**Curriculum Vitae-Donna D. Zhang, Ph.D.**

Dr. Herbert A. Wertheim Professor

Center for Inflammation Science and Systems Medicine

The Herbert Wertheim UF Scripps Institute for Biomedical Innovation and Technology

130 Scripps Way, Jupiter, FL 33458

**EDUCATION:**

1997 Ph.D. in Molecular Toxicology, New York University, Nelson Institute of Environmental Medicine, New York, New York.

“*Molecular Cloning and Characterization of a novel gene, Cap43, that is specifically induced by Ni2+ compounds.*”

Advisor: Dr. Max Costa

1993 M.S. in Molecular Toxicology, New York University, Nelson Institute of Environmental Medicine, New York, New York.

“*Effect of second-hand smoke in atherosclerosis.*”

Advisor: Dr. Arthur Penn

**EMPLOYMENT:**

2024-Current Dr. Herbert A. Wertheim Professor, The Herbert Wertheim UF Scripps Institute for Biomedical Innovation & Technology, University of Florida, Jupiter, FL

2020-2024 Musil Family Endowed Chair in Drug Discovery, College of Pharmacy, University of Arizona, Tucson, AZ

2013-2024 Professor, Department of Pharmacology and Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ

2019-2022 Associate Director of Superfund Research Program---successfully renewed the UA superfund.

2011-2013 Associate Professor, Department of Pharmacology and Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ.

2005-2011 Assistant Professor, Department of Pharmacology and Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ.

1999-2005 Research Assistant Professor, University of Missouri-Columbia, Department of Biochemistry, Columbia, MO.

1997-1999 Post-doctoral Fellow (with Dr. David B. Warheit), DuPont-Haskell Laboratory, Inhalation Toxicology, Newark, DE.

**Honors and Awards:**

2024 The 2024 Leading Edge in Basic Science Award at the 63rd Annual SOT meeting.

2023 The Distinguished Chinese American Toxicologist Award, AACT, Society of Toxicology.

2019 Dr. James R. Halpert Faculty Research Award.

2013 Centennial Top 100 Alumni Achievement Hall of Fame of Ningbo Xiaoshi High School, Ningbo, China. (Alumni: Tu Youyou, 2015Nobel Prize in Physiology or Medicine)

2012 The Society of Toxicology Achievement Award.

2006 NIH/NIEHS Outstanding New Environmental Health Scientist Award.

1999 DuPont Young Investigator Award.

**Patents:**

[Compositions and methods for treatment, amelioration, and prevention of diabetes-related skin ulcers](https://scholar.google.com/scholar?oi=bibs&hl=en&cluster=181029580008892872)

DD Zhang, GT Wondrak

US Patent App. 16/060,742, 2018

[Activators of nrf2-dependent photoprotection and related uses thereof](https://scholar.google.com/scholar?oi=bibs&hl=en&cluster=7583499608188072607)

GT Wondrak, DD Zhang

US Patent App. 15/753,514, 2018

[Compositions and methods for treating and preventing lung injury](https://scholar.google.com/scholar?oi=bibs&hl=en&cluster=8067172373096545445)

DD Zhang, GT Wondrak, JGN Garcia, T Wang

US Patent App. 15/765,777, 2018

Patent No: 10,300,036

**SERVICE/OUTREACH:**

**Intramural**

2019 The University P&T Committee

2016-2017 Research Affairs Committee

2016 UAHS Space Committee

2016- College Space Committee

2015- T32 Training grant executive committee

2014- Departmental P&T Committee

2009- College of Pharmacy Research Affairs Committee

2009- Member, Bio5 Institute

2006- Member, Cancer Biology Graduate Program

2006- Member, Biological Chemistry Graduate Program

2006- Member, Biomedical Engineering Graduate Interdisciplinary Program

2006- Member, Southwest Environmental Health Sciences Center

2006- Member, Cancer Prevention and Control Program, Arizona Cancer Center

2006- Mentor, Keep Engaging Youth in Science (KEYS) research program for K-12 students

2006-2008 Member, College of Pharmacy Computer Committee

**Extramural**

2022 NIH, NIEHS Outstanding New Environmental Scientist (ONES) Award

2022 NIH, Molecular Oncogenesis Study Section (MONC)

2020- External Advisory Committee for UNM Center for Metals in Biology and Medicine

(an NIGMS COBRE mechanism), PI: Matt Campen

2019-2020 NIH, Special Emphasis Panel review for SPORE grant, Oncology Translational Clinical IRG

2018 President of Mechanisms Specialty Section of the Society of Toxicology

2018-2022 NIH, Systemic injury by Environmental Exposure (SIEE)-member

2018 National Research Foundation of Korea, reviewer

2018 NIH, Bioengineering Sciences and Technologies (BST), IRG

2017 NIH, Systemic injury by Environmental Exposure (SIEE)

2017 NIH, Special Emphasis Panel review for SPORE grant, Oncology Translational Clinical IRG

2017 NIH, Special Emphasis Panel review, AREA R15

2017 Medical Research Council, reviewer

2017 Editor, “Nrf2-Keap1” forum, Antioxidants & Redox Signaling

2016 NIH, Special Emphasis Panel Members (SEP), reviewer

2016 NIH, Special Emphasis Panel review, AREA R15

2016 NIH, NIEHS Outstanding New Environmental Scientist (ONES) Award

2016 Vice-president of Mechanisms Specialty Section of the Society of Toxicology

2016-2019 Associate Editor, Molecular Carcinogenesis

2015 Medical Research Council, reviewer

2015 NIH, NIEHS Career Award (K99)

2015 External evaluator, faculty P&T process, College of Medicine, Dentistry and Nursing, University of Dundee, Dundee

2015 External evaluator, faculty P&T process, Department of Medicinal Chemistry & Molecular Pharmacology, College of Pharmacy, Purdue University

2015 External evaluator, faculty P&T process, Department of Pharmacy Practice, College of Pharmacy, University of Illinois at Chicago

2015 External evaluator, faculty P&T process, Department of Cell Biology and Physiology in the School of Medicine at UNC-Chapel Hill

2014 NIH, the stage 2 Distinguished Editorial panel for Botanical Dietary Supplement Research Centers (BDSRC) (P50)

2014 NIH, the stage 2 Distinguished Editorial panel for Centers for Advancing Natural Products Innovation and Technology Centers (CANPIT) (U41)

2014 NIH, NIEHS Outstanding New Environmental Scientist (ONES) Award

2014 Cancer Research UK Expert Programme Review Panel

2012-2016 National Institutes of Health review committee, Chemo/Dietary Prevention Study Section (CDP/NIH)-member

2013 NIH, reviewer for the National Center for Complementary and Alternative Medicine (NCCAM/NIH)

2013- External Advisory Board Member for NIAID P01 Signaling in airway inflammation, UTMB Galveston, PI: Allan Brasier

2013- Research Funding Committee, Society of Toxicology

2012 Woman in Toxicology, Society of Toxicology

2012 External reviewer, Center in Molecular Toxicology, Vanderbilt University School of Medicine, pilot grant

2012 The Leukemia & Lymphoma Society, Medical Research Council

2011 Reviewer, King Abdulaziz City for Science and Technology, Saudi Arabia

2011 Reviewer, Association for International Cancer Research in the United Kingdom (AICR)

2011 External reviewer, faculty promotion process, Department of Pharmaceutical Sciences, University of Colorado

2011 Organizer and Chair, “New insights into the Nrf2-Keap1 pathway and its impact on human disease” symposium, Society of Toxicology annual meeting

2010-2011 President, Mountain West Regional Chapter, the Society of Toxicology

2010 Reviewer, National Science Foundation, Molecular and Cellular Biosciences Division

2010 Chair, Oxidative Injury and Redox Biology poster session, Society of Toxicology annual meeting

2010 Organizing committee and chair of “Cellular & Molecular Responses to BRIs,” Biological Reactive Intermediates International Conference VIII, Barcelona, Spain

2010 Editor, “Nrf2-Keap1” forum, Antioxidants & Redox Signaling

2009-2013 Editorial board member, Toxicology and Applied Pharmacology

2009 Reviewer, Wellcome Trust, United Kingdom

2009 NIH, National Institute of Environmental Health Sciences, special emphasis panel study section to review P01 and P20 children center grants

2009-2012 NIH, National Institutes of Health review committee, Chemo/Dietary Prevention Study Section

2009-2010 Vice-President, Mountain West Regional Chapter, Society of Toxicology

2009-2010 Organizer, Mountain West Regional Chapter, Society of Toxicology annual meeting

2009 Chair, Reactive Oxygen Species Stimulated Signaling poster session, Society of Toxicology annual meeting

2008 Reviewer, Cancer Research, United Kingdom Science Funding Committee

2008 Reviewer, Portuguese Foundation for Science and Technology, Pharmacology and Pharmaceutical Sciences’ sub-area

2008 Chair, Oxidative Signaling and Redox Biology symposium, Society of Toxicology annual meeting

2007-2011 Member, Career Resource and Development Committee, Society of Toxicology

