Curriculum Vitae

Jae Kyeom Kim, MS, PhD

September, 2021

Table of Contents

Jae Kyeom Kim, MS, PhD

Assistant Professor
Department of Behavioral Health and Nutrition
College of Health Sciences
University of Delaware
Office: 302-831-7536
Mobile: 612-964-5647
Email: jkkim@udel.edu
ORCID: https://orcid.org/0000-0002-2837-9302

A. BIOGRAPHICAL DATA

Education

2013 **PhD, Nutritional Biochemistry; Minor in Toxicology**
Department of Food Science and Nutrition, University of Minnesota (UMN), St. Paul, MN

2009 **MS, Food Science and Biotechnology**
Department of Food and Biotechnology, Korea University (KU), Republic of Korea

2007 **BS, Food Science and Biotechnology**
Department of Food and Biotechnology, KU, Republic of Korea

Professional Appointments

2019-Present **Assistant Professor:** Department of Behavioral Health and Nutrition, University of Delaware (UD)

2019-2020 **Adjunct Faculty/Graduate Faculty:** Human Nutrition, School of Human Environmental Sciences, University of Arkansas (UA)

2016-2019 **Assistant Professor:** Human Nutrition, School of Human Environmental Sciences, UA

2016-2019 **Graduate Faculty:** Cell and Molecular Biology, UA

2015-2016 **Postdoctoral Fellow:** *Childhood obesity and potential roles in cancer development*. School of Human Environmental Sciences, UA

2014-2015 **Postdoctoral Fellow:** *Mechanisms of reducing PhIP-DNA adducts in rat colon by apiaceous vegetable intake*. Department of Food Science and Nutrition, UMN

2013-2015 **Postdoctoral Fellow:** *Effect of vegetable intake on heterocyclic amine metabolism in humans*. Department of Food Science and Nutrition, UMN

2009-2013 **Research Assistant:** *Reduction in colon and liver cancer risk by combined consumption of cruciferous and apiaceous vegetables*. Department of Food Science and Nutrition, UMN

2007-2009 **Research Assistant:** *Industrialization of anti-dementia material for prevention and remediation of Alzheimer's disease using edible plant resources*. Department of Food and Biotechnology, KU

B. TEACHING AND ADVISING

Teaching Experience

Instructor (*at UD*)

2021, Fall Nutrition Genetics and Genomics (Graduate level, 3 hours; 7 students enrolled), Department of Behavioral Health and Nutrition, UD (*Evaluation is not available yet*)

2020, Fall Advanced Micronutrient Metabolism (Graduate level, 3 hours; 6 students enrolled), Department of Behavioral Health and Nutrition, UD (*Evaluation is not available due to low response rate*)

2020, Spring Genetics in Health and Nutrition (Undergraduate level, 3 hours; 10 students enrolled), Department of Behavioral Health and Nutrition, UD (*Overall instructor evaluation score: 4.86/5.00*)

2019, Fall Nutrition Genetics and Genomics (Graduate level, 3 hours; 14 students enrolled), Department of Behavioral Health and Nutrition, UD (*Overall instructor evaluation score: 4.83/5.00*)

Instructor (*at UA*)

2019, Spring *Research Methods in Nutrition* (Undergraduate/graduate level, 2 hours; 42 students enrolled), School of Human Environmental Sciences, UA (*Overall instructor evaluation score: 4.42/5.00*)

2018, Fall *Advanced Nutrition* (Undergraduate/graduate level, 3 hours; 48 students enrolled), School of Human Environmental Sciences, UA (*Overall instructor evaluation score: 4.70/5.00*)

2018, Spring *Experimental Foods* (Undergraduate/graduate level, 2 hours; 34 students enrolled), School of Human Environmental Sciences, UA (*Overall instructor evaluation score: 4.46/5.00*)

2017, Fall *Advanced Nutrition* (Undergraduate/graduate level, 3 hours; 48 students enrolled), School of Human Environmental Sciences, UA (*Overall instructor evaluation score: 4.62/5.00*)

Teaching Assistant

2010-2013 *Experimental Nutrition* (Undergraduate level), Department of Food Science and Nutrition, UMN

2007-2008 *Food Chemistry* (Undergraduate level), Department of Food and Biotechnology, KU

Invited Lectures

2021 *Functional Food for Health* (Undergraduate level), Department of Food Science, Purdue University

2021 *Micronutrients* (Undergraduate level), Behavioral Health and Nutrition, UD

2020 *Current Topics in Nutritional Sciences* (Graduate level), Behavioral Health and Nutrition, UD

