

Curriculum Vitae

Luoping Zhang, Ph.D.

Adjunct Professor

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EDUCATION

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| 1993 | Ph.D. <i>Biochemical Toxicology</i>
Degree received from Simon Fraser University (SFU), Burnaby, B.C. Canada, with research done both at SFU and at University of California, Berkeley, California (1993). |
| 1985 | M.S. <i>Biochemistry</i>
Huazhong University of Science and Technology, Wuhan, P.R. China |
| 1982 | B.S. <i>Physical Chemistry</i>
Wuhan University, Wuhan, P.R. China |

PROFESSIONAL EXPERIENCE

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| July 2015 - Pres | Adjunct Professor IV (Researcher 4)
School of Public Health, University of California, Berkeley, USA |
| 2012 - 2015 | Adjunct Professor III (Researcher 3)
School of Public Health, University of California, Berkeley, USA |
| 2009 - 2012 | Associate Adjunct Professor V (Associate Researcher 5)
School of Public Health, University of California, Berkeley, USA |
| 2006-2009 | Associate Adjunct Professor IV (Associate Researcher 4)
School of Public Health, University of California, Berkeley, USA |
| 2000 - 2006 | Specialist 2-3
School of Public Health, University of California, Berkeley, USA |
| 1996- 2000 | Associate Specialist 2,4
School of Public Health, University of California, Berkeley, USA |
| Dec.1992 - 1996 | Assistant Specialist 2, 3
School of Public Health, University of California, Berkeley, USA |
| Apr.-Nov. 1992 | Postgraduate Research 1
School of Public Health, University of California, Berkeley, USA |
| 1989-90 | Research & Teaching Assistant
School of Kinesiology, Simon Fraser University, Burnaby, B.C. Canada |
| 1988-89 | Visiting Scientist
Department of Biochemistry, University of Padova, Padova, Italy |
| 1987-88 | Visiting Scientist
Department of Experimental Medicine & Biochemical Science, University of Perugia, Perugia, Italy |
| 1985-87 | Research & Teaching Associate
Department of Chemistry, Huazhong University of Science and Technology, Wuhan, China |

	1982	Research Associate Department of Chemistry, Zhongnan National College, Wuhan, China
HONORS		
	2016	Distinguished Chinese Toxicologist Lectureship Award Society of Toxicology, Reston, VA, USA
	2015, 2014	School of Public Health Award for Teaching Excellence Spring 2014 University of California, Berkeley, CA, USA
	2000 - Pres	Honored Professor in the College of Life Science and Technology at Huazhong University of Science and Technology, Wuhan, P. R. China
	1992 - 1993	University of California Toxic Substances Program Scholarship University of California, Berkeley, CA, USA
	1991 - 1992	Steel Memorial Graduate Scholarship Simon Fraser University, Burnaby, B.C. Canada
	1989 - 1990	Graduate Fellowship Simon Fraser University, Burnaby, B.C. Canada
	1987 - 1988	Research Fellowship for Outstanding Scientists The Third World Academic Science, Trieste, Italy
	1986 & 1988	Awards of Academic Excellence for Publications Chinese Chemical Society, Hubei, P. R. China
	1986	Outstanding Teaching Award Huazhong University of Science and Technology, Wuhan, P. R. China
NATIONAL AND INTERNATIONAL SERVICES		
	2017- Present	Appointed as a member of the Organizing Committee on " <i>Emerging Genome Editing Tools to Advance Environmental Health Research: From Cells to Populations</i> " by the National Academies of Sciences.
	2017	Chairperson of special symposium at the 48 th Annual Environmental and Molecular Mutagenesis Meeting " <i>Environmental Health Sciences Bridging the Gap between Exposure, Mechanism and Public Health,</i> " in Raleigh, North Carolina.
	2016-Present	Served as a member of the Working Group for IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 120: Benzene. Lyon, France.
	2016-2017	Served on the Food Quality Protection Act Science Review Board for the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Scientific Advisory Panel on Glyphosate, EPA. Arlington, Virginia.
	2016	Invited by the UK Medical Research Council to review a Career Development Award: Transition to Independence grant titled, " <i>Understanding the mechanism of cellular formaldehyde toxicity, tolerance, and sensing,</i> " for a total of £970,962 (\$1.27m)
	2016	Chairperson of platform session on <i>Exposure and Diseases Resulting from Environmental Exposure</i> at The 8 th Princess Chulabhorn International Science Congress on Environmental Health in Bangkok, Thailand.