Toxicology annual meeting

2006 Reviewer, Italian National Centre for Rare Disease at the Instituto Superiore di Sanità, Italian Public Health Institute of Rome

**TEACHING:**

**Courses**

Introduction to Molecular Therapeutics and Drug Discovery (PCOL 530B)

* Course Coordinator
* Elective Course
* This course will be developed into an online course, starting 2023

Cell communications and signal transduction (PCOL 630B)

* Course Coordinator
* Required course for Ph.D. and M.S. degrees in Pharmacology and Toxicology
* 15 lectures each fall semester

Seminar (PCOL 696A and 696B)

* Course Coordinator
* Required course for Ph.D. and M.S. degrees in Pharmacology and Toxicology

Science of Pharmacology (PCOL 871A)

* Required course for Pharm. D., Ph.D. and M.S. degree
* 2 lectures each fall semester

Science of Pharmacology (PCOL 871B)

* Required course for Pharm. D., Ph.D. and M.S. degree
* 4 lectures each spring semester

General and Systems Toxicology (PCOL602A)

* Required course for Ph.D. and M.S. degree
* 6 lectures each fall semester

Advanced Toxicology (PCOL 596C)

* Required course for Ph.D. and M.S. degrees in Pharmacology and Toxicology
* 1 lecture each fall and spring semester

Individualized Medicine: Applied Pharmacogenetics (PHPR 887)

* Required course for Ph.D./M.S. degree in Pharmacology and Toxicology and Pharm. D. students
* 3 lectures each spring semester

Case Study in Biochemical Pharmacology (PCOL 870/871)

* Authored “Holly Beach” case
* Required course for Pharm.D. students
* 3 case studies each fall and spring semester

**Ph.D. Graduate Committees**

Major Ph. D. Advisor:

* Dichun Huang, Pharmacology and Toxicology, drug discovery and development track, 2023- (thesis advisor)
* Mengjiao Ma, Pharmacology and Toxicology, drug discovery and development track, 2023- (thesis advisor)
* Xiaoyi Zhu, Pharmacology and Toxicology, drug discovery and development track, 2021- (co-thesis advisor)
* Nick Mckee, Pharmacology and Toxicology, drug discovery and development track, 2022-(thesis advisor)
* Jack Godek, Pharmacology and Toxicology, drug discovery and development track,2021-(co-thesis advisor)
* Aryatara Shakya, Arizona Biological and Biomedical Sciences (ABBS)/Pharm &Tox, 2019- (thesis advisor)
* Cody Schmidlin, Arizona Biological and Biomedical Sciences (ABBS)/Cancer Biology, 2016- (thesis advisor)
* Elisa Montserrat Rojo de la Vega Guinea, ABBS/Cancer Biology, 2013-2018 (thesis advisor)
* Bryan Harder, Pharmacology and Toxicology, 2013-2017 (thesis advisor)
* Tongde Wu, Pharmacology and Toxicology, 2009- 2013 (thesis advisor)
* Alexandra G. Lau, Pharmacology and Toxicology, 2007-2012 (thesis advisor)
* Nicole F. Villeneuve, Pharmacology and Toxicology, 2006-2011 (thesis advisor)
* Zheng Sun, Pharmacology and Toxicology, 2005-2009 (thesis advisor)
* Huihui Wang, Chinese Medical University, China, 2010 (co-thesis advisor)
* Yi Zheng, Chinese Medical University, China, 2010-2012 (co-thesis advisor)
* Yu Du, Pharmaceutical Sciences, Shandong University, China, 2007-2008 (co-thesis advisor)

Ph.D. committee member:

* Marisala Rodriguez, Clinical Translational Science 2022-
* Xiaoyi Zhu, Pharmacology and Toxicology 2021-
* Jack Godek, Pharmacology and Toxicology 2021-
* Jared Sivinski, Pharmacology and Toxicology 2018-
* Chris Zerio, Pharmacology and Toxicology 2017-2021
* Jason Machulis, Pharmacology and Toxicology 2018-2020 (M.S.)
* Andy Ambrose, Pharmacology and Toxicology 2014-2020
* Argel Islas Robles, Pharmacology and Toxicology 2014-2019
* Hui Li, Pharmacology and Toxicology 2013-2017
* Megda Kedzior, Pharmacology and Toxicology, 2016-2017 (M.A.)
* Taoda Shi, Pharmacology and Toxicology, 2014-2017
* Damian Mason, Pharmacology and Toxicology 2016-2017 (M.S.)
* Shue Wang, Aerospace & Mechanical Engineering Department 2011-2016
* Joseph Tillotson, Pharmacology and Toxicology 2013-2016
* Eric Lau, Pharmacology and Toxicology, 2012-2016
* Aram B Cholanians, Pharmacology and Toxicology, 2011-2016
* Anika Dzierlenga, Pharmacology and Toxicology, 2010-2016
* Ryan Canatsey, Pharmacology and Toxicology, 2010-2016
* Jessica Sapiro, Pharmacology and Toxicology, 2010-2016
* Nick Mastrandrea, Pharmacology and Toxicology, 2008-2014
* Kevin Bray, Cell and Developmental Biology, Rutgers University, -2011 (advisor: Dr. Eileen White)
* Fei Zhao, Pharmacology and Toxicology, 2009-2013
* April D. Lake, Pharmacology and Toxicology, 2008-2013
* Parvathi Sinha, Pharmacology and Toxicology, 2008-2010
* Matthew Keane Medeiros, Pharmacology and Toxicology, 2007-2013
* Keika Okamoto, Pharmacology and Toxicology, 2008-2009
* Rhiannon N. Hardwick, Pharmacology and Toxicology, 2007-2012
* Ana Tula Sanchez, Pharmacology and Toxicology, 2006-2013
* Evisabel Arauz Craig, Pharmacology and Toxicology, 2006-2011
* Alicia Marie Bolt, Pharmacology and Toxicology, 2006-2012
* Shawn Michael Wnek, Pharmacology and Toxicology, 2006-2011
* Aaron Goldman, Cancer Biology, 2005-2010
* Ingrid Leal Druwe, Pharmacology and Toxicology, 2005-2012
* Matthew David Merrell, Pharmacology and Toxicology, 2006-2011
* Terence Henry Sy, Pharmacology and Toxicology, 2007-2009
* Christopher M Cabello, IGERT committee, 2007-2012

**MEDIA:**

* NIH-NIEHS SRP Story of Success (2020): <https://www.niehs.nih.gov/research/supported/success/2020/zhang/index.cfm>
* Cancer Letter, In Brief (2020): <https://cancerletter.com/articles/20201106_4/>
* Science News:

<http://www.sciencemag.org/news/2016/04/some-diabetes-drugs-may-help-cancer-spread-mice>

* Medical News Today: <http://www.medicalnewstoday.com/releases/295410.php>
* [Health News Digest](http://www.healthnewsdigest.com/news/Cancer_Issues_660/Molecular-Component-of-Cinnamon-Prevents-Colorectal-Cancer-in-Mice.shtml), [Futurity (link is external)](http://www.futurity.org/cinnamon-compound-cancer-938282/)
* [UA News (link is external)](http://uanews.org/story/cinnamon-research-holds-promise-for-colorectal-cancer-prevention)
* [UA Now (link is external)](http://uanews.org/node/59808)
* [EurekAlert! (link is external)](http://www.eurekalert.org/pub_releases/2015-06/uoac-urd061215.php)
* [MedicalXpress (link is external)](http://medicalxpress.com/news/2015-06-component-cinnamon-colorectal-cancer-mice.html).

**PUBLICATIONS:** *(Based on Google Scholar as of Feburary 5th, 2024, total citations 46123, h-index 79)*

**Peer-Reviewed research papers**

146: Ambrose AJ, Zerio CJ, Sivinski J, Zhu X, Godek J, Sanchez JL, Khanna M, Khanna R, Lairson L, Zhang DD, Chapman E. Human Hsp70 Substrate-Binding Domains Recognize Distinct Client Proteins. ***Biochemistry***. 2024. PMID: 38243804

145: Shakya A, Liu P, Godek J, McKee NW, Dodson M, Anandhan A, Ooi A, Garcia JGN, Costa M, Chapman E, Zhang DD. The NRF2-p97-NRF2 negative feedback loop. ***Redox Biol.*** 2023. PMID: 37573837

144: Sun BL, Sun X, Kempf CL, Song JH, Casanova NG, Camp SM, Reyes Hernon V, Fallon M, Bime C, Martin DR, Travelli C, Zhang DD, Garcia JGN. Involvement of eNAMPT/TLR4 inflammatory signaling in progression of non-alcoholic fatty liver disease, steatohepatitis, and fibrosis. ***FASEB J****.* 2023. PMID: 36809677

143: Midi R, Mckee NW, Zhang N, Alwali A, Nelson S, Lohar A, Ostafe R, Zhang DD Parkinson EI. Stapled Peptides as Direct Inhibitors of Nrf2-sMAF Transcription Factors. ***J Med Chem****.* 2023. PMID: 37097833

142: Annadurai A, Dodson M, Shakya A, Chen J, Liu P, Wei Y, Tan H, Wang Q, Jiang Z, Yang K, Garcia JGN, Chambers SK, Chapman E, Ooi A, Yang-Hartwich Y, Stockwell BR, Zhang DD. NRF2 controls iron homeostasis and ferroptosis through HERC2 and VAMP8. ***Sci Adv.*** 2023. PMID: 36724221

This article was highlighted by the senior editor in a commentary titled “Iron regulation in ferroptosis” in ***Nat Cell Biol.*** 2023, 25, 515.

