DATE: March 13, 2023

NAME: Yi-Hua Jan

PRESENT TITLE: Research Assistant Professor

E-MAIL ADDRESS: yjan@eohsi.rutgers.edu

CITIZENSHIP: United States of America

EDUCATION:

A. Tamkang University
Taipei, Taiwan
Bachelor of Arts: Major in Chemistry June 1991

B. National Tsing Hua University
Hsinchu, Taiwan
Master of Science: Environmental Chemistry June 1993

C. Rutgers University
New Brunswick, NJ
Doctor of Philosophy: Environmental Sciences (Toxicology Option) May 2007
Dissertation Title: Gender- and Tissue-dependent Expression of Individual Rat P450 3A Enzymes and Their Structure-Function Relationships

POSTGRADUATE TRAINING:

A. UMDNJ/Rutgers University
Piscataway, NJ
Postdoctoral Fellow: Toxicology
Research Focus: Mechanisms of chemical-induced toxicity and identification of countermeasures against chemical intoxication
2007-2014

ACADEMIC APPOINTMENTS:

Department of Environmental and Occupational Medicine
Rutgers Robert Wood Johnson Medical School
Assistant Professor
Nov. 2014-June 2015

Department of Environmental and Occupational Health
Rutgers University School of Public Health
Assistant Professor
July 2015-present

MEMBERSHIPS, OFFICES AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES

Society of Toxicology, Associate Member, 2009-present
American Society for Pharmacology & Experimental Therapeutics, 2014-present

HONORS AND AWARDS

5th Annual CounterACT Meeting Travel Award, NIH, 2011
Individual National Research Service Award Postdoctoral Fellowship, "Mechanism of Sulfur Mustard Toxicology" (F32-ES017389), UMDNJ-Robert Wood Johnson Medical School, 2009-2011
UMDNJ Postdoctoral Fellowship Supplement, 2009-2010
NIH Institutional Training Grant Postdoctoral Fellowship, "Training in Environmental Toxicology" (T32-ES007148), UMDNJ-Rutgers Joint Graduate Program in Toxicology, Rutgers University, 2007-2008

TEACHING RESPONSIBILITIES:

A. Lectures or Course Directorships

Tutorials: 1. SpectraMax Microplate Reader
2. Molecular Docking and PyMOL Molecular Graphics System
3. JASCO HPLC System
4. Leica TCS SP8 STED 3X Confocal Microscope System

B. Research Training

Pre Doctoral Students

Irene Wohlman, MS	2011-2016
Ronald G. Udasin, BA	2010-2015
Gabriella M. Composto	2016-2018
Simon Lang	2017-2018
Yunqi An	2018-present
Alyssa Bellomo	2019-2020
Chistopher Stradford	2021

Undergraduate Students

Jennifer Tao	2016-2017
Ricardo Navarro	2017 summer research
Amy Lin	2018 summer research

GRANT SUPPORT:

Active Research Support

1. NIH Research Project Grant
Grant Number: U54-AR055073 **PI:** Laskin, JD
Award Start Date: 09/15/2006 **Award End Date:** 08/31/2025
Award Title: Rutgers University CounterACT Research Center of Excellence
The Center consists of three Research and Development Projects, each focused on a major vesicant target: the skin, the cornea and the lung. The overall goal of the Center is to identify specific targets in these tissues that can be used for therapeutic intervention from exposure to vesicants including sulfur mustard, nitrogen mustard, and other mechanistically related chemical threat agents.
Role: Co-Investigator **Effort: 9 calendar months**

2. NIH Research Project Grant
Grant Number: U01-NS108956 **PI's:** Laskin, JD and Richardson, JR
Award Start Date: 9/30/2018 **Award End Date:** 9/29/2023
Award Title: Advanced Development of Drugs to Mitigate Parathion Intoxication
The objective of this proposal is to develop second generation of therapeutics that will mitigate mortality and morbidity caused by acute exposure to parathion, an organophosphate (OP) insecticide that is considered a high priority chemical threat.
Role: Co-Investigator **Effort: 3 calendar months**