2012-Present	Member: Reappointed by Governor Brown, Carcinogen Identification Committee, Science Advisory Board, OEHHA, Cal EPA.
2012-Present	Served on the Board of Editors for <i>Environmental and Molecular Mutagenesis</i> .
2011 - 2013	Served on the Board of Society of Toxicology, Northern California.
2011 - 2015	Served on the Board of Editors for <i>Journal of Clinical Toxicology</i> .
2011	Served on the Technical Program Committee and as a plenary speaker at <i>International Conference on Environmental Pollutants and Public Health (EPPH 2011)</i> in Wuhan, China.
2010 - 2014	Selected and served as an expert on the Environmental Health Sciences Review Committee (EHSRC) at NIEHS, North Carolina.
2010 - 2013	National Academy of Science (NAS-IOM) Committee for the <i>Review of the Health Effects in Vietnam Veterans of Exposure to Herbicides</i> .
2010	Served as an expert at the Expert Consultation Meeting in the Federal Institute for Risk Assessment, June 14-15, Berlin, Germany 2010.
2009	Served as a technical expert on formaldehyde for National Toxicology Program: 12 th Report on Carcinogens, Sept–Nov, 2009, NIEHS, NC.
2009	Organizing Committee Member of International Conference on “Benzene 2009: Health Effects and Mechanisms of Bone Marrow Toxicity Implications for t-AML and the Mode of Action Framework” Munich, Germany.
2008-2009	Proposal reviewer for Gillings Innovation Laboratory (GIL) Honorarium at Gillings School of Public Health, University of North Carolina at Chapel Hill, North Carolina.
2008–2009	National Academy of Science Committee for “Review of EPA’s Toxicological Assessment of Tetrachloroethylene”.
2008 – Pres	Served on the Board of Editors for <i>China Occupational Medicine</i> .
2008	Invited Reviewer of STAR fellowship of Molecular Biology in US EPA.
2008	Chair of the Symposium of “Formaldehyde and Leukemia” at the 2008 EMS Annual Conference.
2004	Organizer and Co-Chair of Program Committee of Special Conference on “Recent Advances in Benzene Toxicity,” Munich, Germany.

PROFESSIONAL AFFILIATIONS

2007 - Pres	Member of <i>American Association of Chinese in Toxicology</i>
2007 - Pres	Member of <i>Society of Toxicology (SOT)</i>
2005 - Pres	Member of <i>Northern California Society of Toxicology (NorCal SOT)</i>
2001 - Pres	Member of <i>Environmental Mutagenesis and Genomics Society (EMGS)</i>
2001 - 2014	Member of Molecular Epidemiology group of the <i>American Association for Cancer Research (AACR)</i>
1992 - 2014	Member of <i>American Association for Cancer Research (AACR)</i>