# 141: Zerio CJ, Sivinski J, Wijeratne EMK, Xu YM, Ngo DT, Ambrose AJ, Villa-Celis L, Ghadirian N, Clarkson MW, Zhang DD, Horton NC, Gunatilaka AAL, Fromme R, Chapman E. Physachenolide C is a Potent, Selective BET Inhibitor. *J Med Chem.* 2023. PMID: 36577036

# 140: Ambrose AJ, Sivinski J, Zerio CJ, Zhu X, Godek J, Kumirov VK, Coma Brujas T, Torra Garcia J, Annadurai A, Schmidlin CJ, Werner A, Shi T, Zavareh RB, Lairson L, Zhang DD, Chapman E. Discovery and Development of a Selective Inhibitor of the ER Resident Chaperone Grp78. *J Med Chem.* 2023. PMID: 36516003

# 139: Liu P, Anandhan A, Chen J, Shakya A, Dodson M, Ooi A, Chapman E, White E, Garcia JG, Zhang DD. Decreased autophagosome biogenesis, reduced NRF2, and enhanced ferroptotic cell death are underlying molecular mechanisms of non-alcoholic fatty liver disease. *Redox Biol.* 2023. PMID: 36495698

# 138: Schiro G, Liu P, Dodson M, Zhang DD, Ghishan FK, Barberan A, Kiela PR. Interactions between arsenic exposure, high-fat diet and NRF2 shape the complex responses in the murine gut microbiome and hepatic metabolism. *Frontiers in Microbiomes.* 2022. PMID:

# 137: Annadurai A, Chen W, Nguyen N, Madhavan L, Dodson M, Zhang DD. a-Syn overexpression, NRF2 suppression, and enhanced ferroptosis create a vicious cycle of neuronal loss in Parkinson's disease. *FRBM.* 2022. PMID: 36150560

136: Song JH, Mascarenhas JB, Sammani S, Kempf CL, Cai H, Camp SM, Bermudez T, Zhang DD, Natarajan V, Garcia JGN. TLR4 activation induces inflammatory vascular permeability via Dock1 targeting and NOX4 upregulation. ***Biochim Biophys Acta Mol Basis Dis****.* 2022. PMID: 36179995

135: Li H, Fan X, Wu X, Han W, Amistadi MK, Liu P, Zhang DD, Chorover J, Ding X, Zhang QY.Differential Effects of Arsenic in Drinking Water on Mouse Hepatic and Intestinal heme Oxygenase-1 Expression. ***Antioxidants (Basel).*** 2022. PMID: 36139908eNAM

134: Dodson M, Dai W, Anandhan A, Schmidlin CJ, Liu P, Wilson NC, Wei Y, Kitamura N, Galligan JJ, Ooi A, Chapman E, Zhang DD.CHML is an NRF2 target gene that regulates mTOR function. ***Mol Oncol.*** 2022. PMID: 35184380

133: Sivinski J, Ngo D, Zerio CJ, Ambrose AJ, Watson ER, Kaneko LK, Kostelic MM, Stevens M, Ray AM, Park Y, Wu C, Marty MT, Hoang QQ, Zhang DD, Lander GC, Johnson SM, Chapman E.Allosteric differences dictate GroEL complementation of E. coli. ***FASEB J.*** 2022. PMID: 35199390.

132: Bermudez T, Sammani S, Song JH, Hernon VR, Kempf CL, Garcia AN, Burt J, Hufford M, Camp SM, Cress AE, Desai AA, Natarajan V, Jacobson JR, Dudek SM, Cancio LC, Alvarez J, Rafikov R, Li Y, Zhang DD, Casanova NG, Bime C, Garcia JGN.eNAMPT neutralization reduces preclinical ARDS severity via rectified NFkB and Akt/mTORC2 signaling. ***Sci Rep.*** 2022. PMID: 35027578

131: Zerio CJ, Cunningham TA, Tulino AS, Alimusa EA, Buckley TM, Moore KT, Dodson M, Wilson NC, Ambrose AJ, Shi T, Sivinski J, Essegian DJ, Zhang DD, Schürer SC, Schatz JH, Chapman E. Discovery of an eIF4A Inhibitor with a Novel Mechanism of Action. ***J Med Chem***. 2021. PMID: 34676755

130: Wei J, Harada BT, Lu D, Ma R, Gao B, Xu Y, Montauti E, Mani N, Chaudhuri SM, Gregory S, Weinberg SE, Zhang DD, Green R, He C, Fang D. HRD1-mediated METTL14 degradation regulates m6A mRNA modification to suppress ER proteotoxic liver disease. ***Mol Cell.*** 2021 PMID: 34847358

129: Anandhan A, Nguyen N, Syal A, Dreher LA, Dodson M, Zhang DD\*, Madhavan L. NRF2 Loss Accentuates Parkinsonian Pathology and Behavioral Dysfunction in Human α-Synuclein Overexpressing Mice. ***Aging Dis.*** 2021. PMID: 34221542; PMCID: PMC8219498.

128: Dodson M, Anandhan A, Zhang DD. MGST1, a new soldier of NRF2 in the battle against ferroptotic death. ***Cell Chem Biol***. 2021. PMID: 34143955.

127: Liu P, Dodson M, Li H, Schmidlin CJ, Shakya A, Wei Y, Garcia JGN, Chapman E, Kiela PR, Zhang QY, White E, Ding X, Ooi A, Zhang DD. Non-canonical NRF2 activation promotes a pro-diabetic shift in hepatic glucose metabolism. ***Mol Metab***. 2021. PMID: 33933676; PMCID: PMC8164084.

126: Schmidlin CJ, Tian W, Dodson M, Chapman E, Zhang DD. FAM129B-dependent activation of NRF2 promotes an invasive phenotype in BRAF mutant melanoma cells. ***Mol Carcinog***. 2021. PMID: 33684228; PMCID: PMC8189631

125: Liu P, Luo G, Dodson M, Schmidlin CJ, Wei Y, Kerimoglu B, Ooi A, Chapman E, Garcia JGN, Zhang DD\*. The NRF2-LOC344887 signaling axis suppresses pulmonary fibrosis. ***Redox Biol.*** 2021. PMID:33126057

124: Ferrari M, Zevini A, Palermo E, Muscolini M, Alexandridi M, Etna MP, Coccia EM, Fernandez-Sesma A, Coyne C, Zhang DD, Marques ETA, Olagnier D, Hiscott J. Dengue virus targets Nrf2 for NS2B3-mediated degradation leading to enhanced oxidative stress and viral replication. ***J Virol.*** 2020. PMID:32999020

123: Schmidlin CJ, Schmidlin CJ, Rojo de la Vega M, Perer J, Zhang DD\*, Wondrak GT\*. Activation of NRF2 by topical apocarotenoid treatment mitigates radiation-induced dermatitis. ***Redox Biol.*** 2020. PMID: 32927319

122: Schmidlin CJ, Zeng T, Liu P, Wei Y, Dodson M, Chapman E, Zhang DD. Chronic arsenic exposure enhances metastatic potential via NRF2-mediated upregulation of SOX9. ***Toxicol Appl Pharmacol***. 2020. PMID:32682831

121: Liu P, Dodson M, Dang D, Chapman E, Zhang DD. NRF2 negatively regulates primary ciliogenesis and hedgehog signaling.***PLoS Biol.***2020. PMID:32053600

120: Rodrigues SD, Santos SS, Meireles T, Romero N, Glorieux G, Pecoits-Filho R, Zhang DD, NakaoLS. Uremic toxins promote accumulation of oxidized protein and increased sensitivity to hydrogenperoxide in endothelial cells by impairing the autophagic flux.***Biochem Biophys Res Commun****.* 2019. PMID:31837804.

119: Liu P, Kerins MJ, Tian W, Neupana D, Zhang DD\*, Ooi A\*. Differential and overlapping targets of the transcriptional regulators NRF1, NRF2, and NRF3 in human cells. ***J Biol Chem***. 2019. PMID:31628195.