Completed Research Support

1. **NIH Research Project Grant**
   Grant Number: U01-NS079249 **PI's:** Laskin, JD and Richardson, JR
   Award Start Date: 9/16/2013 **Award End Date:** 8/31/2019
   Award Title: ***Developing Drugs to Mitigate Parathion Intoxication***
   The overall goal of this research is to develop a novel class of therapeutics that will mitigate mortality and morbidity caused by acute exposure to parathion.
   Role: Co-Investigator

2. **NIH Research Project Grant**
   Grant Number: R21-NS072097 **PI:** Laskin, JD
   Award Start Date: 9/30/2010 **Award End Date:** 8/31/2013
   Award Title: ***Development of Drugs to Mitigate Parathion Intoxication***
   The goal of this research is to develop a novel class of therapeutics that will mitigate parathion intoxication.
   Role: Co-Investigator

3. **NIH Research Project Grant**
   Grant Number: F32-ES017389 **PI:** Jan, YH
   Award Start Date: 6/01/2009 **Award End Date:** 5/31/2011
   Award Title: *Mechanism of Sulfur Mustard Toxicology*
   The goal of this project is to identify sites of action of sulfur mustard that can be targeted for drug treatment.
   Role: Principle Investigator

4. **NIEHS/Center for Environmental Exposures and Disease, pilot grant**
   Award Start Date: 7/25/2016 **Award End Date:** 3/31/2017
   Award Title: *Methylmercury Toxicology*
   The goal of this project is to study the molecular mechanisms of methylmercury-induced toxicity
   Role: Co-Investigator (PI: Laskin, JD)

