxicology, 2012, San Francisco, CA

- Banks CN, Zolkowska D, Dhir A, Inceoglu AB, Sanborn JR, McCoy MR, Bruun DA, Hammock BD, Rogawski MA, Lein PJ, *Characterization of tetramethylenedisulfotetramine (TETS) toxicity in mice.*
- Barnhart CD, Yang D, Chen H, Truong K, Bose D, Pessah IN, Lein PJ, *Developmental PCB 95 exposure interferes with spatial memory in weanling mice.*
- Bruun DA, Li Y, Ford BD, Lein PJ, *Neuregulin-1 is neuroprotective against delayed neuronal injury following acute organophosphate intoxication*.
- Chen H, Bose DD, Maxwell SC, Lein PJ, Pessah IN, *Ryanodine receptor-1 mutation potentiates PCB 95 effects on calcium oscillations in primary cortical neurons*.
- Korwel I, Barnhart CD, Truong KM, Lein PJ, Lehmler HJ, *Enantioselective formation of hydroxylated metabolites of PCB95 in female mice*.
- Lein PJ, Wayman GA, Bose DD, Yang D, Lesiak A, Bruun D, Pessah IN, *Ryanodine receptors are required for basal and PCB-modified activity-dependent dendritic growth*.
- Stamou M, Wu X, Korwel I, Lehmler HJ, Lein PJ, *Cytochrome P450 enzyme expression in the rodent brain*.
- Yang D, Chen H, Mangini L, Pessah IN, Lein PJ, *BDE-47 and BDE-49 influence morphologic determinants of neuronal connectivity in primary cultures of hippocampal neurons*.

Society of Toxicology, 2011, Washington, D.C.

- Bruun D, Rowland D, Li Y, Ford B, Lein P. *PET imaging of translocator protein 18 kDa (TSPO) reveals delayed neuroinflammation coincident with persistent behavioral deficits in rats acutely intoxicated with DFP*.

- Yang D, Kania-Korwel I, Bose D, Ghogha A, Pessah I, Lehmler HJ, Lein P. *Enantioselective effects of PCB136 on dendritic growth are ryanodine receptor-dependent*.
- Bose DD, Yang D, Wayman GA, Lesiak A, Bruun DA, Pessah IN, Lein PJ. *Non-dioxin-like polychlorinated biphenyls (PCBs) enhance dendritic growth in cultured hippocampal neurons via ryanodine receptor (RyR)-dependent activation of calcium-dependent signaling pathways*.
- Niknam Y, Ghogha A, Lein P, Pessah I. *Chlorpyrifos and chlorpyrifos oxon alter ryanodine receptor function*.
- Anger WK, Farahat FM, Lein PJ, Olson JR, Rohlman DS. *Behavioral deficits in Egyptian application teams with chronic organophosphorus pesticide exposures*.
- Ellison CA, Knaak JB, McDougall R, Lein PJ, Farahat FM, Anger WK, Olson JR. *Construction and validation of a human PBPK/PD model for dermal chlorpyrifos exposure utilizing human biomarker data*.
- Hussainzada N, Jackson D, Bruun D, Milatovic D, Lewis J, Banks C, Aschner M, Browne R, Olson JR, Lein P. *Biomarkers of neurotoxicity in a rat model of occupational chlorpyrifos (CPF) exposure*.

Neurotoxicology 26, 2010, Portland, OR

- Bose DD, Kaplan ES, Lein PJ, Pessah IN. *Non-coplanar PCBs increase spontaneous synchronized Ca2+ oscillations in primary hippocampal neurons*.
- Kim KH, Bose DD, Riehl J, Padilla IT, Barnhart CD, Lein PJ, Pessah IN. *Para-substitution is a key determinant of brominated diphenyl ether activity towards ryanodine receptors*.
- Yang D and Lein P, *Chlorpyrifos disrupts neuroligin-mediated synapse formation*.

4th Annual CounterACT meeting 2010, San Francisco, CA

- Ford BD and Lein PJ. *Neuroprotective role for neuregulins in neurotoxin-mediated neuronal injury.*

Society of Toxicology, 2010, Salt Lake City

- Bose DD, Kaplan ES, Lein PJ, Pessah IN. *Non-coplanar PCBs increase spontaneous synchronized Ca2+ oscillations in primary hippocampal neurons*.
- Crane AL, Browne RW, Knaak JB, Bonner MR, Fenske RA, Farahat FM, Anger WK, Lein PJ, Olson JR. *Inhibition of acetylcholinesterase (AChE) and butyrylcholinesterase (BChE) in human blood following in vitro and in vivo exposure to chlorpyrifos*.
- Crofton K, Buzanska L, Coecke S, Knaut H, Lein P, Mundy W, Price A, Seiler A, Goldberg A. *Recommendations for developing alternative test methods for developmental neurotoxicity*.
- Ellison CA, Lein PJ, Knaak JB, Fenske RA, Farahat FM, Bonner MR, Anger WK, Olson JR. *Exposure estimates and PBPK modeling of chlorpyrifos in rats and humans*.
- Farahat FM, Olson JR, McGarrigle BP, Bonner MR, Ellison CA, Fenske RA, Galvin K, Rohlman DR, Anger WK, Lein PJ. *Biomarkers of chlorpyrifos exposure and effect in Egyptian cotton field workers*.
- Lein PJ, Farahat FM, Olson JR, Rohlman DR, Bonner MR, Lattal M, Fenske RA, Galvin K, Lasarev M, Anger WK. *Biomarkers of Organophosphorus Pesticide-Induced Neurotoxicity*.
- Lattal M, Yang D, Bruun D, Anger WK, Lein PJ. *Subchronic chlorpyrifos exposure alters appetitive behavior and contextual fear conditioning in rats*.
- Olson JR, Lasarev M, Bruun D, Milatovic D, Aschner M, Lein PJ. *Strain- and dose-related effects of subchronic chlorpyrifos (CPF) exposure on biomarkers of exposure and oxidative stress in rats*.
- Yang D and Lein P, *Chlorpyrifos disrupts neuroligin-mediated synapse formation*.