2020 *Weight Management in Adults* (Undergraduate level), Behavioral Health and Nutrition, UD

2018 *Special Problems* (Graduate level), School of Human Environmental Sciences, UA

2017 *Fundamentals of Nutrition* (Undergraduate level), School of Human Environmental Sciences, UA

2017 *Principles of Genetics* (Undergraduate level), Department of Poultry Science, UA

2017 *Experimental Foods* (Undergraduate level), School of Human Environmental Sciences, UA

2017 *Human Nutrition* (Undergraduate level), School of Human Environmental Sciences, UA

2017 *Seminar in American Culture, Communication, and Institutions* (Undergraduate level), UA

2016 *Fundamentals of Nutrition* (Undergraduate level), School of Human Environmental Sciences, UA

2014 *Nutrition and Genetics* (Graduate level), Department of Food Science and Nutrition, UMN

2013 *Good Laboratory Practice*, Department of Food Science and Technology, Gyeongnam National University of Science and Technology

2011-2012 *Experimental Nutrition* (Undergraduate level), Department of Food Science and Nutrition, UMN

Teaching Grant

2017 *International Faculty Enhancement Grant*, Office of Provost, UA

Research Advising

Current Lab Members

2021-Present Emily Van der Mooren, Department of Molecular and Medical Sciences, UD (*Undergraduate, funded by the UD Undergraduate Research Fellow*)

2021-Present Alexandra Wunderlich, Department of Molecular and Medical Sciences, UD (*Undergraduate, funded by the UD Undergraduate Research Fellow*)

2020-Present Liana Williams, Department of Behavioral Health and Nutrition, UD (*PhD student*)

2020-Present Lynn Ferro, Department of Behavioral Health and Nutrition, UD (*PhD student, co-advising with Dr. Jillian Trabulsi*)

2021-Present Brandy Le, Department of Behavioral Health and Nutrition, UD (*MS student*)

2016-Present Dr. Jeong-Hoon Pan, Department of Behavioral Health and Nutrition, UD (*Post-doc fellow*)

Past Graduate Advisees

2019-2021 Mersady Redding, Department of Behavioral Health and Nutrition, UD (*MS student*)
MS thesis title: *Apiaceous vegetables mitigate acrolein-induced lung injuries in C57BL/6J mice*

2019-2020 Yali Li, Department of Nutrition and Food Hygiene, Sichuan University (*Exchange PhD student*; *funded by the China Scholarship Council*)

2019-2020 Cara Cicalo, Department of Behavioral Health and Nutrition, UD (*MS/DI program*)

2018-2020 Kaleigh Beane, Human Nutrition, UA (*MS student*)
MS thesis title: *Effect of broccoli and carrots on fecal microRNA expression in infants: a short-term feeding study*

2018-2019 Saud Abdulsamad, Cell and Molecular Biology, UA (*PhD student; did not complete the program due to student's visa issue*)

2017-2019 Jingsi Tang, Sichuan Agricultural University (*Exchange PhD student; funded by the China Scholarship Council*)

Past Graduate Students Thesis Committee Member

2018-2019 Rosa Moreno Narvaez, Cell and Molecular Biology, UA (*MS student, co-advised with Dr. Trudo*)
Thesis title: *Anti-inflammatory effects of cruciferous and apiaceous vegetables in C57BL/6J mice colon*

Past Undergraduate Advisees

2020-2021 Justin Brown, Department of Medical and Molecular Sciences, UD (*Undergraduate, funded by the McNair Scholarship*)

2019-2021 Brandy Le, Department of Behavioral Health and Nutrition, UD (*Undergraduate*)

2018-2019 Cara Conner, Human Nutrition, UA (*Honors undergraduate*)

2018-2019 Mersady Redding, Human Nutrition, UA (*Honors undergraduate*)

2017-2018 Allison Montalbano, Human Nutrition, UA (*Honors undergraduate*)
Honors thesis title: *Effect of fructose on lipogenic signaling pathways in mitochondrial isocitrate dehydrogenase 2 deficient mice*

2017-2018 Kaleigh Beane, Human Nutrition, UA (*Honors undergraduate*)
Honors thesis title: *Effect of fructose on lipolysis signaling pathways in mitochondrial isocitrate dehydrogenase 2 deficient mice*

2017 Shir Barzilay, Human Nutrition, UA (*Undergraduate*)

Past Laboratory Personnel Training and Mentoring

2020 Suwon Jeon, Department of Behavioral Health and Nutrition, UD (*Research associate*)

2017-2018 Seongbae Kong, Fayetteville High-School (*High school student volunteer*)