Publications

A. Refereed Original Journal Articles

1. Mishin V, Heck DE, **Jan YH**, Richardson JR, Laskin JD. Distinct effects of form selective cytochrome P450 inhibitors on cytochrome P450-mediated monooxygenase and hydrogen peroxide generating NADPH oxidase. *Toxicol Appl Pharmacol*. 2022 Nov 15; 455:116258. doi: 10.1016/j.taap.2022.116258.. PMID: 36174671.
2. **Jan YH**, Heck DE, An Y, Laskin DL, Laskin JD. Nitrogen mustard alkylates and cross-links p53 in human keratinocytes. *Chem Res Toxicol.* 2022;35(4):636-650. doi: 10.1021/acs.chemrestox.1c00420. PMID: 35312310.
3. **Jan YH**, Heck DE, Laskin DL, Laskin JD. DNA damage signaling in the cellular responses to mustard vesicants. *Toxicol. Lett.* 2020 Jun 15; 326:78-82. doi: 10.1016/j.toxlet.2020.03.008. PMID: 32173488.
4. Guillon CD, **Jan YH**, Heck DE, Mariano TM, Rapp RD, Jetter M, Kardos K, Whittemore M, Akyea E, Jabin I, Laskin JD, Heindel ND. Phototoxicity of 7-oxycoumarins with keratinocytes in culture. *Bioorg Chem.* 2019 Aug; 89:103014. doi: 10.1016/j.bioorg.2019.103014. PMID: 31170642; PMCID: PMC6656587.
5. **Jan YH**, Heck DE, Laskin DL, Laskin JD. The sulfur mustard analog mechlorethamine (bis(2-chloroethyl)methylamine) modulates cell cycle progression via the DNA damage response in human lung epithelial A549 cells. *Chem Res Toxicol*. 2019 Jun 17;32(6):1123-1133. doi: 10.1021/acs.chemrestox.8b00417. PMID: 30964658; PubMed Central PMCID: PMC6626495
4. Guillon CD, **Jan YH**, Foster N, Ressner J, Heck DE, Laskin JD, Heindel ND. Synthetically modified methoxsalen for enhanced cytotoxicity in light and dark reactions. *Bioorg Med Chem Lett*. 2019;29(4):619-622. doi: 10.1016/j.bmcl.2018.12.048. PMID: 30638875; PMCID: PMC6364570
5. Guillon CD, **Jan YH**, Foster N, Choudhuri M, Saxena J, Mariano TM, Heck DE, Laskin JD, Heindel ND. Synthesis and evaluation of water-soluble dimethylaminoethyl ethers of methoxsalen for proliferative skin disorders. *Heterocyclic Lett*. 2018; 8(4): 729-736.
6. Szilagyi JT, Fussell KC, Wang Y, **Jan YH**, Mishin V, Richardson JR, Heck DE, Yang S, Aleksunes LM, Laskin DL, Laskin JD. Quinone and nitrofurantoin redox cycling by recombinant cytochrome b5 reductase. *Toxicol Appl Pharmacol*. 2018;359:102-107. doi: 10.1016/j.taap.2018.09.011. PMID: 30222979.
7. Laskin JD, **Jan YH**, Jetter MM, Guillon CD, Mariano TM, Heck DE, Heindel ND. Identification of a pyranocoumarin photosensitizer that is a potent inhibitor of keratinocyte growth. *Photochem Photobiol*. 2018;94(3):577-582. doi: 10.1111/php.12882. PMID: 29315592.
8. Yang S, **Jan YH**, Mishin V, Heck DE, Laskin DL, Laskin JD. Diacetyl/l-xylulose reductase mediates chemical redox cycling in lung epithelial cells. *Chem Res Toxicol* 2017 ;30(7):1406-1418. doi: 10.1021/acs.chemrestox.7b00052. PMID: 28595002; PMCID: PMC5708134.
9. Szilagyi JT, Mishin V, Heck DE, **Jan YH**, Aleksunes LM, Richardson JR, Heindel ND, Laskin DL, Laskin JD. Selective targeting of heme protein in cytochrome P450 and nitric oxide synthase by diphenyleneiodonium. *Toxicol Sci* 2016;151(1):150-9. doi: 10.1093/toxsci/kfw031. PMID: 26880746; PMCID: PMC4914801.
10. **Jan YH**, Heck DE, Casillas RP, Laskin DL, Laskin JD. Thioredoxin cross-linking by nitrogen mustard in lung epithelial cells: formation of multimeric thioredoxin/thioredoxin reductase complexes and inhibition of disulfide reduction. *Chem Res Toxicol* 2015;28(11):2091-103. doi: 10.1021/acs.chemrestox.5b00194. PubMed PMID: 26451472; PMCID: PMC4877171.
11. **Jan YH**, Richardson JR, Baker AB, Mishin V, Heck DE, Laskin DL, Laskin JD. Vitamin K3 (menadione) redox cycling inhibits cytochrome P450-mediated metabolism and inhibits parathion intoxication. *Toxicol Appl Pharmacol* 2015;288(1):114-20. doi: 10.1016/j.taap.2015.07.023. PMID: 26212258; PMCID: PMC4579064.
12. Yang S, **Jan YH**, Mishin V, Richardson JR, Hossain MM, Heindel ND, Heck DE, Laskin DL, Laskin JD. Sulfa drugs inhibit sepiapterin reduction and chemical redox cycling by sepiapterin reductase. *J Pharmacol Exp Ther* 2015;352(3):529-40. doi: 10.1124/jpet.114.221572. PMID: 25550200; PMCID: PMC4352594.