International Conference on Occupational Health, 2009

- Anger WK, Rohlman DS and Lein PJ. *Neurotoxicity of pesticides in old and young generations.*

Annual CounterAct meeting, 2009, Washington, D.C.

- Ford BD and Lein PJ. *Neuroprotective role for neuregulins in neurotoxin-mediated neuronal injury.*

Society of Toxicology, 2009, Baltimore, MD

- Barnhart C, Lauridsen H, Bruun D and Lein PJ. *Neuregulin-1 protects against paraoxon-induced apoptosis in hippocampal slice cultures.*
- Courter LA, Gonsiorek EA, Garred M, Bruun D, Fryer AD, Higgins D and Lein PJ. *Interferon-gamma causes dendrite retraction in sympathetic neurons in vivo.*

Neurotoxicology 25, 2008, Rochester, NY

- Ford BD, Lein PJ, Yonggang L and Bruun D (Invited), Neuregulin-1 protects against organophosphorus pesticide-induced neurotoxicity.
- Yang D, Ladu J, Buels K, Lauridsen H, Tanguay R and Lein P, Chlorpyrifos-oxon disrupts motor behavior and axonal growth in embryonic zebrafish.
- Courter LA, Garred M, Bruun D and Lein PJ, Interferon-gamma by peripheral inflammation causes dendritic retraction in distant neuronal loci.
- Lein PJ (Invited), Using in vitro models to study gene-environment interactions in autism.

Pacific Northwest Association of Toxicologists (PANWAT) 25th Annual Meeting, 2008, Corvallis, OR

- Lein PJ (Invited presentation), *Polychlorinated biphenyls (PCBs) modulate neuronal connectivity in the developing brain*.

The Fifth PCB Workshop, 2008, Iowa City, IA

- Lein PJ (Invited presentation), *Non-coplanar polychlorinated biphenyls (PCBs) modulate the development of neuronal connectivity via effects on the ryanodine receptor*.

Society of Toxicology, 2008, Seattle, WA

- Bruun D, Proskocil B, Fryer AD and Lein PJ, *Organophosphorus pesticides (OPs) do not interact directly with airway nerves to cause neuronal M2 receptor dysfunction.*
- Ledoux VA, Wayman GA, Pessah IN, Lein PJ, *Polychlorinated biphenyls (PCBs) influence dendritic growth in cultured hippocampal neurons via ryanodine receptor (RyR)-dependent activation of CaM kinase I.*
- Yang D, Ladu J, Buels K, Lauridsen H, Tanguay R and Lein PJ, *Chlorpyrifos-oxon interferes with axonogenesis in embryonic zebrafish.*

Neurotoxicology 24, 2007, San Antonio, TX

- Lein PJ (Invited presentation), *Exposure of the developing brain to polychlorinated biphenyls influences susceptibility of the adult brain to stress.*

2007 Dioxin Meetings, 2007, Tokyo, Japan

- Lein PJ (Invited presentation), *Ontogenetic alterations in molecular and structural correlates of dendritic growth following developmental exposure to polychlorinated biphenyls (PCBs*).

The 33rd Annual Summer Meeting of The Toxicology Forum, 2007, Aspen, CO

- Lein PJ (Invited presentation), *Emerging models in developmental neurotoxicity testing: In vitro*.

The 11th Meeting of the International Neurotoxicology Association, 2007, Pacific Grove, CA

- Lein PJ (Invited presentation), *Polychlorinated biphenyls (PCBs) modulate the development of neuronal connectivity.*

Society of Toxicology, 2007, Charlotte, NC

- Lein PJ (Invited presentation) *Cell and molecular mechanisms of neurodevelopment: clues for identifying environmental risk factors for autism*?
- Yang D, Dziennis S, Alkayed N, Hurn P, Lein PJ, *Developmental exposure to polychlorinated biphenyls reduces infarct size in the adult rat following ischemic stroke*.

Society for Neuroscience, 2006, San Diego, CA

- Lein PJ, D Yang, TR Soderling, IN Pessah and GA Wayman, *Polychlorinated biphenyls enhance dendritic growth via ryanodine receptor-dependent Cam Kinase I activation and CREB-mediated transcription of Wnt.*

- Dziennis SE, D Yang, PJ Lein, NJ Alkayed and PD Hurn, *Developmental exposure to polychlorinated biphenyls reduces infarct size in the adult rat following ischemic stroke*.

Society of Toxicology, 2006, San Diego, CA

- Lein PJ, D Yang, A Howard and D Bruun, *Chlorpyrifos inhibits axon outgrowth via disruption of the morphogenic activity of acetylcholinesterase*.
- Yang D, KH Kim, A Phimister, IN Pessah, and PJ Lein, *Developmental exposure to Aroclor 1254 impairs dendritic plasticity and functional expression of ryanodine receptors in weanling rats.*

NIEHS, Genotype to Phenotype Correlations in Health and Disease, 2005, Mount Hood, OR

- Lein PJ, D Yang, AS Howard and D Bruun, *The acetylcholinesterase (AChE) knock-out mouse as a model for mechanistic studies of organophosphorus pesticide developmental neurotoxicity.*

Society for Neuroscience, 2005, Washington, D.C.

- Lein PJ, X Guo, GX Shi, M Moholt-Siebert and DA Andres, *The small GTPase Rit differentially regulates axonal and dendritic growth in sympathetic and hippocampal neurons*.
- Gonsiorek E, M Garred, D Higgins and PJ Lein, *γ-Interferon (IFNγ) causes dendritic retraction in sympathetic neurons in vivo.*
- Gonsiorek EA, D Higgins and PJ Lein, *Bone morphogenetic proteins regulate dendritic outgrowth in rat sympathetic neurons in vivo*.