RESEARCH INTERESTS

For the past two decades, my research has focused on understanding the molecular mechanisms of bone marrow toxicity caused by benzene (BZ) and other toxic chemicals including butadiene (BD), formaldehyde (FA), trichloroethylene (TCE) and arsenic (As). Our investigations have mainly involved the detection of biomarkers associated with these chemical exposures in molecular epidemiological studies conducted with national and international collaborators. My group investigated specific chromosomal aneuploidies and rearrangements in many of these studies, as well as in mature and progenitor human cells *in vitro* by a molecular cytogenetic method named FISH (fluorescence *in situ* hybridization). We have developed and applied the innovative OctoChrome FISH method that simultaneously detects specific rearrangements of all 24 human chromosomes, including common genetic changes associated with leukemia and/or lymphoma. In order to identify additional biomarkers and disease-related mechanisms associated with these chemical exposures, we have developed and continue to employ many high-throughput technologies, such as single-cell genetic analysis (SCGA) and array-based toxicogenomic (genomics, transcriptomics, proteomics, and metabolomics) and epigenomic (DNA-methylation, histone modification, and microRNomics) tools. These advanced omic methodologies and RNAi (RNA interference) are also applied to *in vitro* human cell culture studies of chemical exposure. Besides my long-term involvement and contributions to the Northern California Childhood Leukemia Study (NCCLS), I have been a co-project leader and/or co-principal investigator in the Center for Interdisciplinary Research on Childhood Leukemia and the Environment (CIRCLE), the Superfund Basic Research Program (SBRP) and the Center for Exposure Biology (CEB) at Berkeley. Currently, I am applying the novel functional genomic editing approach (CRISPR)-Cas9 in human cells, including stem/progenitor cells or other types, to systematically identify functionally important genes, cellular targets, biological pathways, and human susceptibility genes.

SELECTED LECTURES

- 2017** “Toxicogenomics and Mechanisms of Environmental Pollutants: Benzene and Formaldehyde.” Invited speaker at the 2nd *International Caparica Conference on Pollutant Toxic Ions & Molecules*, November 6-9, 2017, in Caparica, Portugal.
- “Emerging Application of CRISPR in Toxicology and Environmental Health Sciences.” Invited speaker at the 48th *Annual Meeting of Environmental Mutagenesis and Genomics Society*, September 9-13, 2017, in Raleigh, North Carolina.
- 2016** “Bone marrow and stem cell toxicity of mixed exposure to the chemical leukemogens benzene and formaldehyde.” Invited speaker at *The 8th Princess Chulabhorn International Science Congress on Environmental Health: Inter-Linkages Among the Environment, Chemicals and Infectious Agents*, November 13-17, 2016, Bangkok, Thailand.
- “Using New Approaches to Study Toxic Chemicals.” Invited speaker at *the College of Life Sciences, Central China Normal University*, November 8, 2016, “Using New Approaches to Study Environmental and Occupational Exposures to Toxic Chemicals.” Invited speaker at the *Genetic and Environmental Toxicology Association of Northern California (GETA) Spring Symposium on Environmental Contributors to Cancer*, May 19, 2016, Oakland, California, USA.
- “Chemical Exposures to Toxic Chemicals and Adverse Health Effects.” Invited award lecture for *Distinguished Chinese Toxicologist Lectureship Award* at the 55th *Annual National Society of Toxicology (SOT) Meeting*, March 13-17, 2016, New Orleans, Louisiana, USA.
- 2015** “Applying Biomarkers, Systems Biology, and Exposome Approaches to Study Environmental and Occupational Exposures to Toxic Chemicals.” Invited speaker at the 46th *Annual Environmental Mutagenesis and Genomics Society (EMGS) Meeting on Research Education, and Policy in Concert*, September 26-30, 2015, New Orleans, Louisiana, USA.