13. **Jan YH**, Heck DE, Dragomir AC, Gardner CR, Laskin DL, Laskin JD. Acetaminophen reactive intermediates target hepatic thioredoxin reductase. *Chem Res Toxicol* 2014;27(5):882-94. doi: 10.1021/tx5000443. PMID: 24661219; PMCID: PMC4033643.
14. **Jan YH**, Heck DE, Malaviya R, Casillas RP, Laskin DL, Laskin JD. Cross-linking of thioredoxin reductase by the sulfur mustard analog mechlorethamine (methyl bis(2-chloroethyl) amine) in human lung epithelial cells and rat lung: selective inhibition of disulfide reduction but not redox cycling. *Chem Res Toxicol* 2014;27(1):61-75. doi: 10.1021/tx400329a. PMID: 24274902; PMCID: PMC4070429.
15. Yang S, **Jan YH**, Gray JP, Mishin V, Heck DE, Laskin DL, Laskin JD. Sepiapterin reductase mediates chemical redox cycling in lung epithelial cells. *J Biol Chem.* 2013;288(26):19221-37. doi: 10.1074/jbc.M112.402164. PMID: 23640889; PMCID: PMC3696693.
16. **Jan YH**, Heck DE, Gray JP, Zheng H, Casillas RP, Laskin DL, Laskin JD. Selective targeting of selenocysteine in thioredoxin reductase by the half mustard 2-chloroethyl ethyl sulfide in lung epithelial cells *Chem Res Toxicol* 2010;23(6):1045-53. doi: 10.1021/tx100040k. PMID: 20345183; PMCID: PMC2891120.
17. Laskin JD, Black AT, **Jan YH**, Sinko PJ, Heindel ND, Sunil V, Heck DE, Laskin DL. Oxidants and antioxidants in sulfur mustard-induced injury *Ann N Y Acad Sci* 2010;1203:92-100. doi: 10.1111/j.1749-6632.2010.05605. PMID: 20716289; PMCID: PMC4023473.
18. **Jan YH**, Mishin V, Busch CM, Thomas PE. Generation of specific antibodies and their use to characterize sex differences in four rat P450 3A enzymes following vehicle and pregnenolone 16α-carbonitrile treatment *Arch Biochem Biophys* 2006;446(2):101-10. PMID: 16448623.
19. Tsai CM, Perng RP, Chen MH, **Jan YH**, Hung MC, Ku TY, Chang KT. Greater enhancement of chemosensitivity by caffeine in high-p185^{neu}-expressing human non-small-cell lung cancer cell lines, *J Natl Cancer Inst* 1994; 86(13):1018-20. Erratum in: J Natl Cancer Inst 1994;86(16):1256. PMID: 7911844.

B. Books, Monographs and Chapters

1. Heck DE, Joseph LB, Murthy P, Ansehl A, **Jan YH**, Wahler GC, Kim HD. Chapter 13: Technology vs. Mercury: The Metal That Scars Civilization. In: Murthy P., Ansehl A. (eds) Technology and Global Public Health. (2020) Springer, Cham. https://doi.org/10.1007/978-3-030-46355-7_18.
2. **Jan YH**, Richardson JR, Baker AA, Mishin V, Heck DE, Laskin DL, Laskin JD. Novel approaches to mitigating parathion toxicity: targeting cytochrome P450-mediated metabolism with menadione. *Ann N Y Acad Sci*. 2016;1378(1):80-86. doi: 10.1111/nyas.13156. PMID: 27441453; PMCID: PMC5220671.
3. Laskin JD, Black AT, **Jan YH**, Sinko PJ, Heindel ND, Sunil V, Heck DE, Laskin DL. Oxidants and antioxidants in sulfur mustard-induced injury *Ann N Y Acad Sci*. 2010;1203:92-100. doi: 10.1111/j.1749-6632.2010.05605. PMID: 20716289; PMCID: PMC4023473.

E. Abstracts

1. Lin KS, Hsieh MK, **Jan YH**, Lo JM; Preparation and characterization of Tc-99m L, L-ECD; Annual Meeting of the Chinese Chemical Society, Taichung, Taiwan, 1991; *Abstracts for Annual Meeting of the Chinese Chemical Society*, R.O.C. 152
2. Yao HH, Huang WT, **Jan YH**, Li CD, Lin ZH, Lo JM; Preparation of Tc-99m labeled L, L-ethylene dicysteine as a renogram agent; Taoyuan, Taiwan, 1993; *Proceedings of 1993 Symposium on Specific Research Prefects of Atomic Energy Council*, R.O.C. 67-85.
3. **Jan YH**, Yao HH, Huang WT, Chan SN, Tsai SC, Lo JM; Labeling of human immunoglobulin G with technetium-99m by direct methods; Taoyuan, Taiwan, 1993; *Proceedings of 1994 Symposium on Specific Projects of Atomic Energy Council II* 35-40.
4. Tsai CM, Perng RP, Chen MH, **Jan YH**, Chang KT; Greater enhancement of chemosensitivity by caffeine in high-p185^{neu}-expressing human non-small-cell lung cancer cell lines; AACR Annual Meeting 1994, San Diego, CA, 1994; *Proceedings of the American Association for Cancer Research* 35:355.
5. **Jan YH**, Mishin V, Thomas PE; Quantitation of CYP3A1, CYP3A2, CYP3A9, and CYP3A18 proteins in different tissues from control and PCN-treated rats; 12th North American ISSX meeting, Providence, RI, 2003; *Drug Metabolism Reviews* 35(S2):134.