22nd International Neurotoxicology Conference, 2005, Research Triangle Park, NC

- Lein P, E Gonsiorek, M Garred and D Higgins, *Gamma-interferon causes dendritic retraction in sympathetic neurons in vivo.*

Society of Toxicology, 2005, New Orleans, LA

- Yang D and P Lein, *Altered cognitive function and dendritic growth in weanling rats exposed developmentally to Aroclor 1254* (abstract 1084).

Peer-Reviewed Medical Research Program (PRMRP) Military Health Research Forum, 2004, Puerto Rico

- Fryer AD and P Lein, *Mechanisms of organophosphate insecticide-induced airway hyperreactivity.*

Society of Toxicology, 2004, Baltimore, MD

- Lein P and AD Fryer, *Mechanisms of organophosphate insecticide-induced airway hyperreactivity*.

21st International Neurotoxicology Conference, 2004, Honolulu, Hawaii

- Howard AS and PJ Lein, *Polychlorinated biphenyls induce caspase-dependent cell death in cultured embryonic rat hippocampal but not cortical neurons via activation of the ryanodine receptor.*

International Neurotoxicology Association, 2003, Dresden, Germany

- Lein PJ, A Goldberg, P Locke and E Silbergeld, *In vitro and alternative approaches to developmental neurotoxicity testing (DNT).*

Society of Toxicology, 2003, Salt Lake City, UT

- Howard AS, R Bucelli, DA Jett and PJ Lein, *Chlorpyrifos inhibits axon outgrowth in primary cultures of peripheral neurons through inhibition of the morphogenic activity of acetylcholinesterase.*

American Society for Cell Biology, 2002, Washington, D.C.

- Chen HL, HN Beck, BJ Hoffer and PJ Lein*, Regulation of dendritic growth by target-derived BMPs.*

Society of Toxicology, 2002, Nashville, TN

- Howard AS and PJ Lein, *PCBs alter apoptosis in primary cultures of hippocampal but not cortical neurons*.
- Lein PJ, AS Howard, RA Schuh, R Bucelli and DA Jett, *Organophosphate pesticides differentially alter axonal and dendritic growth in cultured sympathetic neurons*.

Society for Neuroscience, 2001, San Diego, CA

- Beck HN, HL Chen and P Lein, *Regulation of dendritic growth by target-derived BMPs*.

CAAT's 20th Anniversary Celebration, 2001, Baltimore, MD

- Lein P, RA Schuh, R Bucelli and D Jett, *Cultured sympathetic neurons as a model system for investigating the developmental neurotoxicity of organophosphate pesticides*.

Society of Toxicology, 2001, San Francisco, CA

- Lein P, R Schuh, R Bucelli and D Jett (2001) *Chlorpyrifos inhibits axonal outgrowth in sympathetic neurons at concentrations that have no effect on the enzymatic activity of acetylcholinesterase.* The Toxicologist. 60:243.

Alternative Toxicological Methods for the New Millennium: Science and Application, 2000

- Lein PJ, RA Schuh, R Bucelli and DA Jett, *Cultured sympathetic neurons as a model system for investigating the developmental neurotoxicity of organophosphate pesticides*.

American Society of Neurochemistry, 1999, New Orleans, LA

- Lein PJ, D Dorsaneo, H Nagasawa, PL Kaplan and D Higgins (1999) *Target tissues influence dendritic growth in sympathetic neurons via osteogenic protein-1*. J Neurochem 72(Suppl):S35C.

First European Conference on Bone Morphogenetic Proteins, 1998

- Charette M, D Rueger, G Withers, G Banker, P Lein and D Higgins. *Neurotrophic activities of bone morphogenetic proteins.*

15th International Neurotoxicology Conference, Manganese, 1997

- Lin W, P Lein, D Higgins and JA Roth. *Manganese-induced toxicity and process outgrowth in rat PC12 cells.*

Society for Neuroscience, 1997

- Gallagher PJ, PJ Lein, V Chandrasekaran, AM Hedges, D Rueger and D Higgins. *Glia regulate dendritic growth in rat sympathetic neurons via bone morphogenetic proteins.* Society for Neuroscience Abstr 23:885.
- Dorsaneo D, AM Hedges, D Rueger, D Higgins and PJ Lein. *Target tissues influence dendritic growth in sympathetic neurons via osteogenic protein-1 (OP-1).* Society for Neuroscience Abstr 23:885.

American Society for Cell Biology, 1996

- Gallagher PJ, J Amodeo, H Howie, JA Roth and PJ Lein. *Integrins mediate manganese-induced neuronal differentiation in PC12 cells.* Molec Biol Cell Abstr 21:97a.

American Society for Cell Biology, 1995

- Chandrasekaran V, AM Hedges, D Rueger, PJ Lein. *Glial induction of dendritic growth in rat sympathetic neurons involves osteogenic protein-1 (OP-1).* Molec Biol Cell Abstr 6:99a.

Society of Toxicology, 1994

- Craig DK, JS Davis, PW Hoffman, LG Lee and PJ Lein. *Toxic chemical risk acceptance guidelines for use in DOE facilities*. The Toxicologist 14:1151.

Society for Neuroscience, 1994

- Lein PJ, M Johnson, X Guo, D Rueger and D Higgins. *Osteogenic protein-1 (OP-1) induces dendritic growth in cultured sympathetic neurons.* Society for Neuroscience Abstracts 20:680.