2015-2016 Breann Abernathy, Department of Food Science and Nutrition, UMN (*Undergraduate*)

2011-2013 Marissa A. McCormick, Department of Food Science and Nutrition, UMN (*MS student*)

2009-2011 Noemia Strapazzon, Department of Food Science and Nutrition, UMN (*MS student*)

C. SCHOLARSHIP ACTIVITIES

Research Interests

- ✓ Multi-omics approaches to nutritional sciences
- ✓ Prevention of chronic diseases via foods and bioactive compounds therein
- ✓ Metabolism of carcinogens and its modulation through diets
- ✓ Toxicological aspects of foods and food toxicants
- ✓ Food chemistry and analytical chemistry

Peer Reviewed Primary Research Publications (advisees are underlined; * denotes corresponding authors; IF= Impact Factor released in respective year)

In Preparation

- Pan JH, Kim JH, Heo W, Lee SK, Park JW, Kim YJ, **Kim JK***, JH Lee*, and Sancar A*. Circadian clock description enhances fructose-induced liver fibrosis by mitochondrial DNA-driven inflammasome activation (To be submitted to *Science; Dr. Sancar is a Nobel laureate in Chemistry, 2015*)
- Chang MH, Moon JE, Jo EH, Le B, Williams L, Cha HV, Kim JW, Lim YJ, Pan JH, **Kim JK***, and JH Lee*. Curcumin ameliorates acrolein-induced pulmonary emphysema by inhibiting apoptosis of alveolar epithelial cells (To be submitted to *Redox. Biol.*)

In Revision

- Hong SJ, Kim DS, Lee JK, Boo CG, Youn MY, Le B, **Kim JK**, and Shin EC. Inhalation of basil (*Ocimum basilicum*) essential oil improved cardiovascular health and plasma lipid markers in high fat diet-induced obese male rats. *J Food Sci.* (*Contribution: manuscript writing, and data interpretation*; *2nd revision was submitted*)
- Redding MC, Pan JH, Kim YJ, Batish M, Trabulsi J, Lee JH, and **Kim JK***. Apiaceous vegetables protect acrolein-induced pulmonary injuries by modulating hepatic detoxification and inflammation in C57BL/6 male mice. *J. Nutr Biochem.* (*1st revision*)

Published (2015-Present)

1. Hwang YJ, Pan JH, Hwang HJ, Lee SJ, Choi DH, **Kim JK**, Heo W, Hwang KA*, and Kim YJ*. Fermentation of chestnut (*Catanea crenata Sieb*) inner shell enhances anti-obese effect in 3T3-L1 and C3H10T1/2 adipocytes. *J. Med. Food.* **(2021)** (DOI: 10.1089/jmf.2021.K.0017; *Contribution: manuscript writing, and data interpretation*; IF=2.786)
2. Pan JH, Cha HB, Tang J, Lee S, Lee SK, Le B, Redding MC, Kim SY, Batish M, Kong B*, Lee JH*, and **Kim JK***. The role of miR-33a, as a key regulator in hepatic lipogenesis signaling and a potential serological biomarker for NAFLD with excessive dietary fructose consumption in C57BL/6N mice. *Food Func.* **(2021)** 12 (2) 656-667 (IF=5.396)
3. Pan JH, Cicalo C, Le B, Jeon SW, Kim S, Hwang KA, Kong B, Lee JH, and **Kim JK***. Colonic transcriptomics reveals sex-dependent metabolic signatures in response to PhIP treatment in C57BL/6N mice. *Int. J. Mol. Sci.* **(2020)** (DOI: 10.3390/ijms21186620; IF=4.556)
4. Pan JH, Tang J, Kim YJ, Lee JH, Shin EC, Zhao J, Kim KH, Hwang KA, Huang Y* and **Kim JK***. IDH2 deficiency is critical in myogenesis and fatty acid metabolism in mice skeletal muscle. *Int. J. Mol. Sci.* **(2020)** (DOI: 10.3390/ijms21165596; IF=4.556)
5. Hong SJ, Cho J, Boo CG, Youn MY, Pan JH, **Kim JK**, and Shin EC. Inhalation of patchouli (*Pogostemon cablin* Benth.) essential oil improved metabolic parameters in obesity-induced Sprague Dawley rats. *Nutrients*. **(2020)** (DOI: 10.3390/nu12072077; *Contribution: manuscript writing, students advising, and revision*; IF=4.546)