6. **Jan YH**, Thomas PE; Identification of some key amino acids in rat CYP3A18 responsible for metabolizing testosterone in an unusual regioselective position: 16 α hydroxylation; 7th International ISSX meeting, Vancouver, B.C., Canada, 2004; *Drug Metabolism Reviews* 36(S1):75.
7. **Jan YH**, Gray JP, Black AT, Gerecke DR, Casillas RP, Laskin DL, Laskin JD; Mechanism of inhibition of thioredoxin reductase in lung epithelial cells by the vesicant 2-chloroethyl ethyl sulfide; 47th Society of Toxicology Annual Meeting, Seattle, WA, 2008; *The Toxicologist* 102(1):27.
8. **Jan YH**, Mishin V, Gray JP, Heck DE, Laskin DL, Laskin JD; Mechanisms of menadione-induced inhibition of thioredoxin reductase in lung tumor cells; The 2008 Annual Retreat on Cancer Research in New Jersey, Piscataway, NJ, 2008; p87.
9. **Jan YH**, Gray JP, Gerecke DR, Zhang H, Casillas RP, Heck DE, Laskin DL, Laskin JD; Identification of selenocysteine adducts in thioredoxin reductase by 2-chloroethyl ethyl sulfide (CEES), a model sulfur mustard vesicant; 48th Society of Toxicology Annual Meeting, Baltimore, MD, 2009; *The Toxicologist* 108(1):128.
10. **Jan YH**, Gray JP, Gerecke DR, Zhang H, Heck DE, Laskin DL, Laskin JD; Alkylating agent target selenocysteine in thioredoxin reductase; The 2009 Annual Retreat on Cancer Research in New Jersey, Piscataway, NJ, 2009; p69.
11. Heck DE, **Jan YH**, Black AT, Gray JP, Laskin DL, Laskin JD; Role of cellular redox balance in sulfur mustard-induced lung injury; American Thoracic Society 2009 International Conference; San Diego, CA, 2009.
12. **Jan YH**, Heck DE, Casillas RP, Laskin DL, Laskin JD; Selective cross-linking of thioredoxin reductase in lung epithelial cells by nitrogen mustard, a model sulfur mustard vesicant; 49th Society of Toxicology Annual Meeting; Salt Lake City, UT, 2010; *The Toxicologist* 114(1):13.
13. **Jan YH**, Laskin JD, Laskin DL, Casillas RP, Gray JP, Heck DE; Targeting oxidative stress pathways to develop therapeutics for sulfur mustard-induced lung toxicity: the thioredoxin reductase system; 16th Bioscience Review, Hunt Valley, MD, 2010.
14. **Jan YH**, Heck DE, Laskin DL, Liu Y, Dragomir A, Laskin JD; Targeting of thioredoxin reductase by the acetaminophen metabolite N-acetyl-p-benzoquinone imine; 50th Society of Toxicology Annual Meeting, Washington, D.C., 2011; *The Toxicologist* 120(2):98.