118: Liu P, Tian W, Tao S, Tillotson J, Wijeratne EMK, Gunatilaka AAL, Zhang DD\*, Chapman E\*. Non-covalent NRF2 Activation Confers Greater Cellular Protection than Covalent Activation. ***Cell Chem Biol***. 2019. PMID:31402317

117: Shi T, Wijeratne EMK, Solano C, Ambrose AJ, Ross AB, Norwood C, Orido CK, Grigoryan T, Tillotson J, Kang M, Luo G, Keegan BM, Hu W, Blagg BSJ, Zhang DD, Gunatilaka AAL, Chapman E. [An Isoform-Selective PTP1B Inhibitor Derived from Nitrogen-Atom Augmentation of Radicicol.](https://www.ncbi.nlm.nih.gov/pubmed/31298844) ***Biochemistry***. 2019. PMID:31298844

116: Kerins MJ, Liu P, Tian W, Mannheim W, Zhang DD\*, Ooi A\*. Genome wide CRISPR screen reveals autophagy disruption as the convergence mechanism that regulates the NRF2 transcription factor. ***Mol Cell Biol****.* 2019. PMID: 31010806

# 115: Liu P, de la Vega MR, Dodson M, Yue F, Shi B, Fang D, Chapman E, Liu L, Zhang DD. Spermidine confers liver protection by enhancing NRF2 signaling through a MAP1S-mediated non-canonical mechanism. *Hepatology*. 2019. PMID:30873635

# 114: Shi T, Kaneko L, Sandino M, Busse R, Zhang M, Mason D, Machulis J, Ambrose AJ, Zhang DD, Chapman E. One-step synthesis of thieno[2,3-*d*]pyrimidin-4(3*H*)-ones via a catalytic four-component reaction of ketones, ethyl cyanoacetate, S8 and formamide. *ACS Sustain Chem. Eng.* 2019. 7, 1524-1528.

# 113: Ambrose AJ, Zerio C, Schmidlin C, Sivinski J, Shi T, Ross AB, Widrick KJ, Johnson SM, Zhang DD, Chapman E. A high throughput substrate binding assay reveals hexachlorophene as an inhibitor of the ER-resident HSP70 chaperone GRP78. *Bioorg. Med. Chem. Lett.* 2019. PMID:31129054*.*

# 112: Shi T, Zerio CJ, Sivinski J, Ambrose AJ, Moore KT, Buckley T, Kaneko L, Zhang M, Zhang DD, and Chapman E. A one-step, atom economical synthesis of thieno[2,3-*d*]pyrimidin-4-amine derivatives via a four-component reaction. *Eur. J. Org. Chem.* 2019. PMID:31857792.

# 111: Xiao Y, Riahi R, Torab P, Zhang DD, Wong PK. Collective Cell Migration in 3D Epithelial Wound Healing. *ACS Nano*. 2019. PMID:30758172.

# 110: Liu P, Rojo de la Vega M, Sammani S, Mascarenhas JB, Kerins M, Dodson M, Sun X, Wang T, Ooi A, Garcia JGN\*, Zhang DD\*. RPA1 binding to NRF2 switches ARE-dependent transcriptional activation to ARE-NRE-dependent repression. *Proc Natl Acad Sci U S A*. 2018. PMID:30309964

# 109: Yang Y, Kong S, Zhang Y, Melo-Cardenas J, Gao B, Zhang Y, Zhang DD, Zhang B, Song J, Thorp E, Zhang K, Zhang J, Fang D. The endoplasmic reticulum-resident E3 ubiquitin ligase Hrd1 controls a critical checkpoint in B cell development in mice. *J Biol Chem*. 2018. PMID:29907570

# 108: Wei J, Yuan Y, Xu Y, Chen L, Zhang Y, Wang Y, Yang Y, Peek CB, Diebold L, Yang Y, Gao B, Jin C, Melo-Cardenas J, Chandel NS, Zhang DD, Pan H, Zhang K, Wang J, He F, Fang D. ER-associated ubiquitin ligase HRD1 programs liver metabolism by targeting multiple metabolic enzymes. *Nat Commun*. 2018. PMID:30201971

# 107: Ray S, Corenblum MJ, Anandhan A, Reed A, Ortiz FO, Zhang DD, Barnes CA, and Madhavan L. 2018. A role for Nrf2 expression in defining the aging of hippocampal neural stem cells. *Cell transplantation*. *Cell Transplant*. 2018. PMID:29871525

106: Rojo de la Vega M, Zhang DD\*, Wondrak GT\*. Topical Bixin Confers NRF2-Dependent Protection Against Photodamage and Hair Graying in Mouse Skin. ***Front Pharmacol***. 2018. PMID:2963669

105: Dodson M, Liu P, Jiang T, Ambrose AJ, Luo G, Rojo de la Vega M, Cholanians AB, Wong PK, Chapman E, Zhang DD. Increased O-GlcNAcylation of SNAP29 drives arsenic-induced autophagic dysfunction. ***Mol Cell Biol.*** 2018. PMID:29507186

104: Dodson M, de la Vega MR, Harder B, Castro-Portuguez R, Rodrigues SD, Wong PK, Chapman E, Zhang DD. Low-level arsenic causes proteotoxic stress and not oxidative stress. ***Toxicol Appl Pharmacol***. 2018. PMID:29408041

103: Wang S, Xiao Y, Zhang DD, Wong PK. Non-Canonical activation of NRF2: A gapmer aptamer nanobiosensor for real-time monitoring of transcription and translation in single cells. ***Biomaterials.*** 2018. PMID:29190498.

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3:  Zhang DD, Hartsky MA, Warheit DB. [Time course of quartz and TiO(2) particle-induced pulmonary inflammation and neutrophil apoptotic responses in rats.](http://www.ncbi.nlm.nih.gov/pubmed/12490038) ***Exp Lung Res***. 2002. PMID: 12490038

2:  Sachdev S, Bagchi S, Zhang DD, Mings AC, Hannink M. [Nuclear import of IkappaBalpha is accomplished by a ran-independent transport pathway.](http://www.ncbi.nlm.nih.gov/pubmed/10669735) ***Mol Cell Biol***. 2000. PMID:10669735

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*\*Co-corresponding author*

*#Zhou D. is the former name of Zhang DD*

**Reviews, Perspectives and Commentaries:**

34: Zhang DD. Natural inhibitor found for cell death by ferroptosis. ***Nature***. 2024. PMID: 38297047.

33: Dodson M, Zhang DD. The pyrimidinosome is cancer’s Achilles’ heel. ***Nat Cell Biol***. 2023. PMID: 37291266.

32: Shakya A, McKee NW, Dodson M, Chapman E, Zhang DD. Anti-Ferroptotic Effects of Nrf2: Beyond the Antioxidant Response. ***Mol Cells***. 2023. PMID: 36994475.

31: Dodson M, Shakya A, Annadurai A, Chen J, Garcia JGN, Zhang DD. NRF2 and diabetes: The good, the bad, and the complex. ***Diabetes***. 2022. PMID: 36409792.

30: Dodson M, Anandhan A, Zhang DD, Madhavan L. An NRF2 Perspective on Stem Cells and Ageing. ***Front Aging***. 2021. PMID: 36213179.

29: Sivinski J, Zhang DD, Chapman E. Targeting NRF2 to treat cancer. ***Semin Cancer Biol***. 2021. PMID: 34102289.

28: Schmidlin CJ, Shakya A, Dodson M, Chapman E, Zhang DD. The intricacies of NRF2 regulation in cancer. ***Semin Cancer Biol.*** 2021. PMID: 34020028.

27: Zhang DD, Chapman E. The role of natural products in revealing NRF2 function. ***Nat Prod Rep***. 2020. PMID:32400766

26: Anandhan A, Dodson M, Schmidlin CJ, Liu P, Zhang DD. Breakdown of an Ironclad Defense System: The Critical Role of NRF2 in Mediating Ferroptosis. ***Cell Chem Biol.***2020.PMID:32275864

25: Schmidlin CJ, Dodson MB, Zhang DD. Filtering through the role of NRF2 in kidney disease. ***Arch Pharm Res***. 2019. PMID:31372933

# 24: Dodson M, Castro-Portuguez R, Zhang DD. NRF2 plays a critical role in mitigating lipid peroxidation and ferroptosis. *Redox Biol*. 2019. PMID:30692038.

# 23: Schmidlin CJ, Dodson MB, Madhavan L, Zhang DD. Redox regulation by NRF2 in aging and disease. *Free Radic Biol Med*. 2019. PMID:30654017.

# 22: Dodson M, de la Vega MR, Cholanians AB, Schmidlin CJ, Chapman E, Zhang DD. Modulating NRF2 in Disease: Timing Is Everything. *Annu Rev Pharmacol Toxicol*. 2018. PMID:30256716

# 21: Rojo de la Vega M, Chapman E, Zhang DD. NRF2 and the Hallmarks of Cancer. *Cancer Cell*. 2018. PMID:29731393

20: Rojo de la Vega M, Zhang DD. NRF2 Induction for NASH Treatment: A New Hope Rises. ***Cell Mol Gastroenterol Hepatol***. 2018. PMID:29675456

19: Rojo de la Vega M, Krajisnik A, Zhang DD, Wondrak GT. Targeting NRF2 for Improved Skin Barrier Function and Photoprotection: Focus on the Achiote-Derived Apocarotenoid Bixin. ***Nutrients.*** 2017. Review. PMID:29258247

18: Stockwell BR, Friedmann Angeli JP, Bayir H, Bush AI, Conrad M, Dixon SJ, Fulda S, Gascón S, Hatzios SK, Kagan VE, Noel K, Jiang X, Linkermann A, Murphy ME, Overholtzer M, Oyagi A, Pagnussat GC, Park J, Ran Q, Rosenfeld CS, Salnikow K, Tang D, Torti FM, Torti SV, Toyokuni S, Woerpel KA, Zhang DD. Ferroptosis: A Regulated Cell Death Nexus Linking Metabolism, Redox Biology, and Disease. ***Cell.*** 2017. PMID:28985560.