6. Pan JH, Kim HJ, Tang J, Beane K, Kong S, Kong B, Kim YJ, Shin EC, Kim JH, Lee JH, and **Kim JK**[*]. Acute alcohol consumption-induced let-7a inhibition exacerbates hepatic apoptosis by regulating Rb1 in mice. *Alcohol*. **(2020)** 85 (4): 13-20 (IF=2.500)
7. Pan JH, Tang J, Redding MC, Beane K, Conner C, Cho YJ, Zhao J, Kim JH, Kong B, Lee JH, and **Kim JK**[*]. Hepatic transcriptomics reveals that lipogenesis is a key signaling pathway in isocitrate dehydrogenase 2 deficient mice. *Genes* **(2019)** (DOI: 10.3390/genes10090728; IF=3.331)
8. Pan JH, Tang J, Beane K, Redding MC, Cho YJ, Kim YJ, Zhao J, Shin EC, Lee JH, Kong B, and **Kim JK**[*]. Hepatic transcriptomics reveals that fructose exposure downregulated xenobiotics metabolizing enzymes through aryl hydrocarbon receptor signaling suppression in C57BL/6N mice. *Br. J. Nutr*. **(2019)** 122 (7): 769-779 (IF=3.657)
9. Lee JK, Kim DS, Cho J, Hong SJ, Pan JH, **Kim JK**, and Shin EC. *Perilla frutescens Britton*: A comprehensive study on flavor/taste and chemical properties during roasting process. *Molecules* **(2019)** (DOI: 10.3390/molecules24071374; *Contribution: manuscript writing and revision*; IF=3.098)
10. Hwang BB, Chang MH, Lee JH, Heo W, **Kim JK**, Pan JH, Kim YJ, and Kim JH[*]. The Edible insect *Gryllus bimaculatus*, protects against gut-derived inflammatory responses and liver damages in mice after acute alcohol exposure. *Nutrients*. **(2019)** (DOI: 10.3390/nu11040857; *Contribution: manuscript writing and revision*; IF=4.196)
11. Pan JH, Kim HS, Beane K, Montalbano A, Lee JH, Kim YJ, Kim JH, Kong B, Kim SY, Park JW[*], Shin EC[*], and **Kim JK**[*]. IDH2 deficiency aggravates fructose-induced NAFLD by modulating hepatic fatty acid metabolism and activation of inflammatory signaling in female mice. *Nutrients*. **(2018)** 10 (6)*,* 679 (DOI: 10.3390/nu10060679; IF=4.196)
12. **Kim JK**, Park JH, Lim YJ, Kim YJ, Park JW, and Lee JH. Naringin protects acrolein-induced pulmonary toxicity through modulation apoptotic signaling and inflammation signaling pathways in mice. *J. Nutr. Biochem*. **(2018)** 59 (9): 10-16 (IF=4.414)
13. **Kim JK**, Gallaher DD, and Trudo SP. Apiaceous vegetable intake modulates expression of DNA damage repair signaling pathway genes and microRNAs in Wistar rat colon. *J. Func. Food*. **(2018)** 45 (6): 138-145 (IF=3.470)
14. **Kim JK**, McCormick MA, Gallaher CM, Gallaher DD, and Trudo SP. Apiaceous vegetables and cruciferous phytochemicals reduced PhIP-DNA adducts formation in prostate but not pancreas of Wistar rats. *J. Med. Food.* **(2018)** 21 (2): 199-202 (IF=1.954)
15. Kim DS, Kim HS, Lee KT, Hong DL, Cho SR, Pan JH, Park YB, **Kim JK**[*], and Shin EC[*]. Chemical characterization and oxidative stability of medium- and long chain fatty acid profiles of plant seed oils. *J. Anal. Method Chem.* **(2018)** (Article ID 2178684; DOI: 10.1155/2018/2178684; IF=1.262)
16. Kim DS, Goo YM, Cho J, Lee JK, Lee DC, Sin SM, Kil YS, Jeong WM, Ko KH, Yang KJ, Kim YG, Kim SG, Kim K, Kim YJ, **Kim JK**, and Shin EC. Effect of volatile organic chemicals in *Chrysanthemum indicum* Linne on blood pressure and electroencephalogram. *Molecules* **(2018)** (DOI: 10.3390/molecules23082063; *Contribution: manuscript writing and revision*; IF=3.098)
17. Khatri B, Seo D, Shouse S, Hudson N, **Kim JK**, Bottje W, and Kong B. MicroRNA profiling associated with muscle growth in modern broiler compared to unselected chicken breed. *BMC Genomics* **(2018)** (DOI: 10.1186/s12864-018-5061-7; *Contribution: manuscript writing data interpretation, and revision*; IF=3.729)
18. Kim DS, Kim HS, Lee JK, Pan JH, Kim YJ, Woo SM, **Kim JK**, and Shin EC. Nutritional composition and sensory properties of different parts of *Wasabia Koreana Nakai*. *Molecules.* **(2018)** (DOI: 10.1186/s12864-018-5061-7; *Contribution: manuscript writing and study design*; IF=3.098)
19. Kim CR, Kim HS, Choi SJ, **Kim JK**, Gim MC, Kim YJ, and Shin DH. Erucamide from radish leaves has an inhibitory effect of acetylcholinesterase and prevents memory deficit induced by trimethyltin. *J. Med. Food.* **(2018)** (DOI: 10.1089/jmf.2017.4117; *Contribution: manuscript writing, and post-doc advising;* IF=1.954)
20. Park JH, Ku HJ, **Kim JK**, Park JW and Lee JH. Amelioration of high fructose-induced cardiac hypertrophy by naringin. *Sci. Rep*. **(2018)** (DOI:10.1038/s41598-018-27788-1; *Contribution: data interpretation and analyses*; IF=4.259)