- 2014** "Career Path in Academic Settings." Career Workshop organized by *American Association of Chinese in Toxicology (AACT)* at *National Society of Toxicology (SOT)* Annual Conference, Phoenix, AZ, March 23-27, 2014.
- 2013** "Previous, Current and Future Studies of Environmental and Occupational Exposures to Toxic Chemicals: Biomarkers, Systems Biology and Exposome Approaches." Invited speaker as the US AACT delegation at the 6th *China SOT*, Nov. 13-15, 2013.
- "Application of Genome-Wide Profiling to Evaluate Effects of Benzene and Its Metabolites from Yeast to Human." Invited speaker at The New York Academy of Sciences meeting: *The Bone Marrow Niche, Stem Cells, and Leukemia: Impact of Drugs, Chemicals, and the Environment*. New York, USA. May 29-31, 2013.
- 2012** "Functional and Comparative Genomics: Systematic Screening for Genes and Pathways Involved in Human Susceptibility to Chemical Exposures". Invited speaker at the 43rd Annual *Environmental Mutagen Society (EMS)* Meeting on *EMS: The Next Generation*, September 8-12, 2012, Bellevue, Washington, USA.
- "Adverse Health Effects of Formaldehyde Exposure". Invited speaker at Central China (Huzhong) Normal University, June 2012, Wuhan, China.
- "Systemic Effects of Formaldehyde Exposure and Potential Mechanisms". Invited speaker at the *Formaldehyde Science Conference - FormaCare*, April 19-20, 2012, Madrid, Spain.
- "Studies of Environmental and Occupational Exposures to Toxic Chemicals: Biomarkers, Systems Biology and Exposome Approaches". Invited speaker at *Environmental Chemistry Lab Seminar*, Department of Toxic Substances Control (DTSC), Cal EPA, October 10, 2012, Berkeley, CA, USA.
- 2011** Chair of Symposium: *Site of Contact and Systemic Effects of Formaldehyde Exposure*, and invited speaker on "*Reproductive and Developmental Toxicity of Formaldehyde: A Systematic Review*" at the 42nd Annual *Environmental Mutagen Society (EMS)* Meeting on *Environmental Impacts on the Genome and Epigenome: Mechanisms and Risks*, October 12-19, 2011, Montreal, Canada.
- "Biomarker Studies of Occupational Exposure to Toxic Chemicals in China: A 20-Year Review", Invited plenary speaker at *International Conference on Environmental Pollution and Public Health (EPPH2011)*, May 10-12, 2011, Wuhan, China.
- "Systems Biology of Human Benzene Exposure", Invited speaker at BIT Life Sciences' 2nd *World DNA and Genome Day* (Track 3: System Biology), April 25-29, 2011, Dalian, China.
- 2010** "Chromosome-Wide Aneuploidy Study (CWAS) in Benzene-Exposed Workers", Invited speaker at *Benzene Litigation and Lymphoid Cancers: New Scientific Evidence*, December 9-10, 2010, Marina del Rey, California, USA.
- "Systems Biology of Human Benzene Exposure". Invited speaker at the 41st Annual *Environmental Mutagen Society (EMS)* Meeting on *Complex Systems in Biology and Risk Assessment*, October 23-27, 2010, Fort Worth, Texas, USA.
- "Ubiquitous formaldehyde exposure and public health concerns in China", Invited keystone speaker at *International Conference on Environmental Pollution and Public Health (EPPH2010)*, June 21-23, 2010, Chengdu, China.
- "Formaldehyde and Leukemia: Potential mechanisms and supporting evidence", Invited speaker at *Formaldehyde and Systemic Cancer - Expert Consultation Meeting* in Federal Institute for Risk Assessment, June 14-15, 2010, Berlin, Germany.