17: Dodson M, Zhang DD. Non-Canonical activation of NRF2: New insights and its relevance to disease. ***Curr Pathobiol Rep.*** 2017. PMID:29082113.

16 Long M, Li X, Li L, Dodson M, Zhang DD, Zheng H. Multifunctional p62 Effects Underlie Diverse Metabolic Diseases. ***Trends Endocrinol Metab.*** 2017. PMID:28966079.

15: de la Vega MR, Dodson M, Chapman E, Zhang DD. NRF2-targeted therapeutics: New targets and modes of NRF2 regulation. [***Curr Opin Toxicol***](https://www.ncbi.nlm.nih.gov/pubmed/29082352)***.*** 2016. PMID:29082352.

14: Wang H, Rojo de la Vega M, Zhang DD*\**, Yu S*\**, Zheng H*\**. [Response to comment on "NRF2 activation by antioxidant antidiabetic agents accelerates tumor metastasis".](http://www.ncbi.nlm.nih.gov/pubmed/27464746) ***Sci Transl Med.*** 2016. PMID:27464746

13: de la Vega MR, Dodson M, Gross C, Manzour H, Lantz RC, Chapman E, Wang T, Black SM, Garcia JG, Zhang DD. [Role of Nrf2 and Autophagy in Acute Lung Injury.](http://www.ncbi.nlm.nih.gov/pubmed/27313980) ***Curr Pharmacol Rep.*** 2016. PMID:27313980

12: Klionsky DJ, Abdelmohsen K, Abe A, et. al. Guidelines for the use and interpretation of assays for monitoring autophagy (3rd edition). ***Autophagy***. 2016. PMID:26799652

11: Jiang T, Harder B, Rojo de la Vega M, Wong PK, Chapman E, Zhang DD. P62 links autophagy and NRF2 signaling. ***Free Radic Biol Med***. 2015. PMID:26117325

10: Harder B, Jiang T, Wu T, Tao S, Rojo de la Vega M, Chapman E, Zhang DD. Molecular mechanisms of Nrf2 regulation and how these influence chemical modulation for disease intervention. ***Biochem. Soc. Trans***. 2015. PMID:26551712

9:  Jaramillo MC, Zhang DD. [The emerging role of the Nrf2-Keap1 signaling pathway in cancer.](http://www.ncbi.nlm.nih.gov/pubmed/24142871) ***Genes Dev***. 2013. PMID:24142871

8:  Zhang DD. [Bardoxolone brings Nrf2-based therapies to light.](http://www.ncbi.nlm.nih.gov/pubmed/23227819) ***Antioxid Redox Signal***. 2013. PMID:23227819

7: Lau A, Whitman SA, Jaramillo MC, Zhang DD. [Arsenic-mediated activation of the Nrf2-Keap1 antioxidant pathway.](http://www.ncbi.nlm.nih.gov/pubmed/23188707) ***J Biochem Mol Toxicol***. 2013. PMID:23188707

6:  Lau A, Tian W, Whitman SA, Zhang DD. [The predicted molecular weight of Nrf2: it is what it is not.](http://www.ncbi.nlm.nih.gov/pubmed/22703241) ***Antioxid Redox Signal***. 2013. PMID:22703241

5: Villeneuve NF, Lau A, Zhang DD. [Regulation of the Nrf2-Keap1 antioxidant response by the ubiquitin proteasome system: an insight into cullin-ring ubiquitin ligases.](http://www.ncbi.nlm.nih.gov/pubmed/20486766) ***Antioxid Redox Signal***. 2010. PMID:20486766

4: Zhang DD. [The Nrf2-Keap1-ARE signaling pathway: The regulation and dual function of Nrf2 in cancer.](http://www.ncbi.nlm.nih.gov/pubmed/20486759) ***Antioxid Redox Signal***. 2010. PMID:20486759

3:  Villeneuve NF, Sun Z, Chen W, Zhang DD. [Nrf2 and p21 regulate the fine balance between life and death by controlling ROS levels.](http://www.ncbi.nlm.nih.gov/pubmed/19806015) ***Cell Cycle***. 2009. PMID:19806015

2:  Lau A, Villeneuve NF, Sun Z, Wong PK, Zhang DD. [Dual roles of Nrf2 in cancer.](http://www.ncbi.nlm.nih.gov/pubmed/18838122) ***Pharmacol Res***. 2008. PMID:18838122

1:  Zhang DD. [Mechanistic studies of the Nrf2-Keap1 signaling pathway.](http://www.ncbi.nlm.nih.gov/pubmed/17145701) ***Drug Metab Rev***. 2006. PMID:17145701

**Book chapters**

5: **Ferroptosis in Health and Disease**. Springer International Publishing.

**Chapter:** Dodson M, Shakya A, Chen J, Chen W, Mckee NM, Zhang DD. The NRF2-anti-ferroptosis axis in health and disease. 2023. 213-219.

4: **Advances in Pharmacology**. Elsevier.

***Chapter:*** Dodson M, Chen J, Shakya A, Annadurai A, Zhang DD. The dark side of NRF2 in arsenic carcinogenesis. 2023. ISSN 1054-3589

3: **Comprehensive Toxicology, 3rd Edition**. Elsevier.

Editor-in-Chiefs: Charlene McQueen. ISBN: 9780081006016

***Chapter:*** de la Vega MR, Dodson M, Zhang DD. Oxidative Signaling. 2017

2: Johnson J, Puga A, Wallace KB, and Zhang DD. Editorial Overview: Nrf2 in Toxicology: An Update. [***Curr Opin Toxicol***](https://www.ncbi.nlm.nih.gov/pubmed/29082352)***.*** 2016,1.

***Chapter:*** de la Vega MR, Dodson M, Chapman E, Zhang DD. NRF2-targeted therapeutics: New targets and modes of NRF2 regulation. [***Curr Opin Toxicol***](https://www.ncbi.nlm.nih.gov/pubmed/29082352)***.***2016 Dec;1:62-70.

1: Zhang DD. 2010. The Nrf2-Keap1-ARE signaling pathway: The regulation and dual function of Nrf2

in cancer. ***Antioxid Redox Signal***.

***Chapter:*** Villeneuve NF, Lau A, Zhang DD. [Regulation of the Nrf2-Keap1 antioxidant response by the ubiquitin proteasome system: an insight into cullin-ring ubiquitin ligases.](http://www.ncbi.nlm.nih.gov/pubmed/20486766) ***Antioxid Redox Signal***. 2010 Dec 1;13(11):1699-712.

**Scholarly Presentations:** (In the current position)

**Invited symposiums**

Dec. 2023 Center for Molecular Carcinogenesis and Toxicology 5th Annual Research Symposium, Austin, Tx.

Keynote Speech: “NRF2 in environmental response and cancer”

Nov. 2023 SfRBM 2023 & SFRRI 21st. Symposium Title “Bench to bedside translation for pharmacological regulation of NRF2”, Punta del Este, Uruguay.

Talk: “Development of therapeutics to target the “Dark Side” of NRF2”

Nov. 2023 International Symposium, "Molecular mechanisms of the environmental response to food and oxygen Vi" Sendai, Japan.

Talk: “From Antioxidant Defense to Iron Homeostasis: NRF2’s Multifaceted Guard Against Ferroptosis”

Oct. 2023 Cancer Prevention & Control, Arizona Cancer Center.

Talk: “NRF2-targeted therapies for treating refractory cancer”.

Mar. 2023 Translational Research Symposium, Co-organized by FIU and Cleveland Clinic.

Talk: “NRF2-targeted therapies for treating refractory cancer”

Nov. 2022 Society for Free Radical Research-Asia (SFRR-Asia)-2022. New Paradigm for Research on Oxidative Stress & Inflammation, Seoul National University, South Korea

Talk: “Anti-ferroptotic effects of NRF2: beyond the antioxidant response” at Symposium 3 chaired by Mi-Kyoung Kwak & Donna Zhang

Nov. 2022 The 53rd The Korean Academy of Science and Technology (KAST) International Symposium “New Insights on the Landscape of Redox Signaling in Human Diseases”, Seoul National University Faculty Club, Seoul, Korea

Talk: “Anti-ferroptotic effects of NRF2: beyond the antioxidant response”

July. 2022 UAB Research Center of Excellence in Arsenicals, CounterACT Grand Rounds Series.

Talk: “Arsenic and NRF2 Signaling in Cancer and Diabetes”

April. 2022 Arsenic-induced metabolic dysfuntion symposium, University of Nebraska Medical Center.