21. Lim YJ, Kim JH, Pan JH, **Kim JK**, Park TS, Kim YJ, Lee JH, and Kim JH. Naringin protects pancreatic β-cells against oxidative stress-induced apoptosis by inhibiting both intrinsic and extrinsic pathways in insulin-deficient diabetic mice. *Mol. Nutr. Food Res*. **(2018)** 62 (5): (DOI: 10.1002/mnfr.201700810; *Contribution: manuscript writing, discussion of results, and student advising*; IF=5.151)
22. **Kim JK**, Strapazzon N, Gallaher CM, Stoll DR, Thomas W, Gallaher DD, and Trudo SP. Comparison of short- and long-term exposure effects of cruciferous and apiaceous vegetables on carcinogen metabolizing enzymes in Wistar rats. *Food Chem. Tox.* **(2017)** 108 (Part A): 194-202 (IF=3.977)
23. Pan JH, Lim YJ, Kim JH, Heo W, Lee KY, Shin HJ, **Kim JK**[*], Lee JH[*], and Kim YJ[*]. Root bark of *Ulmus davidiana* var. *japonica* restrains acute alcohol-induced hepatic steatosis onset in mice by inhibiting ROS accumulation. *PLoS One*. **(2017)** (DOI: 10.1371/journal.pone.0188381; IF=2.766)
24. Lim HJ, Kim DS, Pan JH, Kim MS, Kim HS, Shin EC[*], and **Kim JK**[*]. Characterization of physicochemical and sensory attributes of a novel high oleic peanut oil cultivar. *Appl. Biol. Chem.* **(2017)** 60 (6): 653-657 (IF=1.362)
25. Lim HJ, Kim MS, Kim DS, Pan JH, Kim YJ, Lee JH, Shin EC[*], and **Kim JK**[*]. Blood pressure lowering effects of Alcalase-hydrolyzed camellia seed hull in vitro and in spontaneous hypertensive rats. *J. Med. Food.* **(2017)** 20 (7): 720-723 (IF=1.954)
26. Cho KM, Lee BW, Kim HT, Ko JM, Baek IY, Lim HJ, Kim JY, Lee YB, **Kim JK**[*], and Shin EC[*]. Time-course effects of probiotic *Bacillus subtilis* CSY191 fermentation on fatty acids profiles of Korean soybean paste, *Cheonggukjang*, using new soybean cultivars. *J. Food. Drug Anal.* **(2017)** 24 (3): 637-653 (IF=2.852)
27. Bottje W, Khatri B, Shouse S, Seo D, Kong S, Mallmann B, Orlowski S, Pan JH, Owens C, Anthony N, **Kim JK**, and Kong B. Identification and differential abundance of mitochondrial genome encoding small RNAs in breast muscles of modern broilers and unselected chicken breed. *Front. Physiol*. **(2017)** 8: 816 (*Contribution: manuscript writing data interpretation, and revision;* IF=3.394)
28. Kim CR, Choi SJ, **Kim JK**, Kim YJ, Park GG, and Shin DH. 2,4-Bis (1,1-dimethylethyl) phenol from *Cinnamomum loureirii* improves cognitive deficit, cholinergic dysfunction, and oxidative damage in TMT-treated mice. *Biol. Pharm. Bull.* **(2017)** 40 (6): 932-935 (*Contribution: manuscript writing and revision;* IF=1.694)
29. **Kim JK**, Gallaher DD, Chi Chen, Gallaher CM, Dan Yao, and Trudo SP. PEITC and I3C from cruciferous vegetables but not furanocoumarins in apiaceous vegetables reduced PhIP-induced DNA adducts in Wistar rats. *Mol. Nutr. Food Res*. **(2016)** 60 (9): 1956-1966 (IF=5.151)
30. **Kim JK**, Lim HJ, Kim CR, Choi SJ, Shin DH, Kim CH, Choi JS, and Shin EC. Optimizing extraction conditions and elucidation of neuro-protective constituents from *Camellia japonica* seed cake using response surface methodology. *Pharmacogn. Mag*. **(2016)** 47 (12): 184-187 (IF=1.525)
31. **Kim JK**, Shin EC, Park GG, Kim YJ, and Shin DH. Root extract of water dropwort, *Oenanthe javanica* (Blume) DC, induces protein and gene expression of phase I carcinogen metabolizing enzymes in HepG2 cells. *SpringerPlus* **(2016)** 5 (413): 1-6 (DOI: 10.1186/s40064-016-2078-8; no IF available)
32. Cho SD, Hyun BH[*], and **Kim JK**[*]. Assessment of technological level of stem cell research using principal component analysis. *SpringerPlus* **(2016)** 5 (857): 1-17 (DOI: 10.1186/s40064-016-2494-9; no IF available)
33. Kim CR, Choi SJ, Kwon YK, **Kim JK**, Kim YJ, Park GG, and Shin DH. *Cinnamomum loureirri* extract inhibits acetylcholinesterase activity and ameliorates trimethyltin-induced cognitive dysfunction in mice. *Biol. Pharm. Bull.* **(2016)** 39 (7): 1130-1136 (*Contribution: manuscript writing and revision;* IF=1.694)
34. Kwon YK, Choi SJ, Kim CR, **Kim JK**, Kim YJ, Choi JH, Song SW, Kim CJ, Park GG, Park CS, and Shin DH. Antioxidant and cognitive enhancing activities of *Arctium lappa* L. roots in $A\beta_{1-42}$ induced mouse model. *Appl. Biol. Chem.* **(2016)** 59 (4): 553-565 (*Contribution: manuscript writing and revision;* IF=1.362)
35. Choi SJ, OH SS, Kim CR, Kwon YK, Suh SH, **Kim JK**, Park GG, Son SY, and Shin DH. *Perilla frutescens* extract ameliorates acetylcholinesterase and trimethyltin chloride-induced neurotoxicity. *J. Med. Food.* **(2016)** 19 (3): 281-289 (*Contribution: manuscript writing and revision;* IF=1. 954)