- “Towards Toxicity Testing in the 21st Century: A new global and systematic paradigm to identify potential human carcinogens” *Human Health Hazard Indicators Workshop* at Cal EPA, March 15-16, 2010, Sacramento, California, USA.
- 2009** “Formaldehyde and Leukemia: Biologically probable or implausible?” Invited technical expert as a solo speaker at *National Toxicology Program: 12th Report on Carcinogens (RoC)*, November 2-4, 2009, NIEHS, North Carolina, USA.
- “Benzene Induced Hematotoxicity: Susceptibility genes and DNA repair mechanisms”. Invited speaker at the 40th Annual *Environmental Mutagen Society (EMA) Meeting on Genomics in the Environmental Century*, October 24-28, 2009, St. Louis, Missouri, USA.
- “Spectrum of chromosomal aneuploidy, benzene exposure and leukemia risk”. Invited speaker at the 40th Annual *Environmental Mutagen Society (EMS) Meeting on Genomics in the Environmental Century*, October 24-28, 2009, St. Louis, Missouri, USA.
- “Systems biology of human benzene exposure”. Invited speaker at International Conference on *Benzene 2009: Health Effects and Mechanisms of Bone Marrow Toxicity Implications for t-AML and the Mode of Action Framework*, September 7-11, 2009, Munich, Germany.
- “Biomarker studies of occupational exposure to chemicals in China”. Invited speaker at the Environmental Toxicology Seminar, February 2009, University of California, Santa Cruz, California, USA.
- 2008** Chair & Organizer for *Symposium 8: Formaldehyde and Leukemia: Epidemiology, Potential Mechanisms, and Implications for Risk Assessment*, and Invited Speaker on “An overview of formaldehyde exposure and leukemia” at the 39th Annual *Environmental Mutagen Society (EMS) Meeting on Genes and the Environment: From Molecular Mechanisms to Risk*, October 18-22, 2008, Puerto Rico.
- “Spectrum of chromosomal alterations in lymphocytes in workers exposed to benzene.” Invited speaker for the Annual *American Association for Cancer Research (AACR) Meeting 2008*, April 11-16, 2008, San Diego, California, USA.
- “Benzene exposure, aneuploidy, and leukemia risk”. Invited speaker at Second Conference on *Aneuploidy and Cancer: Clinical and Experimental Aspect*, January 31-February 3, 2008, Oakland, California, USA.
- 2007** “Genotoxic effects of formaldehyde on human blood stem and progenitor cells”. Invited speaker at 38th Annual *Environmental Mutagen Society (EMS) Meeting on Mutational and Epigenetic Mechanisms of Susceptibility and Risks for Genetic Diseases*, October 20-24, 2007, Atlanta, Georgia, USA.
- “Biomarkers of human cancer risk”. Invited speaker at 38th Annual *Environmental Mutagen Society (EMS) Meeting on Mutational and Epigenetic Mechanisms of Susceptibility and Risks for Genetic Diseases*, October 20-24, 2007, Atlanta, Georgia, USA.
- 2006** “Gene expression profiling of peripheral blood mononuclear cells from benzene-exposed workers”. Invited speaker at 37th Annual *Environment Mutagenesis Society (EMS) Meeting on Genetic and Environmentally Induced Genotoxicity: Causes and Impact*, September 16-20, 2006, Vancouver, Canada.