Invited Seminars

- February 2022, *Traffic-Related Air Pollution: A Risk Factor for Alzheimer's Disease*, Stem Cell and Gene Therapy Seminar Series, University of California Stem Cell Program, February 07, 2022
- February 2022, *Traffic-Related Air Pollution: A Risk Factor for Alzheimer's Disease*, The University of Illinois at Chicago, Division of Endocrinology, Diabetes, and Metabolism, Divisional Research and Journal club series, February 02, 2022

- January 2022, *The UC Davis CounterACT Center of Excellence: Improving Medical Countermeasures for Acute Intoxication with Seizurogenic Chemical Threat Agents*, Grand Rounds Seminar, UAB Research Center of Excellence in Arsenicals, January 27, 2022
- December 2021, Interview for Senses Culture podcast series SensesPod, Environmental risk factors for autism spectrum disorders, https://sensescultural.org/2021/12/15/the-new-episode-of-sensespod-is-live-across-the-web-now/.
- May 2021, *Chronic Exposure to Ambient Traffic-Related Air Pollution on Alzheimer's Disease Phenotypes in Wildtype and Genetically Predisposed Male and Female Rats*, The European Union Transport-Derived Ultrafines and the Brain Effects (TUBE) Consortium Web-Meeting for Partners, May 7, 2021
- January 2021, *Traffic-Related Air Pollution: A Risk Factor for Alzheimer's Disease*, Translational Neuroscience Seminar Series, Michigan State University, College of Human Medicine, Grand Rapids, MI, January 5, 2021
- December 2020, *Traffic-Related Air Pollution: A Risk Factor for Alzheimer's Disease*. Department of Pathology and Laboratory Medicine Seminar Series, UC Davis School of Medicine, Sacramento, CA, December 15, 2020
- August 2020, *Sulfated persistent organic pollutants (POPs): Mechanistic studies of an emerging class of neurotoxic chemicals*. American Chemical Society, Division of Chemical Toxicology, 2020 Virtual National Meeting, August 19, 2020.
- August 2020, *Exosomes derived from senescent endothelial cells: contributors to Alzheimer's disease pathogenesis*? Alzheimer's Disease Research Center, UC Davis School of Medicine, Sacramento, CA, August 12, 2020
- August 2020, *Neurotoxicity of traffic-related air pollution*. COOPed-Up Lectures, United States Environmental Protection Agency, Virtual Lecture Series, August 5, 2020.
- January 2020, *Traffic-related air pollution: A risk factor for Alzheimer's disease*? Neurology Grand Rounds, Department of Neurology, UC Davis School of Medicine, Sacramento, CA, January 21, 2020
- January 2020, *Neuron-glia interactions in traffic-related air pollution effects on Alzheimer's disease (AD)-related phenotypes in a genetically susceptible rat model*, 13th Annual Southern California Symposium on Glial-Neuronal Interactions in Health and Disease, UC Riverside School of Medicine, Center for Glial-Neuronal Interactions, Riverside, CA, January 10, 2020
- December 2019, *Transitioning to Independence: Interviews with early career investigators*, Moderator of webinar hosted by the Postdoctoral Assembly (PDA) of the Society of Toxicology (SOT), December 16, 2019
- October 2019, *Mechanistic studies of PCB effects on neuronal connectivity in vitro and their relevance to in vivo developmental neurotoxicity*, Duke Integrated Toxicology and Environmental Health Program (ITEHP) and Duke University Superfund Research Center (SRC) Fall Symposium: Bridging Across Levels of Analysis to Advance Neurotoxic Risk Determination: Toxicology for the Second Fifth of the 21st Century. Durham, NC, October 11, 2019
- October 2019, *Preclinical model of chlorpyrifos exposures and effects documented in Egyptian pesticide applicators*, 17th Meeting of the International Neurotoxicology Association, Düsseldorf, Germany, October 3, 2019
- September 2019, *The effects of near-roadway exposures on Alzheimer's disease phenotypes in a genetically susceptible animal model*, Environmental Geontology Symposium 2019: Air Pollution and Health Disparities, University of Southern California (USC) Leonard Davis School of Gerontology, USC, Los Angles, CA, September 12, 2019
- August 2019, **Keynote address**: *The effects of traffic-related air pollution on Alzheimer's disease phenotypes in a genetically susceptible animal model*, Annual Pathobiology Graduate Program Retreat, Brown University, Providence, RI, August 28, 2019

- July 2019, *Domoic acid webinar: Research on effects of repeat low-level exposures and its implication for human toxicity*, California Environmental Protection Agency, OEHHA, webinar, July 30, 2019.
- May 2019, *Preclinical models for investigating the effects of traffic-related air pollution on neurodevelopmental disorders and neurodegenerative disease*, American Psychiatric Association annual meeting, San Francisco, CA, May 21, 2019.
- May 2019, *The role of the gut microbiome in the exacerbation of Alzheimer's disease by traffic-related air pollution (TRAP)*, NIEHS-sponsored EHSC collaborative supplement webinar series, May 17, 2019.
- May 2019, *Organosulfates: A missing link between air pollution and Alzheimer's disease?* NIEHS-sponsored EHSC collaborative supplement webinar series, May 10, 2019.
- May 2019, *Organosulfates: A missing link between air pollution and Alzheimer's disease?* The Environmental Health Sciences Research Center, The Human Toxicology Program and the Iowa Superfund Basic Research Program seminar series, The University of Iowa, Iowa City, IA, May 3, 2019.
- April 2019, *In vitro and alternative models of neurotoxicity: Opportunities and challenges for toxicity testing*, NorCal SOT Spring Symposium, South San Francisco, CA, April 25, 2019
- April 2019, *The effects of traffic-related air pollution on Alzheimer's disease phenotypes in a genetically susceptible animal model*, Iowa State University Biomedical Science Seminar, Ames, Iowa, April 18, 2019.
- March 2019, *Vaping and e-cigarettes: Hazardous to your health*, Presentation to middle school and high school students, Shipley School, Bryn Mawr, PA, March 21, 2019.
- March 2019, *Preclinical models to assess long-term neurologic sequelae of acute intoxication with organophosphate nerve agents*. Platform presentation, Society of Toxicology annual meeting, Baltimore, MD, March 14, 2019.
- October 2018, *Personal statements: What to do and what not to do*. Webinar "Accepted!: Tips on how to get into a top graduate program. Sponsored by the Molecular and Systems Biology Specialty Section of the Society of Toxicology, and by the Society of Toxicology Education Committee, October 17, 2018.
- September 2018, *Preclinical models of chlorpyrifos exposures and effects documented in Egyptian pesticide applicators*. Oregon Institute of Occupational Health Sciences, Oregon Health & Science University, Portland, OR, September 26, 2018.
- August 2018, *The developmental neurotoxicity of legacy vs. contemporary PCBs: Similarities and differences*. Dioxin 2018: 385h International Symposium & 10th International PCB Workshop, Krakow, Poland, August 29, 2018.
- May 2018, *Preclinical model of chlorpyrifos exposures and effects documented in Egyptian pesticide applicators.* International Commission of Occupational Health (ICOH) 2018, Dublin, Ireland, May 02, 2018.
- April 2018, **Keynote address:** *Environmental risk factors for autism spectrum disorders: The case for PCBs*. 43rd Annual West Coast Biological Sciences Undergraduate Research Conference, St Mary's College of California, Moraga, CA, April 14, 2018.
- April 2018, *Imaging tools for evaluating neuropathology and therapeutic responses in a preclinical model of toxicant-induced status epilepticus.* Biomedical Engineering Departmental Seminar Series, University of California, Davis, CA, April 12, 2018.
- March 2018, *Environmental risk factors for autism spectrum disorders: The case for PCBs*. Department of Medicine, Division of Occupational and Environmental Medicine, Environmental Toxicology Seminar Series, University of California, Irvine, March 02, 2018.
- November 2017, *Environmental risk factors for autism spectrum disorders: the case for air pollution*. Washington University in Saint Louis Intellectual and Developmental Disabilities Research Center, Developmental Psychopathology Series, Saint Louis, MO, November 8, 2017