36. **Kim JK**, Gallaher DD, Chi Chen, Dan Yao, and Trudo SP. Intake of apiaceous vegetables decreases PhIP-induced genotoxicity and increases methylated PhIP metabolites in the urine metabolome in rats. *J. Nutr*. **(2015)** 145 (3): 442-451 (IF=4.145)
37. **Kim JK**, Shin EC, Lim HJ, Choi SJ, Kim CR, Suh SH, Kim CJ, Park GG, Park CS, Kim HK, Choi JH, Song SW, and Shin DH. Characterization of nutritional compositions, anti-oxidative capacity, and sensory attributes of *Artemisia argyi* H. *J. Anal. Methods Chem.* **(2015)** 2015: 1-9 (Article ID 916346; DOI: 10.1155/2015/916346; IF=1.262)
38. **Kim JK**, Lim HJ, Shin DH, Kim CR, Kim MJ, Chun JY, and Shin EC. The composition of fatty acids in commercial available vegetable oils and their relationship with protective effects against oxidative stress. *Hortic. Environ. Biotechnol.* **(2015)** 56 (4): 561-567 (IF=1.193)
39. **Kim JK**, Lim HJ, Shin DH, and Shin EC. Comparison of nutritional quality and thermal stability between peanut oil and common culinary oils. *Appl. Biol. Chem.* **(2015)** 58 (4): 527-532 (IF=1.362)
40. **Kim JK**, Shin EC, and Park HG. Fructooligosaccharides decreased the ability of probiotic *Escherichia coli* Nissle 1917 to adhere to co-cultures of human intestinal cell lines. *Appl. Biol. Chem.* **(2015)** 58 (1): 45-52 (IF=1.362)
41. Kwon YK, Choi SJ, Kim CR, **Kim JK**, Kim HK, Choi JH, Song SW, Kim CJ, Park GG, Park CS, and Shin DH. Effect of *Chaenomeles sinensis* extract on choline acetyltransferase activity and trimethyltin-induced learning and memory impairment in mice. *Chem. Pharm. Bull.* **(2015)** 63 (12): 1076-1080 (*Contribution: manuscript writing and revision;* IF=1.258)