- 2005** “Hematotoxicity in workers exposed to low levels of benzene in China”. Invited speaker at a special Workshop organized by EPA and SBRP at UCB on *Relationships for Chemicals Associated with Non-Cancer Effects and Their Policy Implications*, January 27-28, 2005, Oakland, California, USA.

<p>2004</p> <p>2002</p> <p>1998</p> <p>1995</p> <p>CLASS LECTURES AT UC BERKELEY</p>	<p>“Using new technologies to discover novel biomarkers for benzene”. Invited speaker at The Third International Academic Conference on <i>Environmental and Occupational Medicine</i>, November 10-12, 2004, Shanghai, China.</p> <p>“Molecular cytogenetics of benzene exposure”. Invited speaker at International Conference on <i>Recent Advances in Benzene Toxicity</i>, October 9-12, 2004, Munich, Germany.</p> <p>“Aneuploidy in leukemia development”. Invited speaker at First Conference on <i>Aneuploidy and Cancer</i>, January 23-26, 2004, Oakland, California, USA.</p> <p>“Biomarkers of benzene and leukemia risk”. Invited speaker at <i>Guandong Poison Control Center (GDPCC)</i>, July 2002, Guanzhou, China.</p> <p>“The development and methods of chromosomal technology”. Invited speaker at <i>Chinese Academy of Preventive Medicine</i>, February 2002, Beijing, China.</p> <p>“Molecular cytogenetics of benzene”. Invited speaker at the <i>Third National Symposium in Industrial Toxicology</i>, October 9-12, 1998, Xiamen, China.</p> <p>“Benzene-induced chromosomal damage detected by FISH”. Invited speaker at International Conference on <i>The Toxicity, Carcinogenesis, and Epidemiology of Benzene</i>, June 17-20, 1995, Piscataway, New Jersey, USA.</p>
<p>PUBLICATIONS</p> <p>Books</p>	<p>“Health Risk Assessment”. Co-instructor for <i>PH220C – Spring 2018 course</i> at School of Public Health.</p> <p>“Practical Toxicology”. Instructor for <i>PH270C – Spring 2007- 2016 course</i> at School of Public Health and Department of Nutritional Sciences and Toxicology.</p> <p>Various Topics. Invited speaker for <i>PH270B Advanced Toxicology – Spring 2005-2016 course</i> at School of Public Health.</p> <p>“Genetic and Molecular Epidemiology and Human Health in 21st Century.” <i>PH256</i> at School of Public Health (Molecular cytogenetic lab section and tour)</p> <p>“Formaldehyde Exposure and Leukemia”. Invited lecturer for <i>PH150B Introduction to Environmental Health Sciences – Spring and Fall, 2009-2011</i> at School of Public Health.</p> <p>“Nutrition and Toxicology Laboratory”. Co-instructor for <i>NST171 Nutrition and Toxicology Laboratory – Fall 2006, 2007 and 2008 courses</i> at the Department of Nutritional Sciences and Toxicology.</p> <p>“Gene Expression Studies in Human”. Co-instructor for <i>NST290 Toxicogenomics Seminar – Spring 2006 course</i> at Department of Nutritional Sciences and Toxicology.</p> <p>“Hematotoxicity in Workers Exposed to Low levels of Benzene in China”. Invited speaker for <i>NST11 Toxicology – Spring 2005 course</i> at Department of Nutritional Sciences and Toxicology.</p> <p>Various topics. Invited speaker for <i>Toxicology I – Fall 2002-2003 course</i> at School of Public Health.</p>
<p>Book Chapters</p>	<p>2018 Zhang, L. <i>Formaldehyde: Exposure, Toxicity, and Health Effects</i>. 2018; Issues in Toxicology, United Kingdom, 389p.</p>