- April 2017, *Environmental risk factors for autism spectrum disorders: The case for PCBs*. Northeast Ohio Medical University, Rootstown, OH, April 14, 2017.
- March 2017, *A tale of two threat agents: OPs and TETS*, Chemical & Biological Terrorism Defense, Gordon Research Conference, Ventura, CA, March 6, 2017.
- February 2017, *Pesticide risk assessment*, 4 hour presentation on methods for assessing pesticide neurotoxicity and recent developments in assessing risks of pesticides to a delegation from the Chinese Ministry of Agriculture, Divison of Agrochemicals, University of California, Davis, February 21, 2017.
- January 2017, *Environmental toxins and autism spectrum disorder*, Autism Spectrum Disorders: Research and Medical Treatment Implications Part 2, Complimentary CME-certified webcast series, Autism Research Institute Online Education, January 25, 2017
- November 2016, *NIH workshop: Long-term effects following acute exposure to organophosphorus nerve agents.* American College of Toxicology, 37th Annual Meeting, Baltimore, MD, November 9, 2016
- October 2016, *Developmental neurotoxicity of polychlorinated biphenyls (PCBs) and their metabolites.* The 21st International Symposium on Microscomes and Drug Oxidations (MDO 2016), Davis, CA, October 6, 2016
- April 2016, *Environmental risk factors for autism: The case for PCBs*. Research Rocks, University of California, Davis, April 5, 2016
- January 2016, *Environmental risk factors for autism: The case for PCBs*. Purdue University Health Sciences Seminar Course, Lafayette, IN, January 19, 2016
- December 2015, **Keynote Address**: *Neuronal connectivity: an in vitro endpoint of relevance to in vivo developmental neurotoxicity*, DENAMIC (Developmental neurotoxicity assessment of mixtures in children) Workshop, Amsterdam, Netherlands, December 7, 2015
- December 2015, *Applying the adverse outcome pathway (AOP) concept to PCB developmental neurotoxicity*, Toxicology seminar series, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland, December 4, 2015
- October 2015, *Does air pollution increase risk of Alzheimer's disease in a genetically susceptible animal model*? Air Resources Board, California Environmental Protection Agencey, Sacramento, CA, October 20, 2015
- September 2015, *Using in vitro and in vivo models to inform studies of developmental neurotoxicity.* September 2015 NIEHS/EPA Children's Environmental Health Centers Webinar on Interdisciplinary Approaches to Neurodevelopment, September 9, 2015.
- July 2015, *Peripheral inflammation alters the structure and function of the rat sympathetic nervous system*. 16th Annual Merial-NIH Veterinary Scholars STAR Symposium, Davis, CA, July 31, 2015.
- June 2015, *Adverse outcome pathway for the developmental neurotoxicity of non-dioxoin-like PCBs: Sensitization of ryanodine receptors alters neuronal connectivity leading to cognitive deficits*. International Neurotoxicology Association, Montreal, Quebec, CANADA, June 29, 2015
- June 2015, *Strategy for applying mechanistic data to identify gene-environment interactions of relevance to DNT*. Elucidating Environmental Dimensions of Neurological Disorders and Diseases: Understanding New Tools from Federal Chemical Testing Programs. A meeting organized by the Environmental Defense Fund, Davis, CA, June 19, 2015
- April 2015, *Gene editing: Perspective of a consumer not producer of the technology*. Campus wide discussion on gene editing sponsored by the UC Davis Basic Health Sciences Council , Davis, CA, April 28, 2015.
- April 2015, *What search committees are seeking in candidates for faculty positions in academia*. Society of Toxicology Postdoctoral Assembly Webinar, Maximizing your Postdoc to Land the Ideal Permanent Position: What Search Committees are Seeking Across Employment Sectors, April 22, 2015.