Talk: “Arsenic and NRF2 Signaling in Cancer and Diabetes”

March. 2022 Redox Webinar Series on NRF2 and Cancer. https://antiox.it

Talk: “The intricacies of NRF2 in cancer: NRF2-based therapeutics for cancer prevention and intervention”

Sept. 2021 23rd John Doull Toxicology Symposium, University of Kansas Medical Center.

Talk: “NRF2 in Disease Prevention and Intervention”

Sept. 2019 Twenty-Third Heidelberger Symposium on Cancer Research, Stintino, Sardinia, Italy.

Talk: “The intricacies of NRF2 regulation in cancer”

Sept. 2019 International Symposium, "Molecular mechanisms of the environmental response to food and oxygen V" Sendai, Japan.

Talk: “The NRF2 signaling network: crosstalk with ferroptosis and hedgehog signaling pathways”

July 2019 ICTXV, Society of Toxicology, Honolulu, Hawaii.

Section: “Recent trends in research on arsenic toxicity”

Talk: “Arsenic in oxidative stress vs. proteotoxic stress”

June 2019 Symposium “Araucária Symposium of Cell Biology”, Curitiba, Brizil

Talk: “The NRF2-KEAP1-ARE signaling pathway: regulation and dual role in cancer.”

May 2019 University of Iowa, Carver College of Medicine.

The Fourth Forum “Signaling pathways and non-coding RNAs in carcinogenesis, prevention and therapy of malignant tumors”.

Talk: “The NRF2-KEAP1-ARE signaling pathway in cancer prevention and treatment.”

Mar. 2019 The Society of Toxicology annual meeting, Baltimore, US.

Section: “Role of oxidative stress in health and disease: mechanism, methods of detection, and biomarkers”

Talk: “NRF2, oxidative stress, and inflammatory lung injury?”

Nov. 2018 Cold Spring Harbor Conference Asia, Suzhou, China

“NRF2, ROS, and Ferroptosis in human disease.”

Nov. 2018 The Gerontological Society of America (GSA) 2018 Annual Scientific Meeting

Biological Sciences Presidential Symposium: Free Radicals and Redox Regulation in Aging

“Reactive oxygen species and NRF2 signaling in human aging and diseases”

April. 2018 ASPET Annual Meeting at EB-2018

“Canonical and Non-Canonical Pathways of NRF2 activation.”

March. 2018 Cancer Colloquium 2018, St Andrews

“Nrf2, Primary Cilia and Hedgehog Signaling in Cancer.”

Nov. 2017 GSK Sponsored NRF2 Symposium in Suburban Philadelphia

“The Role of Nrf2 in disease prevention and intervention.”

June 2017 4th Red House Forum, International Obstetrics & Gynecology Summit. Shanghai, China.

“The Dual Role of Nrf2 in Cancer.”

April 2017 Better Cancer Therapy from Redox Biology. The Bunbury Center, Cold Spring Harbor Laboratory, NY.

“Role of Nrf2 in Cancer initiation, progression and metastasis.”

April 2017 Ferroptosis: A Critical Review. The Banbury Center, Cold Spring Harbor Laboratory, NY.

“Nrf2: an integrator of cellular iron and redox signaling.”

Oct. 2016 9th conference on metal toxicity and carcinogenesis, Lexington, Kentucky, US.

“Arsenic blocks autophagy by interfering with the autophagosome-lysosome fusion.”

Oct. 2016 International Union of Toxicologists (IUTOX)/XIV International Congress of Toxicology, Merida, Maxico.

Section: Molecular Toxicology

Talk: “Arsenic blocks autophagy by interfering with the autophagosome-lysosome fusion”

Aug. 2016 Pioneer Century Science (PCS) Global Diabetes Conference.

Theme: Innovation, Collaboration, Intergration, Globalization. Moscow, Russia.

Talk: “The Role of Nrf2 in Diabetic Diseases”

Apr. 2016 American Society for Pharmacology and Experimental Therapeutics (ASPET), Federation of American Societies For Experimental Biology 2013 annual meeting, San Diego, CA.

Section: “Advances in Toxicogenetics of Metals.”

Talk: “A Novel Mechanism of Arsenic in Modulating Autophagy and Nrf2 Stress Responses.”

Mar. 2016 The Society of Toxicology annual meeting, New Orleans, Louisiana, US.

Section: “Novel roles of reactive oxygen species (ROS) in human diseases: Why ROS never gets stale?”

Talk; “Nrf2: Tumor suppressor or oncogene?”

Feb. 2016 6th International Conference on Metals in Genetics, Chemical Biology and Therapeutics (ICMG-2016). Bangalore, India.

Session VIA:

Talk; “Nrf2 in arsenic toxicity and carcinogenicity”

Mar. 2015 The Society of Toxicology annual meeting, San Diego, CA.

Section: “Nrf2 signaling pathways in model systems: a master regulator of neurotoxicity and a potential therapeutic target.”

Talk; “The molecular mechanisms of Nrf2 regulation beyond Keap1: developing therapeutics targeting the “correct” E3 ubiquitin ligase for Nrf2 activation”

Jan. 2015 International symposiums The Keap1/Nrf2 pathway in Health and Disease, Robinson College, Cambridge, UK

“Nrf2: Molecular regulatory mechanisms and chemical modulation”

Nov. 2014 SFRBM Annual Meeting, Seattle, WA

Plenary Session: The Keap1-Nrf2 signaling pathway: Role in disease and pharmacological approaches

Talk “Nrf2 regulation and its dual role in cancer.”

Oct. 2014 ROS in Biology and Cancer. The Banbury Center, Cold Spring Harbor Laboratory, NY

Talk: “Nrf2 regulation and its dual role in cancer.”

Feb. 2014 International Symposium, "Molecular mechanisms of the environmental response to food and oxygen IV" Sendai, Japan.

Talk: “The molecular mechanisms of Nrf2 regulation beyond Keap1”

Nov. 2013 Boston U. Pharmacology & Experimental Therapeutics-Pfizer Symposium, Boston, MA

Therapeutic Innovation: Oxidative Stress and The Next Generation of Discovery

Talk: “The Nrf2-Keap1-ARE pathway and its dual roles in cancer.”

Aug. 2013 Gordon Research Conferences on Cellular & Molecular Mechanisms of Toxicity,

Andover, NH.

Section: “Nuclear Factor (Erythroid-derived 2) – Like 2 (Nrf2): is it all Good?”

Talk: “The regulation of Nrf2 and its dual role in cancer.”

Jul. 2013 The 14th SCBA International Symposium

Section: “Autophagy in Development and Disease”

Talk: "The role of autophagy in modulating the Nrf2-Keap1-ARE pathway”

Apr. 2013 The American Physiological Society, Federation of American Societies For Experimental Biology 2013 annual meeting, Boston, MA.

Section: “Nrf2 Signal Pathway in Human Diseases as Novel Therapeutics.”

Talk: “The Nrf2-Keap1-ARE pathway and the dual roles of Nrf2 in cancer.”

Oct. 2012 7th conference on metal toxicity and carcinogenesis, Albuquerque, New Mexico, US.

“The Distinct Mechanism of Nrf2 Activation by Arsenic.”

Jul. 2012 The 1st international Chinese Symposium on Free Radical, Lanzhou, China.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Jun. 2012 International Society for the Study of Xenobiotics (MDO-ISSX), Noordwijk aan Zee, Netherlands.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Oct. 2011 International Society for Trace Element Research in Humans (ISTERH),

Antalya (Belek), Turkey.

“Arsenic and the Nrf2-Keap1 pathway.”

Jul. 2011 Outstanding New Environmental Health Scientist Forum, Research Triangle Park, North Carolina, US.

“The protective role of Nrf2 against arsenic-induced toxicity and carcinogenicity.”

Mar. 2011 50th Anniversary of Society of Toxicology annual meeting, Washington, D. C., US.

Chair: “New insights into the Nrf2-Keap1 pathway and its impact on human disease.”

Talk: “Getting caught in the web of Nrf2-Keap1.”

Jul. 2010 Biological Reactive Intermediates International Conference VIII, Barcelona, Spain.

Talk 1: “The role of the Keap1-Nrf2-Cul3 system in cancer chemoprevention by natural products.”

Talk 2: “The Nrf2-Keap1-ARE signaling pathway and its dual role in cancer.

May. 2010 International Conference on Biomedical and Environmental Sciences and Technology, Beijing, China.

“Regulation of the Nrf2-mediated antioxidant response by Keap1: The protective role of Nrf2 against arsenic induced toxicity and carcinogenicity”

Nov. 2009 International Symposium, “Inflammation and Redox signaling,” Seoul, Korea.

“The role of Nrf2 in cancer: the dark side”

#### Aug. 2009 Federation of American Societies for Experimental Biology annual meeting, "Histone deacetylases and reversible acetylation in signaling and disease," Lucca, Italy.

“Regulation of the Nrf2-dependent antioxidant response.”

Feb. 2009 International Symposium, "Molecular mechanisms of the environmental response to food and oxygen III," Sendai, Japan.