Past Publications (2008-2014)

42. **Kim JK**, Kim CR, Lim HJ, Nam SH, Joo OS, Shin DH, and Shin EC. An optimized extraction technique for acetylcholinesterase inhibitors from the *Camellia japonica* seed cake by using response surface methodology. *Biosci*. *Biotechnol*. *Biochem*. 78 (7): 1237-1241
43. **Kim JK**, Shin DH, Park HG, and Shin EC. Cruciferous vegetables, glutathione *S*-transferases, and implications of their interaction to colorectal cancer risk: a review. *Appl. Biol. Chem.* 57 (4): 511-517
44. **Kim JK**, Park HG, Kim CR, Shin DH, Lim HJ, and Shin EC. Quality evaluation on use of camellia oil as an alternative method in dried seaweed preparation. *Prev. Nutr. Food Sci.* 19 (3): 234-241
45. Choi SJ, **Kim JK**, Cho HY, Kim HK, Suh SH, and Shin DH. *Ligularia fischeri* extract protects against oxidative stress-induced neurotoxicity in mice and PC12 cells. *J. Med. Food.* 17 (11): 1222-1231 (*Contribution: manuscript writing and revision*)
46. Kim CR, **Kim JK**, Shin EC, Choi SJ, Kwon YK, Kim YJ, Park GG, Park CS, and Shin DH. Application of response surface methodology to optimize the extraction of acetylcholinesterase inhibitors from *Rhodiolasa chalinensis*. *Appl. Biol. Chem.* 57 (6): 807-811 (*Contribution: manuscript writing, revision, data interpretation and student advising*)
47. **Kim JK**, Shin EC, Kim CR, Park GG, Choi SJ, and Shin DH. Effects of Brussels sprouts and their phytochemical components on oxidative stress-induced neuronal damages in PC12 cells and ICR mice. *J. Med. Food.* 16 (11): 1057-1061
48. **Kim JK**, Shin EC, Kim CR, Park GG, Choi SJ, Cho HY, and Shin DH. The composition of fatty acids of commercially-available tree nuts and their relationship with protective effects against oxidative stress-induced neurotoxicity. *Food Sci. Biotech*. 22 (4): 1097-1104
49. Choi SJ, **Kim JK**, Cho HY, Kim HK, Harris K, and Shin DH. 2,4-Di-tert-butylphenol from sweet potato and pomegranate protects against oxidative stress in PC12 cells and mice. *J. Med. Food.* 16 (11): 977-983 (*Contribution: manuscript writing, revision, and data interpretation*)
50. **Kim JK**, Choi SJ, Bae H, Cho HY, Hwang HJ, Kim YJ, Lim ST, Kim EK, Kim HK, and Shin DH. Effects of methoxsalen from *Poncirus trifoliate* on acetylcholinesterase and trimethyltin-induced learning and memory impairment. *Biosci*. *Biotechnol*. *Biochem*. 75 (10): 1984-1989