- February 2015, *Cell and molecular mechanisms of PCB developmental neurotoxicity*. University of Illinois at Urbana-Champaign Neuroscience Seminar Program, Urbana, IL, February 3, 2015
- December 2014, *Cell and molecular mechanisms of PCB developmental neurotoxicity*. University of California, Davis NIEHS T32 Seminar Series, Davis, CA, December 11, 2014
- December 2014*, Cell and molecular mechanisms of PCB developmental neurotoxicity*. University of Wisconsin-Madison School of Pharmacy seminar series, Madison, WI, December 4, 2014
- March 2014, *Environmental risk factors for autism: The case for PCBs*, Sitlington Lecture in Toxicology, Oklahoma State University, Stillwater, OK, March 7, 2014
- February 2014, *Modeling human occupational exposure to chlorpyrifos to identify biomarkers and mechanisms of OP-induced neurotoxicity*, Human Toxicology and Environmental Health Sciences Research Center (EHSRC) Research Seminar, The University of Iowa, Iowa City, IA, February 7, 2014
- January 2014, *Cellular and molecular mechanisms of the developmental neurotoxicity of organophosphorus pestcides*, Environmental Toxicology Seminar Series, University of California, Riverside, Riverside, CA, January 29, 2014
- October 2013, *Environmental risk factors for autism: The case for organophosphorus pesticides*, Family Medicine Seminar Series, University of Texas Health Science Center at San Antonio,San Antonio, TX, October 4, 2013
- October 2013, *Environmental risk factors for autism spectrum disorders*, Pediatrics Grand Rounds, University of Texas Health Science Center at San Antonio,San Antonio, TX, October 4, 2013
- July 2013, *IFNγ causes dendrite retraction and synapse loss in rat sympathetic neurons in vivo*, Symposium on Sympathetic Ganglionic Remodeling and Cardiovascular Disease, International Society for Autonomic Neuroscience, Giessen, Germany, July 31, 2013
- June 2013, *Environmental risk factors for autism: The case for organophosphorus pesticides (OPs)*, Autism Research Institute webinar series, June 19, 2013
- June 2013, *Perinatal PCB exposure disrupts neuronal connectivity in the developing brain*, Symposium on Synaptic Development and Degeneration following Early Neurotoxicant or Stress Exposure, International Neurotoxicology Association, Egmond aan Zee, Netherlands, June 10, 2013
- June 2013, *Polychlorinated biphenyls (PCBs): Environmental risk factors for ASD*, Parent/Provider Workshop: Immunological Factors, Genes and the Environment in Autism: from Research to Treatment, cosponsored by Autism Research Institute, Autism Speaks and UC Davis MIND Institute, Sacramento, CA, June 1, 2013
- May 2013, **Keynote address:** *The UC Davis CounterACT Center of Excellence: Improving medical countermeasures for acute intoxication with seizurogenic chemical threat agents*, The Department of Environmental Medicine Toxicology Training Program Annual Retreat, University of Rochester, Rochester, NY
- April 2013, *UC Davis CounterACT Center of Excellence*, Spring Symposium, Northern California Chapter of Society of Toxicology (SOT), San Francisco, CA
- April 2013, *Environmental risk factors for autism spectrum disorders and asthma*, Arizona Center for Biology of Complex Diseases, University of Arizona, Tucson, AZ
- March 2013, **Keynote address:** *Environmental risk factors for autism spectrum disorders*, Dorothy Westerman Herrmann Autism Symposium, Northern Kentucky University, Highland Heights, KY
- October 2012, *Insights into molecular aspects of chronic neurotoxicity*, Leibniz Research Institute for Environmental Medicine and Molecular Toxicology, Dusseldorf, Germany
- October 2012, *Environmental risk factors for Autism Spectrum Disorders,* The HELP Group Summit 2012, Los Angeles, CA

- October 2012, *Organophosphorus pesticides: Environmental risk factors for autism?* Autism Research Institute (ARI) Conference, Garden Grove, CA
- June 2012, *In vitro approaches for developmental neurotoxicity testing*, 10th International Conference on Early Toxicity Screening, Seattle, WA
- May 2012, *PCBs modulate neuronal connectivity via ryanodine receptor-mediated mechanisms*. 7th PCB Workshop, Arcachon, France
- March 2012, *Parallel animal and human research identify neurotoxic effects of occupational exposures to the organophosphorus pesticide chlorpyrifos*. Neurotoxicological effects of exposure to organophosphate compounds symposium, 51st Annual Meeting of the Society of Toxicology, San Francisco, CA
- January 2012, *Cell and molecular mechanisms of PCB developmental neurotoxicity*, Departmental seminar series, Microbiology and Environmental Toxicology, University of California, Santa Cruz, CA
- October 2011, *Influence of the immune system on neurodevelopment*, 27th International Neurotoxicology Conference, Research Triangle Park, NC
- June 2011, *In vitro endpoints of relevance to organophosphorus pesticide-induced neurobehavioral deficits,* International Neurotoxicology Association, Xi'an, China
- April 2011, *Atopic status determines inflammatory cell mediators in organophosphorus pesticide-induced airway hyperreactivity*, Lung Research Day Symposium, University of California, Davis, CA
- March 2011, *Novel Neuroprotectants in OP-induced neurotoxicity*, National SAVMA (Student Chapter of the American Veterinary Medical Association) Symposium, University of California, Davis, CA
- February 2011, *Polychlorinated biphenyls (PCBs) modulate neuronal connectivity via ryanodine receptor-dependent mechanisms,* Research Seminar Series, Washington State University School of Veterinary Medicine, Pullman, WA
- January 2011, *Organophosphorus pesticides: Environmental risk factors for Autism Spectrum Disorders,* Research Seminar Series, UC Davis M.I.N.D. Institute, Sacramento, CA
- November, 2010, *Organophosphorus pesticides and neurodevelopmental disorders*, Pharmacology and Toxicology departmental seminar series, SUNY at Buffalo, Buffalo, NY
- May 2010, *Cellular and molecular mechanisms of organophosphorus pesticide-induced airway hyperreactivity*, Center for Comparative Respiratory Biology and Medicine, UC Davis, CA
- April, 2010, *Cellular and molecular mechanisms of organophosphorus pesticide-induced airway hyperreactivity*, Molecular Microbiology and Immunology seminar, UC Davis, CA
- March, 2010, *In vitro and other methods for identifying developmental neurotoxicants*, Human Health Hazard Indicators Workshop, California Environmental Protection Agency, Sacramento, CA
- January, 2010, *Organophosphorus pesticides and neurodevelopmental disorders*, Molecular Pharmacology and Experimental Therapeutics seminar series, Mayo Clinic College of Medicine, Rochester, MN
- December, 2009, *The yin and yang of dendritic growth: bone morphogenetic proteins and proinflammatory cytokines*, Center for Neuroscience Research at the Children's National Medical Center, Washington, D.C.
- November, 2009, *In vitro toxicity testing: perspective of an academic scientist*, Toxicity Testing in the 21st Century: Can We Make the Business Case for Alternatives? University of Chicago Law School, Chicago, IL
- November, 2009, *Interference of neuronal morphogenesis by organophosphorus pesticides: potential relevance to autism spectrum disorders*, Interdisciplinary Faculty of Toxicology seminar series, Texas A&M, College Station, TX
- October, 2009, *Regulation of dendritic growth by cytokines*, Neuroscience & Physiology Program, SUNY at Syracuse, Syracuse, NY