15. Udasin RG, **Jan YH**, Wang Y, Heck DE, Guillon C, Fabio K, Heindel ND, Laskin DL, Laskin JD; Distinct alkylation signatures of nitrogen mustard and α-halo cinnamaldehydes on the active site of thioredoxin reductase; 51th Society of Toxicology Annual Meeting, San Francisco, CA, 2012; *The Toxicologist* 126(1):287.
16. Wohlman I, **Jan YH**, Heck DE, Casillas RP, Laskin DL, Laskin JD; Thioredoxin reductase mediates nitrogen mustard-induced activation of NF-κB/STAT3 signaling in lung epithelial cells; 51th Society of Toxicology Annual Meeting, San Francisco, CA, 2012; *The Toxicologist* 126(1):289.
17. **Jan YH**, Laskin DL, Laskin JD; Protection against acetaminophen hepatotoxicity by selenocompounds: role of thioredoxin reductase; 51th Society of Toxicology Annual Meeting, San Francisco, CA, 2012; *The Toxicologist* 126(1):196.
18. Laskin JD, **Jan YH**, Heck DE, Casillas RP, Laskin DL; Ebselen as a countermeasure for nitrogen mustard vesicant-induced toxicity; 52th Society of Toxicology Annual Meeting, San Antonio, TX, 2013. *The Toxicologist* 132(1):70.
19. **Jan YH**, Wohlman I, Heck DE, Casillas RP, Laskin DL, Laskin JD; Identification of the thioredoxin as a molecular target for sulfur mustard analog vesicating agents; 52th Society of Toxicology Annual Meeting, San Antonio, TX, 2013; *The Toxicologist* 132(1):71.
20. Wohlman I, **Jan YH**, Heck DE, Casillas RP, Laskin DL, Laskin JD; Cross-linking of the thioredoxin system by nitrogen mustard in lung epithelial cells; 52th Society of Toxicology Annual Meeting, San Antonio, TX, 2013; *The Toxicologist* 132(1):75.
21. **Jan YH**, Heck DE, Casillas RP, Laskin DL, Laskin JD; Identification of the glutaredoxin as a molecular target for the sulfur mustard analog bis(2-chloroethyl)methylamine; 53th Society of Toxicology Annual Meeting, Phoenix, AZ, 2014; *The Toxicologist* 138(1):146.
22. **Jan YH**, Dragomir AC, Gardner CR, Heck DE, Laskin DL, LaskinJD; Targeting hepatic thioredoxin reductase by the acetaminophen metabolite *N*-acetyl-*p*-benzoquinone imine; Annual Meeting at Experimental Biology 2014, San Diego, CA, 2014; *FASEB J* 28(1-Supplement):844.15.
23. **Jan YH**, Heck DE, Casillas RP, Laskin DL, Laskin JD; Thioredoxin cross-linking by the sulfur mustard analog mechlorethamine (methylbis(2-chloroethyl)amine) in lung epithelial