“Direct interaction between Nrf2 and p21Cip1/WAF1 upregulates the Nrf2-mediated antioxidant response & acetylation in modulating the Nrf2 dependent antioxidant response.”

Nov. 2008 American College of Toxicology annual meeting, Tucson, Arizona, US.

“The Nrf2-dependent cellular defense mechanism in arsenic toxicity.”

Jan. 2008 International Conference on Nano/Micro Engineered and Molecular Systems annual meeting, Sanya, China.

“High-throughput screening of chemopreventive compounds that activates the Nrf2-dependent signaling transduction pathway.”

Jan. 2006 Biological Reactive Intermediates International Conference VII, Tucson, Arizona, US.

“The Nrf2/Keap1 signaling pathway, oxidative stress, and chemoprevention.”

**Invited seminars**

July, 2023 NIEHS ONES & River Program Joint Grantee Meeting

“Unraveling the secrets of NRF2: Investigating gene-environmental interactions in human health”

April, 2023 Annual IIT Seminar Series, Michigan State University.

“NRF2-mediated regulation of redox balance and iron homeostasis in human cancer”

May, 2022 Cellular and Molecular Basis of Disease (CMBD) seminar series, University of New Mexico Health Sciences Center (UNM HSC).

“NRF2 in Cancer and Diabetes”

April, 2022 The Center of Excellence in Environmental Toxicology (CEET), University of Pennsylvania

“NRF2-KEAP1 signaling system”

March, 2022 Purdue University Center for Cancer Research Seminar Series

“The intricacies of NRF2 in Cancer: NRF2-based Therapeutics for Cancer Prevention and Intervention”

Oct, 2021 3rd Annual Drug Discovery & Development Summit, AZDD, University of Arizona

“NRF2-based Therapeutics for Disease Prevention and Intervention”

Sept, 2021 Baylor College of Medicine

“NRF2 in Environmental Response and Disease Intervention”

March, 2021 Anatomy and Cell Biology, Western University, Canada

“The Intricacies of NRF2 in Cancer”

Jun, 2020 Baylor College of Medicine

“NRF2 in Environmental Response and Disease Intervention”

Jan, 2020 NYU Langone Medical Center

“Dual Role of NRF2 in Cancer”

Jan, 2020 NYU Langone Medical Center

“NRF2 in Environmental Response and Diabetes”

Jan. 2020 Pathology Grand Round, the University of Alabama at Birmingham.

“NRF2 in Environmental Response and Disease Intervention”

Jan. 2020 Center for Precision Environmental Health, Baylor College of Medicine

“NRF2 in Environmental Response and Disease Intervention”

Nov. 2019 John H. Blaffer lecture Series at MD Anderson

“The role of NRF2 in cancer prevention and intervention”

May. 2019 Cancer Prevention and Control (CPC), UA cancer Center

“NRF2, oxidative stress, and inflammatory lung injury”

Nov. 2018 Biology and Medical Sciences, Suzhou University, Suzhou, China

“The NRF2-KEAP1-ARE Signal Pathway: Regulation and Dual Role in Cancer”

Oct. 2018 The University of Arkansas for Medical Sciences (UAMS) Cancer Institute Forum, Little Rock, AR

“The intriguing role of NRF2 in cancer”

July 2018 GSK Partnerships, College of Pharmacy, University of Arizona

“The dual role of NRF2 in cancer: development of NRF2 inhibitors”

Feb. 2018 BCP Journal Club Seminar, Department of Chemistry & Biochemistry, University of Arizona

“Targeting Nrf2 for disease prevention and intervention”

Jan. 2018 Department of Chemistry & Chemical Biology, University of New Mexico

“Targeting Nrf2 for disease prevention and intervention”

Dec. 2017 UAHS Pathobiology Lung Seminar

“Targeting Nrf2 for disease prevention and intervention”

Nov. 2017 Department of Cell Biology, Albert Einstein College of Medicine

“The role of Nrf2 in cancer prevention and intervention”

Oct. 2017 Basic Medical Sciences, College of Medicine, UA Phoenix.

“The role of Nrf2 in cancer prevention and intervention.”

Sept. 2017 Integrative Biosciences & Department of Pharmaceutical Sciences, Wayne State University.

“Nrf2 in Environmental Response and Disease Intervention.”

May 2017 Department of Cell Systems & Anatomy, UT Health.

“Nrf2 in Environmental Response and Disease Intervention.”

April 2017 Department of Toxicology & Cancer Biology, University of Kentucky.

“Nrf2 in Environmental Response and Disease Intervention.”

Feb. 2017 Cancer Center, Medical College of Wisconsin.

“Nrf2 in Environmental Response and Disease Intervention.”

June 2016 ICIMED Investigación en Ciencias Médicas, Universidad de Ciencias Médicas, Costa Rica.

“The dual role of Nrf2 in cancer: chemical modulation of Nrf2 for cancer intervention.”

March 2016 Department of Pharmaceutical Sciences, School of Pharmacy, University of Connecticut

“Nrf2 in Environmental Response and Disease Intervention.”

Jan. 2016 Pharmacy and Pharmaceutical Sciences, University of Colorado

“Nrf2 in Environmental Response and Disease Intervention.”

Jan. 2016 Cancer Biology, the University of Arizona Cancer Center

“Nrf2 in Environmental Response and Disease Intervention.”

Jan. 2016 Cancer Prevention and Control Program, the University of Arizona Cancer Center

“Nrf2 in Environmental Response and Disease Intervention.”

Dec. 2015 The University of Arizona Cancer Center

“Harnessing Nrf2 for Cytoprotection: From the Inside to the Outside.”

Nov. 2015 Department of Pharmacology & Chemical Biology, University of Pittsburgh

“The dual role of Nrf2 in cancer.”

Nov. 2014 University of Nebraska-Lincoln, the Biochemistry Department, Redox Biology Center

“The dual role of Nrf2 in cancer: Nrf2 modulators as a novel anti-cancer therapeutics.”

Sep. 2014 University of Arizona Cancer Center, Cancer Biology Seminar

“The dual role of Nrf2 in cancer: Modulators of the Nrf2-Keap1-ARE pathway as a novel anti-cancer therapeutics.”

Aug. 2014 Ventana medical systems, Inc. Tucson, Arizona

“The dual role of Nrf2 in cancer: Modulators of the Nrf2-Keap1-ARE pathway as a novel anti-cancer therapeutics.”

Jul. 2014 Natural Products Affinity Group (NPAG), San Diego, CA

“Modulators of the Nrf2-Keap1-ARE pathway as novel therapeutics.”

Apr. 2014 Xinqiao Hospital Medical School, Third Military Medical University, Chongqing, China.

“Modulators of the Nrf2-Keap1-ARE pathway as novel therapeutics.”

Apr. 2014 College of Pharmacy, Zhejiang Ocean University, Zhoushan, Zhejiang, China

“Modulators of the Nrf2-Keap1-ARE pathway as novel therapeutics.”

Mar. 2014 The University of Southern California, Free Radical Institute, Los Angeles, CA.

“The regulation of Nrf2 and its dual role in cancer.”

Nov. 2013 Sanofi, Tucson Research Center, Oro valley, AZ

“Modulators of the Nrf2-Keap1-ARE pathway as novel therapeutics.”

Nov. 2013 Pfizer, Boston, MA

“Modulators of the Nrf2-Keap1-ARE pathway as novel therapeutics.”

Jul. 2013 School of Pharmaceutical Sciences, Shandong University, Jinan, Shandong, China.

“The Nrf2-Keap1 pathway and its dual role in cancer.”

May. 2013 Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill, Chapel Hill, NC.

“The Nrf2-Keap1 pathway and its dual role in cancer.”

Apr. 2013 Department of Pharmacology and Toxicology, School of Pharmacy, University of Missouri-Kansas City, Kansas, MO.

“The Nrf2-Keap1-ARE pathway and its dual role in cancer.”

Feb. 2013 Van Andel Research Institute, Grand Rapids, MI.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Aug. 2012 Department of Gynecology, Hospital of OB/GYN, Fudan University, Shanghai, China

“The dual role of Nrf2 in cancer.”

Mar. 2012 Cancer Prevention and Control, University of Arizona cancer Center, Tucson, Arizona, US.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Feb. 2012 Department of Pulmonary Medicine, the University of Texas MD Anderson Cancer Center, Houston, TX, US.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Feb. 2012 Department of Pathology & Laboratory Medicine, Brown University, Providence, RI, US.

“The Nrf2-Keap1-ARE pathway and a novel mechanism of Nrf2 induction by arsenic.”

Feb. 2012 College of Medicine-Phoenix, University of Arizona, Phoenix, Arizona, US.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Jan. 2012 Cellular and Molecular Basis of Disease (CMBD) series, School of Medicine, The University of New Mexico, Albuquerque, New Mexico, US.

“The Nrf2-Keap1-ARE pathway and it dual role in cancer.”

Jan. 2012 NYU Langone Medical Center/Cancer Institute, New York University, New York. US.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Jan. 2012 Nelson Institute of Environmental Medicine, New York University, New York. US.