- September, 2009, *Overview of developmental neurotoxicity testing (DNT): Problems and approaches for minimizing animal use and maximizing data collection,* World Congress 7, Rome Italy.
- August, 2009, *Novel neuroprotectants in OP-induced neurotoxicity*. Annual Force Health Protection Conference, Albuquerque, NM.
- March 2009, *Developmental neurotoxicity of organophosphorus pesticides: neuronal morphogenesis as a target*, Integrated Toxicology and Environmental Health Program, Duke University, Durham, NC
- March 2009, *Polychlorinated biphenyls (PCBs) modulate neuronal connectivity*, Center in Molecular Toxicology, Vanderbilt University School of Medicine, Nashville, TN
- November 2008, *Alternative systems-based models for developmental neurotoxicity testing*, DNT2 Workshop, Reston, VA
- October 2008, *Metabolism and oxidative stress as modulators and mediators of PCB developmental neurotoxicity*, Human Toxicology and EHSRC Research Seminar, University of Iowa, Iowa City, IA
- October 2008, *Using in vitro models to study gene-environment interactions in autism*, 25th Neurotoxicology Conference, Rochester, NY.
- September 2008, *Polychlorinated biphenyls (PCBs) modulate neuronal connectivity in the developing brain,* Pacific Northwest Association of Toxicologists (PANWAT) 25th Annual Meeting, Corvallis, OR
- May 2008, *Non-coplanar polychlorinated biphenyls (PCBs) modulate the development of neuronal connectivity via effects on the ryanodine receptor*, The Fifth PCB Workshop, Iowa City, IA
- January 2008, *Control of dendritic growth by growth factors and cytokines*, Neurological Sciences Institute, Oregon Health & Science University, Portland, OR
- January 2008, *Alternatives to developmental neurotoxicity testing*, Alternative Models for Animal Research, UCLA, Los Angeles, CA
- December 2007, *Potential cell-based models for detecting endocrine disruption in the developing brain.* GE Program on Alternative Methods, Center for Alternatives to Animal Testing, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD
- December 2007, *Early brain development and environmental exposures*. Children's Development and Rehabilitation Center (CDRC) Grand Rounds, Oregon Health & Science University, Portland, OR
- November 2007, *Exposure of the developing brain to polychlorinated biphenyls influences susceptibility of the adult brain to stress.* Neurotoxicology 24, San Antonio, TX
- September 2007, *Ontogenetic alterations in molecular and structural correlate of dendritic growth following developmental exposure to polychlorinated biphenyls (PCBs)*. Dioxin 2007, Tokyo, Japan.
- July 2007, *Emerging models in developmental neurotoxicity testing: In vitro*. The 33rd Annual Summer Meeting of the Toxicology Forum, Aspen, CO
- June 2007, *Polychlorinated biphenyls (PCBs) modulate the development of neuronal connectivity*. Workshop on Immunologic and Neurodevelopmental Susceptibilities in Autism, The 11th Meeting of the International Neuroscience Association (INA-11), Pacific Grove, CA
- March 2007, *Cell and molecular mechanisms of neurodevelopment: clues for identifying environmental risk factors for autism*? Workshop on Environmental Risk Factors for Autism, Annual Meeting of the Society of Toxicology, Charlotte, NC
- January 2007, *In vitro approaches to developmental neurotoxicity testing (DNT)*, The First Indian Congress on Alternatives to the Use of Animals in Research, Testing and Education, Sri Ramachandra Medical College & Research Institute (Deemed University), Chennai, India
- November 2006, *Control of dendritic growth by growth factors and cytokines,* Neuroscience Graduate Program, University of Michigan, Ann Arbor, MI