- 2016 McHale CM, Smith MT, **Zhang L** (2016). Application of Transcriptomics in Exposed Human Populations: Benzene as an Example, in *"Toxicogenomics in Predictive Carcinogenicity"*, Waters MD and Thomas RS, eds., Royal Society of Chemistry. pp. 352-389. ISBN-978-1-78262-162-1.
- 2014 Walker MK, Betensky RA, Carvan III MJ, Davis S, Duan N, Engel SM, Grandis JR, Kelsey K, Kritchevsky SB, Olson JR, Prins GS, Suh HH, Weisskopf M, White LA & **Zhang L** (2014). *Veterans and Agent Orange: update 2012*, Institute of Medicine, The National Academies Press, Washington, D.C. ISBN-10: 0-309-28886-X.
- 2012 Walker MK, Bell E, Burchiel SW, Dietert RR, Duan N, Hauser RB, Kelsey K, Kerkvliet NI, Kritchevsky SB, Lees PSJ, McCauley LA, Olson JR, Shefner JM, Skinner M & **Zhang L** (2012). *Veterans and Agent Orange: update 2010*, Institute of Medicine, The National Academies Press, Washington, D.C. ISBN-10: 0-309-21447-5.
- 2011 McHale C, **Zhang L**, Hubbard AE, Smith MT (2011). Toxicogenomic studies in human populations, in *"Applications of Toxicogenomics in Safety Evaluation and Risk Assessment"*, Boverhof, DR and Gollapudi, BB, eds., John Wiley & Sons, Inc. pp. 177-206. ISBN: 978-0-470-44982-0.
- 2010 Kacew S, Alexander BH, Bleecker ML, Carlson GP, Cowan LD, Davis ME, Frey HC, Landolph JR, Meek ME, McMillian DC, Newland MC, Quint J, Rosner GL, Rusyn I, Schulte-Hermann R, Schultz IR, Snyder R, White RF, **Zhang L** & Zhu Y (2010). *Review of the Environmental Protection Agency's Draft IRIS Assessment of Tetrachloroethylene*, National Research Council, The National Academies Press, Washington, D.C. ISBN-10: 0-309-15094-9.
- 2005 Gunn L, **Zhang L**, Smith MT (2005). Methods for Genetic Testing II: New methods for assessing acquired DNA damage in humans without cancer, in *"Cancer Risk Assessment"*, P.G. Shields, ed., Taylor & Francis. Boca Raton, Fl, pp. 77-97. ISBN-10:0-8247-2984-6.
- 2002 Gunn L, **Zhang L**, Forrest MS, Holland NT, Smith MT (2002). Biomarkers of early effect in the study of cancer risk, in *"Biomarkers of Environmentally Associated Disease: Technologies, Concepts, and Perspectives"*, Wilson SH and Suk WA, eds., Lewis Publishers, pp. 319-334. ISBN-10: 1-5667-0596-7.
- 2000 Holland NT, **Zhang L**, Smith MT (2000). Cytogenetic biomarkers and air pollution, in *"Relationship between Acute and Chronic Effects of Air Pollution"*, U. Heinrich & U. Mohr, eds., ILSI Press, Washington, D.C., pp. 65-78.
- 1994 **Zhang L**, Smith MT, Bandy B, Tamaki SJ, Davison AJ (1994). Role of quinones, active oxygen species and metals in the genotoxicity of 1,2,4-benzenetriol, a metabolite of benzene, in *"Free radicals in the environment, medicine and toxicology"*, Vol. 8. Nohl, H., Esterbauer, H. and Rice-Evans, eds., Richelieu, London, pp. 521-62.