cells; 54th Society of Toxicology Annual Meeting, San Diego, CA, 2015; *The Toxicologist* 144(1):443.

24. Szilagyi JT, Mishin V, Heck DE, **Jan YH**, Richardson JR, Laskin DL, Laskin JD; Targeting heme in cytochrome P450 to inhibit mixed function oxidase reactions; 54th Society of Toxicology Annual Meeting, San Diego, CA, 2015; *The Toxicologist* 144(1):217.
25. Yang S, **Jan YH**, Mishin V, Richardson JR, Heindel ND, Heck DE, Laskin DL, Laskin JD. Inhibition of sepiapterin mediated formation of dihydrobiopterin and chemical redox cycling by sulfa drugs; Annual Meeting at Experimental Biology 2015, Boston, MA, 2015; *FASEB J* 29(1-Supplement):621.14.
26. **Jan YH**, Heck DE, Laskin DL, Laskin JD; Role of the thioredoxin system in the mechanism of action of nitrogen mustard; The 2015 Annual Retreat on Cancer Research in New Jersey, Piscataway, NJ, 2015; p60.
27. Yang S, **Jan YH**, Mishin V, Richardson JR, Heindel ND, Heck DE, Laskin DL, Laskin JD; Sepiapterin and tetrabiopterin metabolism in PC12 tumor cells; The 2015 Annual Retreat on Cancer Research in New Jersey, Piscataway, NJ, 2015; p55.
28. Szilagyi JT, Mishin V, Heck DE, **Jan YH**, Richardson JR, Laskin DL, Laskin JD; Diphenylene iodonium targets heme to inhibit reactive oxygen production by cytochrome P450; The 2015 Annual Retreat on Cancer Research in New Jersey, Piscataway, NJ, 2015; p53.
29. **Jan YH**, Heck DE, Mishin V, Casillas RP, Laskin DL, Laskin JD; Peroxiredoxins are molecular targets for the sulfur mustard analog mechlorethamine in human keratinocytes; 55th Society of Toxicology Annual Meeting, New Orleans, LA, 2016; *The Toxicologist* 150(1):258.
30. Heck DE, **Jan YH**, Casillas RP, Laskin DL, Laskin JD; Activation of thioredoxin-regulated signaling in human lung epithelial cells by nitrogen mustard vesicants; 55th Society of Toxicology Annual Meeting, New Orleans, LA, 2016; *The Toxicologist* 150(1):258.
31. **Jan YH**, Heck DE, Laskin DL, Laskin JD; Differential reactivity of the sulfur mustard analogs mechlorethamine and chlorambucil with the thioredoxin system; 56th Society of Toxicology Annual Meeting, Baltimore, MD, 2017; *The Toxicologist* 156(1):147.
32. Yang S, **Jan YH**, Mishin V, Heck DE, Laskin DL, Laskin JD; Inhibition of dicarbonyl/L-xylulose reductase by methylmercury in A549 lung epithelial cells blocks carbonyl metabolism; 56th Society of Toxicology Annual Meeting, Baltimore, MD, 2017; *The Toxicologist* 156(1):260.
33. **Jan YH**, Heck DE, Laskin DL, Laskin JD; Nitrogen mustard modulates cell cycle progression via the DNA damage response in human lung epithelial A549 cells; 57th Society of Toxicology Annual Meeting, San Antonio, TX, 2018; *The Toxicologist* 162(1):311.
34. Rancourt RC, **Jan YH**, Heck DE, Laskin DL, Laskin JD; Heat shock protein 90 is a molecular target for sulfur mustard and nitrogen mustard in human lung epithelial cells; 57th Society of Toxicology Annual Meeting, San Antonio, TX, 2018; *The Toxicologist* 162(1):310.
35. Navarro R, **Jan YH**, Heck DE, Laskin DL, Laskin JD; Induction of DNA damage and stress responses by the sulfur mustard analog mechlorethamine in human HaCaT keratinocytes; 57th Society of Toxicology Annual Meeting, San Antonio, TX, 2018; *The Toxicologist* 162(1):312.
36. Lang S, **Jan YH**, Steinritz D, Thiermann H, Kehe K, Joseph LB, Composto GM, Heck DE, Laskin JD; Cell cycle specific sensitivity of human keratinocytes to nitrogen mustard; 57th Society of Toxicology Annual Meeting, San Antonio, TX, 2018; *The Toxicologist : Late-Breaking Supplement 2018*:84.
37. **Jan YH**, Heck DE, Laskin DL, Laskin JD; Nitrogen mustard modifies and cross-links wild type and mutant p53 in human epithelial cells; 58th Society of Toxicology Annual Meeting, Baltimore, MD, 2019; *The Toxicologist* 168(1):272.
38. Yang S, **Jan YH**, Mishin V, Heck DE, Richardson JR, Laskin JD; Identification of accessible cysteine residues in neuronal-derived sepiapterin reductase as targets of methyl mercury; 58th Society of Toxicology Annual Meeting, Baltimore, MD, 2019; *The Toxicologist* 168(1):95.
39. **Jan YH**, An Y, Heck DE, Laskin DL, Laskin JD; Nitrogen mustard induces mitochondria-mediated apoptosis associated with endoplasmic reticulum stress mediated MAPK signaling in human HaCaT keratinocytes; 59th Society of Toxicology Annual Meeting, Anaheim, CA, 2020; *The Toxicologist* 174(1):395.
40. Laskin JD, **Jan YH**, Neal ML, Mishin V, Kim C, Hossain MM, Richardson JR; Protection against parathion-induced neurotoxicity by a menadione/vitamin C combination drug; 59th Society of Toxicology Annual Meeting, Anaheim, CA, 2020; *The Toxicologist* 174(1):483.