- March 2006, *Neuronal morphogenesis as an endpoint for in vitro developmental neurotoxicity testing*, TestSmart DNT (sponsored by the Johns Hopkins University Center for Alternatives to Animal Testing, USEPA, NIEHS, Rohm and Haas, RIFM, Shell Oil), Reston, VA
- January 2006, *Organophosphate-induced delayed neuropathy*, Neurology Grand Rounds, Oregon Health & Science University, Portland, OR
- November 2005, *Interferon-gamma and dendrite retraction*, Department of Anesthesiology, Oregon Health & Science University, Portland, OR
- October 2005, *Cytokine control of dendritic growth*, Cell and Developmental Biology, Oregon Health & Science University, Portland, OR
- October 2004, *Mechanisms of organophosphate developmental neurotoxicity*, Department of Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR
- August 2004, **Keynote Address:** *Physiological evidence of a link between organophosphorus insecticides and asthma*, Sixth Annual UC Davis Conference for Environmental Health Scientists, Napa, California.
- March 2004, *Mechanism of organophosphate developmental neurotoxicity*, Department of Pharmacology and Toxicology, SUNY at Buffalo School of Medicine and Biomedical Sciences, Buffalo, NY
- March 2004, *Mechanism of organophosphate developmental neurotoxicity*, Joint NIEHS/ACC Developmental Toxicology RFA and Fetal Basis of Adult Disease PAR Grantee Meeting, Research Triangle Park, North Carolina
- January 2004, *Cell and molecular mechanisms of developmental neurotoxicity*, Department of Environmental and Biomolecular Systems, OGI School of Science & Engineering, Oregon Health & Science University, Portland, OR
- December 2003, *Regulation of neuronal morphogenesis*, Cell and Developmental Biology, Oregon Health & Science University, Portland, OR
- October 2003, *Modulation of dendritic growth by bone morphogenetic proteins*, Department of Pharmacology, National Defense Medical Center, Taipei, Taiwan, ROC
- June 2003, *In vitro and alternative approaches to developmental neurotoxicity testing*, The 9th meeting of the International Neurotoxicology Association, Dresden, Germany
- February 2003, *The case of chlorpyrifos: AChE inhibition and beyond*, Toxic Damage to Developmental Signals Symposium, Duke University Integrated Toxicology Program, Duke University, Durham, NC
- January 2003, *Regulation of dendritic growth by BMPs*, Biochemistry and Molecular Biology Open Seminar Series, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD
- November 2002, *Non-cholinergic mechanisms of organophosphate developmental neurotoxicity*, CROET, Oregon Health Sciences University, Portland, OR
- April 2002, *BMPs in regulation of dendritic growth*, CROET, Oregon Health Sciences University, Portland, OR
- March 2002, *Regulation of dendritic growth by bone morphogenetic proteins*, Biology Dept, Indiana University Purdue University at Indianapolis (IUPUI), Indianapolis, IN
- February 2002, *Extrinsic factors that influence neuronal morphogenesis*, USEPA, Neurotoxicology Division, Research Triangle Park, NC
- January 2002, *Regulation of dendritic growth by bone morphogenetic proteins (BMPs)*, Kennedy Krieger Institute, Baltimore, MD
- August 2001, *Mechanisms by which endocrine disruptors disrupt neuronal development in mammalian systems*, EDICOR Site Visit, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD
- July 2001, *Regulation of dendritic growth by bone morphogenetic proteins (BMPs),* Dept Anatomy and Neurobiology, University of Kentucky School of Medicine, Lexington, KY

- December 2000, *Assessment of dendritic growth as a targeted process in the developmental neurotoxicity of PCBs*. Johns Hopkins NIEHS Center in Urban Environmental Health, External Advisory Committee Meeting, Johns Hopkins University, Baltimore, MD
- November 2000, *Regulation of dendritic growth by bone morphogenetic proteins (BMPs)*. Biomedical Research Seminars Series, Morgan State University, Baltimore, MD
- April 2000, *Environmental toxins: Hackers that target the hardware of the neural network*, Environmental Health Science Faculty Meeting with Dean Sommer, Johns Hopkins University School of Public Health, Baltimore, MD
- April 2000, *Positive and negative regulation of dendritic growth*, Institute for Cognitive and Computational Sciences, Georgetown University Medical Center, Washington, DC
- February 2000, *Regulation of dendritic growth in sympathetic neurons*, Neurovirology Seminar Series, Department of Molecular Microbiology and Immunology, Johns Hopkins University School of Public Health, Baltimore, MD
- October 1999, *Cell and molecular mechanisms underlying dendritic growth in sympathetic neurons*, Department of Environmental Health Sciences, Division of Physiology, Johns Hopkins University School of Public Health, Baltimore, MD
- November 1997, *Regulation of neuronal morphogenesis by osteogenic protein-1*, Alpha Theta chapter of Tri Beta, Canisius College, Buffalo, NY
- October 1997, *Regulation of neuronal morphogenesis by osteogenic protein-1*, Biochemical Pharmacology, SUNY at Buffalo, School of Pharmacy, Buffalo, NY
- May 1997, *Bone morphogenetic proteins (BMPs) regulate neuronal differentiation*, Toxicology Research Center, Environmental Health Sciences Graduate Group, SUNY at Buffalo School of Medicine and Biomedical Sciences, Buffalo, NY
- March 1997, *Adhesion molecules: more than cellular glue*, Department of Biology, Niagara University, Niagara Falls, NY
- November 1996, *The human genome project*, American Council on Education, National Identification Program, Canisius College, Buffalo, NY
- November 1996, *Bone morphogenetic proteins (BMPs) regulate neuronal differentiation*, Alpha Theta chapter of Tri Beta, Canisius College, Buffalo, NY
- January 1996, *Osteogenic protein-1 specifically induces dendritic growth in sympathetic neurons in culture*, Lung Biology Research Program, Buffalo General Hospital, Buffalo, NY
- September 1995, *Regulation of dendritic growth in sympathetic neurons.* Departments of Psychology and Biology, Hamilton College, Clinton, NY
- August 1995, *Environmental specification of neuronal morphology: role of BMP-7 in dendritic growth,* Dept Neurology, University of Tubingen, Tubingen, Germany
- June 1994, *Extracellular matrix molecules as determinants of neuronal morphology*, Lung Biology Research Program, Buffalo General Hospital, Buffalo, NY

ADDITIONAL INFORMATION

Personal statement of research and research objectives

Our goal is to determine how environmental stressors interact with genetic susceptibilities to influence the risk and severity of complex diseases, including neurodevelopmental disorders, asthma, Alzheimer's disease and seizure disorders. Altered patterns of connectivity are associated with neurological deficits; therefore, we are investigating how environmental contaminants, chemical convulsants and inflammatory mediators perturb neuronal connectivity as determined using biochemical, morphogenic, electrophysiological and behavioral endpoints. We are also developing biomarkers of OP neurotoxicity and testing novel therapeutic approaches for protecting against the neurodegenerative effects associated with neurotoxic pro-convulsants.