Papers in Peer-Reviewed Journals

- 2018 **168.** De Smith AJ, Walsh KM, Francis SS, Zhang C, Hansen HM, Smirnov I, Morimoto L, Whitehead TP, Kang A, Shao X, Barcellos LF, McKean-Cowdin R, **Zhang L**, Fu C, Wang R, Yu H, Hoh J, Dewan AT, Metayer C, Ma X, Wiemels JL (2018). BMI1 enhancer polymorphism underlies chromosome 10p12.31 association with childhood acute lymphoblastic leukemia. *Int J Cancer*. [Epub ahead of print] PMID: 29923177
- 167.** Daniels SI, Chambers JC, Sanchez SS, La Merrill M, Hubbard AE, Macherone A, McMullin M, **Zhang L**, Elliott P, Smith MT, Kooner J (2018). Elevated levels of organochlorine pesticides in South Asian immigrants are associated with an increased risk of diabetes. *J Endocr Soc*. 2(8):832-841. PMID: 30019022. PMCID: PMC6041775.

166. Guo J, Zhao Y, Jiang X, Li R, Xie H, Ge L, Xie B, Yang X, **Zhang L** (2018). Exposure to formaldehyde perturbs the mouse gut microbiome. *Genes (Basel)*. 9(4):pii:E192. PMID: 29614050. PMCID: PMC5924534.
165. Grigoryan H, Edmands WMB, Lan Q, Carlsson H, Vermeulen R, **Zhang L**, Yin SN, Li GL, Smith MT, Rothman N, Rappaport SM (2018). Adductomic signatures of benzene exposure provide insights into cancer induction. *Carcinogenesis*. 39(5):661-668. PMID: 29538615. PMCID: PMC5932554.
164. Tachachartvanich P, Sangsuwan R, Ruiz HS, Sanchez SS, Durkin KA, Zhang L, Smith MT (2018). Assessment of the endocrine-disrupting effects of trichloroethylene and its metabolites using *in vitro* and *in silico* approaches. *Environmental Science & Technology*. 52(3): 1542-1550. PMID: 29294279.
163. McHale MM, Osborne G, Morello-Frosch R, Salmon AG, Sandy MS, Solomon G, **Zhang L**, Smith MT, Zeise L (2018). Assessing health risks from multiple environmental stressors: Moving from G x E to I x E. *Mutat Res Rev*. 775:11-20. PMID: 29555026
- 2017 162. De La Rosa VY, Asfaha J, Fasullo M, Loguinov A, Li P, Moore LE, Rothman N, Nakamura J, Swenberg J, Scelo G, **Zhang L**, Smith MT, Vulpe CD (2017). High-throughput functional genomics identifies modulators of TCE metabolite genotoxicity and candidate susceptibility genes. *Toxicol Sci*. 160(1):111-20. PMID: 28973557.
161. de la Rosa R, Steinmaus C, Akers NK, Conde L, Ferreccio C, Kalman D, Zhang KR, Skibola CF, Smith AH, **Zhang L**, Smith MT (2017). Associations between arsenic (+3 oxidation state) methyltransferase (*AS3MT*) and N-6 adenine-specific DNA methyltransferase 1 (*N6AMT1*) polymorphisms, arsenic metabolism, and cancer risk in a Chilean population. *Environ Mol Mutagen*. 58(6):411-22. PMID: 28640505. PMCID: PMC5515250.
160. de Smith AJ, Kaur M, Gonseth S, Endicott A, Selvin S, **Zhang L**, Roy R, Shao X, Hansen HM, Kang AY, Walsh KM, Dahl GV, McKean-Cowdin R, Metayer C, Wiemels JL (2017). Correlates of prenatal and early-life tobacco smoke exposure and frequency of common gene deletions in childhood acute lymphoblastic leukemia. *Cancer Res*. 77(7):1674-83. PMID: 28202519. PMCID: PMC5380517.
159. Regazzoni LG, Grigoryan H, Ji Z, Chen X, Daniels SI, Huang D, Sanchez S, Tang N, Sillé FC, Iavarone AT, Williams ER, **Zhang L**, Rappaport SM (2017). Using lysine adducts of human serum albumin to investigate the disposition of exogenous formaldehyde in human blood. *Toxicol Lett*. 268:26-35. PMID: 28104429. PMCID: PMC5555303.
158. Wei C, Wen H, Yuan L, McHale C, Li H, Wang K, Yuan J, Yang X, **Zhang L** (2017). Formaldehyde induces toxicity in mouse bone marrow and hematopoietic stem/progenitor cells and enhances benzene-induced adverse effects. *Arch Toxicol*. 91(2):921-33. PMID: 27339418.
157. Chen X, Guo X, He P, Nie J, Yan X, Zhu J, **Zhang L**, Mao G, Wu H, Liu Z, Aga D, Xu P, Smith MT, Ren X (2017). Interactive Influence of *N6AMT1* and *As3MT* Genetic Variations on Arsenic Metabolism in the Population of Inner Mongolia, China. *Toxicol Sci*. 155(1):124-34. PMID: 27637898. PMCID: PMC5216648.
- 2016 156. Walker DI, **Zhang L**, Vermeulen R, Smith MT, Hu W, Purdue MP, Tang X, Reiss B, Kim S, Li L, Huang H, Pennell KD, Jones DP, Rothman N, Lan Q (2016). High-resolution metabolomics study of occupational exposure to trichloroethylene. *Int J Epidemiol*. 45(5):1517-1527. PMID: 27707868. PMCID: PMC5100622.
155. North M, Gaytán BD, Romero C Jr., De La Rosa V, Loguinov A, Smith MT, **Zhang L**, Vulpe CD (2016). Functional toxicogenomic profiling expands insight into modulators of formaldehyde toxicity in yeast. *Front Genet*. 7:200. eCollection 2016. PMID: 27909446.

154. Chen X, Zhang LQ, Huang JJ, Song FJ, **Zhang L**, Qian QM, Tevathan E, Mao HJ, Han B, Vaughn M, Chen KX, Liu YM, Chen J, Zhao BX, Jiang GH, Gu Q, Bai ZP, Dong GH, Tang NJ (2016). Long-term exposure to urban air pollution and lung cancer mortality: A 12-year cohort study in Northern China. *Sci Total Environ.* 571:855-61. PMID: 27425436.
153. Kaur M, de Smith AJ, Selvin S, **Zhang L**, Cunningham M, Kang MW, Hansen HM, Cooper RM, McKean-Cowdin R, Wiemels JL, Metayer C (2016). Tobacco Smoke and *Ras* Mutations Among Latino and Non-Latino Children with Acute Lymphoblastic Leukemia. *Arch Med Res.* 47(8):677-83. PMID: 28476195. PMCID: PMC5424620.
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