41. Yang S, **Jan YH**, Mishin V, Heck DE, Laskin DL, Laskin JD; Nitrogen mustard targets pathways for tetrahydrobiopterin biosynthesis in human keratinocytes; 59th Society of Toxicology Annual Meeting, Anaheim, CA, 2020; *The Toxicologist* 174(1):394.
42. An Y, **Jan YH**, Heck DE, Laskin DL, Laskin JD; Potential role of ferroptosis in toxicity induced by 9,10-phenanthrenequinone in human lung epithelial Calu-1 cells; 59th Society of Toxicology Annual Meeting, Anaheim, CA, 2020; *The Toxicologist* 174(1):17.
43. **Jan YH**, An Y, Heck DE, Gardner CR, Laskin DL, Laskin JD; Modulation of the DNA damage response by amifostine protects against nitrogen mustard-induced toxicity in human keratinocytes; 60th Society of Toxicology Annual Meeting, March 12-26, 2021.
44. An Y, **Jan YH**, Heck DE, Laskin DL, Laskin JD; 9,10-Phenanthrenequinone induces toxicity in human lung epithelial Calu-1 cells via mitochondrial dysfunction and oxidative/ER stress pathways; 60th Society of Toxicology Annual Meeting, March 12-26, 2021.
45. **Jan YH**, An Y, Heck DE, Laskin DL, Laskin JD; Differential protective effects of amifostine and N-acetylcysteine on nitrogen mustard-induced cytotoxicity and genotoxicity in human lung epithelial A549 cells; Developing Medical Countermeasures to Treat the Acute and Chronic Effects of Pulmonary Chemical Injuries (A Trans-Agency Scientific Meeting), Research Triangle Park, NC, Oct 13-15, 2021.
46. An Y, **Jan YH**, Heck DE, Laskin DL, Laskin JD; N-acetylcysteine protects against 9,10-phenanthrenequinone-induced toxicity via mitigation of oxidative stress and DNA damage responses in human lung epithelial cells; 61th Society of Toxicology Annual Meeting, March 27-31, 2022.
47. **Jan YH**, An Y, Heck DE, Laskin JD; Interplay between stress-related signaling pathways mediating DNA damage and mitogen-activated protein kinases in nitrogen mustard-Induced apoptosis in human HaCaT keratinocytes; 62th Society of Toxicology Annual Meeting, March 19-23, 2023.
48. An Y, **Jan YH**, Heck DE, Laskin JD; Cell cycle dependent DNA damage responses in human keratinocytes exposed to UVB light; 62th Society of Toxicology Annual Meeting, March 19-23, 2023.

PRESENTATIONS:

A. Scientific (Basic Science):

1. 48th Society of Toxicology Annual Meeting "Identification of Selenocysteine Adducts in Thioredoxin Reductase by 2-Chloroethyl Ethyl Sulfide (CEES), a Model Sulfur Mustard Vesicant." March 16, 2009. Baltimore, MD.
2. 49th Society of Toxicology Annual Meeting "Selective Cross-linking of Thioredoxin Reductase in Lung Epithelial Cells by Nitrogen Mustard, a Model Sulfur Mustard Vesicant." March 8, 2010. Salt Lake City, UT.
3. 51st Society of Toxicology Annual Meeting "Protection against Acetaminophen Hepatotoxicity by Selenocompounds: Role of Thioredoxin Reductase." March 12, 2012. San Francisco, CA.
4. Annual Meeting at Experimental Biology 2014 "Targeting Hepatic Thioredoxin Reductase by the Acetaminophen Metabolite *N*-Acetyl-*p*-benzoquinone Imine." April 27, 2014. San Diego, CA
5. 56th Society of Toxicology Annual Meeting, "Differential Reactivity of the Sulfur Mustard Analogs Mechlorethamine and Chlorambucil with the Thioredoxin System." March 14, 2017. Baltimore, MD

B. Professional (Clinical): N/A