“The protective role of Nrf2 in arsenic-induced toxicity and carcinogenicity.”

Dec. 2011 King Abdullah University of Science and Technology, Jeddah, Saudi Arabia.

“Cellular stress response and human disease.”

Nov. 2011 Barshop Institute for Longevity and Aging Studies, San Antonio, Texas, US.

“Dual role of Nrf2 in human disease.”

Sep. 2011 Department of Chemical and Environmental Engineering, University of Arizona, Tucson, Arizona, US.

“Cell-based high throughput screening of environmental pollutants.”

Feb. 2011 Public Health, Chinese Medical University, Shenyang, China.

“The Nrf2-mediated defense system.”

Jan. 2011 Department of Pathology, Northwestern University Feinberg School of Medicine, Chicago, Illinois, US.

“The Nrf2-Keap1-ARE signaling pathway and its dual role in cancer.”

May. 2010 Xinqiao Hospital Medical School, Third Military Medical University, Chongqing, China.

“The Nrf2-Keap1-ARE signaling pathway and human diseases.”

Mar. 2010 Department of Pharmacology, School of Medicine, Tucson, Arizona, US.

“Molecular program of cellular defense.”

Jan. 2010 Cancer Prevention and Control, Arizona Cancer Center, Tucson, Arizona, US.

“Dual Role of Nrf2 in Cancer: The Nrf2-Keap1-ARE signaling pathway.”

Dec. 2009 University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma, US.

“Dual role of Nrf2 in cancer: The Nrf2-Keap1-ARE signaling pathway.”

Nov. 2009 College of Pharmacy, Seoul National University, Seoul, Korea.

“Regulation of Nrf2-mediated antioxidant response.”

Oct. 2009 The Cancer Institute of New Jersey (UMDNJ/CINJ), New Brunswick, New Jersey, US.

“Dual role of Nrf2 in cancer: The Nrf2-Keap1-ARE signaling pathway.”

Sep. 2009 Department of Pharmacology and Toxicology, College of Pharmacy, Tucson, Arizona, US.

“The Regulation of an Antioxidant Response Mediated by The Nrf2-Keap1-ARE signaling pathway.”

Apr. 2009 Nelson Institute of Environmental Medicine, New York University Medical School, New York, New York, US.

“The Nrf2-dependent antioxidant response: the antioxidant function of p21Cip1/WAF1 is mediated by Nrf2.”

Nov. 2008 Biological Chemistry Graduate Program, Tucson, Arizona, US.

“Acetylation of Nrf2 by p300/CBP augments promoter-specific DNA binding of Nrf2 during antioxidant response.”

Jan. 2008 School of Pharmaceutical Sciences, Shandong University, Jinan, Shandong, China.

“The Nrf2-mediated endogenous antioxidant response.”

Jan. 2008 Fudan Medical School, Fudan University, China .

“The Nrf2-Keap1 signaling pathway and the endogenous antioxidant response.”

Oct. 2007 National Institute of Environmental Health Science center director annual meeting, Corvallis, Oregon, US.

“The protective role of Nrf2 in arsenic-induced toxicity and carcinogenicity.”

Mar. 2007 Department of Pathology, University of California, Irvine, California, US.

“The Nrf2-Keap1 signaling pathway and the endogenous antioxidant response.”

Feb. 2007 Biodesign Institute, Arizona State University, Tempe, Arizona, US.

“The Nrf2-Keap1 signaling pathway and the endogenous antioxidant response”

Nov. 2006 Biological Chemistry Graduate Program, Tucson, Arizona, US.

“The Nrf2 signaling pathway.”

Oct. 2006 National Institute of Environmental Health Science

“The protective role of Nrf2 in arsenic-induced toxicity and carcinogenicity.”

Sep. 2006 Cancer Biology Graduate Program, Arizona Cancer Center, Tucson, Arizone, US.

“The Nrf2/Keap1 signaling pathway.”

Sep. 2006 Superfund Colloquium, Tucson, Arizona, US

“The protective role of Nrf2 in arsenic-induced toxicity and carcinogenicity.”

**PROFESSIONAL SOCIETIES:**

1996-present Society of Toxicology

**GRANT SUPPORT:**

**Current**

R35ES031575 (Zhang) 06/01/2020-02/29/2028 6.00 Person Months

NIH/NIEHS $606,023 direct/year

NRF Transcription Factors in Environmental Stress and Disease Intervention

The major goals of this project include in-depth mechanistic investigations of arsenic pathogenesis/NRF signaling and the translation of basic mechanistic knowledge into preclinical drug development.

Role: PI

P42ES004940 (Maier) 04/01/2020-01/31/2025 2.35 Person Months

NIH/NIEHS $1,536,643

Exposures, Health Impacts, and Risk for Mine Waste Contamination

The goal is to build a mechanistic model of the contributions of chronic mine waste-arsenic exposure to the development of diabetes and associated metabolic disease to inform risk assessment tools that can be used to predict exposures and associated health outcomes and to inform public health prevention and interventions in communities that neighbor mine waste sites.

Role: Associate Director/PI (Project 1)

**Completed**

R01DK109555 (Zhang) 07/15/2016-06/30/2021 2.40 Person Months

NIH/NIDDK $230,213

Arsenic, Nrf2 and Autophagy Dysfunction in Type II Diabetes

The goal for this project is to investigate the molecular mechanisms by which arsenic alters the proteotoxic and oxidative stress responses to determine if these alterations aid to the onset and progression of diabetes using cell lines and a high fat diet-induced type II diabetes mouse model.

Role: PI

R01CA226920 (Ooi) 12/24/2018-11/30/2023 0.60 Person Months

NIH/NCI $197,976

Selective Killing of FH-/- Cancer Cells by Targeting Cellular Iron Homeostasis

This project investigates the feasibility and mechanisms of action of a novel rational drug combination that can specifically target FH-/- cancer cells while sparing normal cells. This drug combination enhances FH-/- cancer cells’ sensitivity to a cell death mechanism that is dependent on redox active iron.

Role: Collaborator

P01HL126609 (Garcia) 06/01/2016-03/31/2021 0.60 Person Months

NIH/NHLBI $1,657,039

Cytoskeletal Regulation of Lung Endothelial Pathobiology

In its 16th-20th year of proposed funding, the PPG will investigate the complex field of inflammatory lung injury, particularly, the spatial regulation of the dynamic actomyosin cytoskeleton (central stress fibers, lamellipodia formation, focal adhesion formation) involving MLCK, cortactin, c-Abl, EVL, and β-integrins.

Role: Co-I

P42 ES004940 Maier (PD)/Zhang (PI) 04/01/2018-03/31/2019

Project 5: Role of Nrf2 in the Pulmonary Response to Inhaled Mine Tailing Dust

This project investigates the mechanism by which arsenic-induced lung inflammation and dysfunction occur, which will enable the development of disease-preventive treatments for the populations at risk of arsenic.

R01 ES026845 Zhang (PI) 07/01/2016-06/30/2020

NRF2, autophagy, and arsenic carcinogenesis

The goal of this project is to investigate the detailed mechanism by which arsenic causes lung cancer. In turn, this will allow us to pinpoint markers of exposure to identify populations at risk of developing arsenic-induced lung cancer as well as to develop tailored therapies for the individuals who have already developed arsenic-induced lung cancer.

R01 ES023758 Chapman/Zhang (MPI) 02/01/2014-10/31/2018

Stress Response, p97, and NRF2 in Arsenic-Mediated Toxicity

This project investigated the biochemical mechanism of arsenic-mediated deregulation of p97, and NRF2, and dissected the interplay between arsenic, p97, autophagy, and NRF2.

R21 CA166926 Zhang/Wondrak (MPI) 01/01/2013-12/31/2014

Targeting colorectal carcinogenesis using a cinnamon-derived food factor

This project is to test the overall hypothesis that the cinnamon-derived food factor cinnamaldehyde represents a potent chemopreventive dietary factor targeting colorectal carcinogenesis through modulation of Nrf2-orchestrated cytoprotective mechanisms.

R01 CA154377 Zhang (PI) 08/15/2011-05/31/2017

Investigation of an anti-cancer phytochemical targeting NRF2

This project characterized the anti-cancer properties of brusatol, an inhibitor of the NRF2 pathway, using a preclinical lung cancer model and delineated the molecular targets and mechanistic actions of brusatol.

RSG-07-154-01-CNE Zhang (PI) American Cancer Society 07/01/2007-06/30/2012

Regulation of the Transcription Factor Nrf2 by Chemopreventive Compounds

The major goals of this project are to define the mechanism of Nrf2 regulation in response to the treatment of chemopreventive compounds

R01 ES015010 (ONES) Zhang (PI) 09/01/2006-01/31/2017

The protective role of NRF2 in arsenic-induced toxicity and carcinogenicity

This project aimed to define the protection of the transcription factor NRF2 against arsenic-induced toxicity and carcinogenicity and the mechanism of arsenic-mediated carcinogenicity.