51. **Kim JK**, Choi SJ, Cho HY, Hwang HJ, Kim YJ, Lim ST, Kim EK, Kim HK, Trudo SP, and Shin DH. *Ipomoea batatas* attenuates amyloid beta (Aβ) peptide-induced neurotoxicity in ICR mice. *J. Med. Food.* 14 (3): 304-309
52. **Kim JK**, Choi SJ, Cho HY, Hwang HJ, Kim YJ, Lim ST, Kim CJ, Kim HK, Trudo SP, and Shin DH. Protective effects of kaempferol (3,4',5,7-tetrahydroxyflavone) against amyloid beta peptide (Aβ)–induced neurotoxicity in ICR Mice. *Biosci*. *Biotechnol*. *Biochem*. 74 (2): 1-5
53. **Kim JK**, Bae H, Kim MJ, Choi SJ, Cho HY, Hwang HJ, Kim YJ, Lim ST, Kim EK, Kim HK, Kim BY, and Shin DH. Inhibitory effect of *Poncirus trifoliate* on acetylcholinesterase and attenuating activity against trimethyltin-induced learning and memory impairment. *Biosci*. *Biotechnol*. *Biochem*. 73 (5): 1105-1112
54. Choi SJ, Kim MJ, Heo HJ, **Kim JK**, Jun WJ, Kim HK, Kim EK, Kim MO, Cho HY, Hwang HJ, Kim YJ, and Shin DH. Ameliorative effect of 1,2-benzenedicarboxylic acid dinonyl ester against amyloid beta peptide-induced neurotoxicity. *Amyloid.* 16 (1): 15-24 (*Contribution: manuscript writing and revision*)
55. Kim YI, Park JY, Choi SJ, **Kim JK**, Jeong CH, Choi SG, Lee SC, Cho SH, and Heo HJ. Changes in protecting effect of green tea on Aβ-induced neurotoxicity during storage. *Korean J. Food Preserv.* 15 (5): 743-748 (*Contribution: manuscript writing, revision*)
56. Kim JH, Park HG, Kim JH, Jung HG, **Kim JK**, Oh SS, Shin DH, Lym EJ, and Kim YJ. The development of a noble cooking method (alternate roasting with its own fat) for chicken to improve nutritional value. *J. Food Sci.* 73 (4): 180-184 (*Contribution: manuscript writing and revision*)
57. Jin SI, Kim YC, Kang SW, Jeong CH, Choi SJ, **Kim JK**, Choi SG, and Heo HJ. Analysis of nutritional components and development of an intermediate moisture food from sturgeon. *Korean J. Food Preserv.* 15 (5): 719-724 (*Contribution: manuscript writing and revision*)

Peer Reviewed Review Publications (advisees are underlined; * denotes corresponding authors; IF= Impact Factor released in respective year)

In Preparation

- Cicalo C, Li Y, Le B, Brown J, Williams L, Pan JH, Lennon S, and **Kim JK***. Acrolein, a cardiovascular toxicant and its applications to in vivo and in vitro cardiovascular models: an update (To be submitted to *Tox. Letter*)

Published

58. Beane K, Redding MC, Wang X, Pan JH, Jeon SW, Le B, Cicalo C, Kim YJ, Lee JH, Shin EC, Li Y, Zhao J, and **Kim JK***. Effects of dietary fibers, micronutrients, and phytonutrients on gut microbiome: a review. *Appl. Biol. Chem.* **(2021)** (DOI: 10.1186/s13765-021-00605-6; IF=1.813)
59. Pan JH, Abernathy B, Kim YJ, Lee JH, Kim JH, Shin EC, and **Kim JK***. Cruciferous vegetables and colorectal cancer prevention through microRNA regulation: a review. *Crit. Rev. Food Sci. Nutr.* **(2017)** 58 (12): 2026-2038 (IF=6.015)

Conference Presentations

Oral Presentations

- **Kim JK**. **2021**. Potential of microRNA-33 as a serological biomarker in fructose induced fatty liver conditions. (Online) *Korean Society of Food Science and Technology*. Daejeon, Republic of Korea
- **Kim JK**. **2020**. Unbiased approaches and applications of multi-omics to nutrition research. (Online) Presented at International Symposium and Annual Meeting. The Korean Society of Food Science and Nutrition. Jeju, Republic of Korea
- **Kim JK**. **2017**. Effects of apiaceous vegetables on a colon specific carcinogen, PhIP, metabolism in rats. Presented at the Arkansas Nutrition, Obesity, and Health Research Retreat, Fayetteville, AR

- **Kim JK**. **2013**. Apiaceous and cruciferous, and their phytochemicals decrease PhIP genotoxicity in rat colon and prostate. Presented at Experimental Biology. American Society for Nutrition (ASN). Boston, MA
- **Kim JK**. **2012**. Modulating effects of cruciferous, apiaceous, and combination diet on PhIP metabolism in Wistar rats. Presented at Experimental Biology. ASN. San Diego, CA
- **Kim JK**. **2011**. Reduction in colon cancer risk by consumption of cruciferous and apiaceous vegetables. Presented at International Symposium and Annual Meeting. The Korean Society of Food Science and Nutrition. Busan, Republic of Korea
- **Kim JK**. **2008**. Mitigative effects of plant extract against Aβ-induced learning and memory impairment. Presented at International Symposium and Annual Meeting. The Korean Society of Food Science and Nutrition. Jeju, Republic of Korea

Poster Presentations (advisees are underlined; * denotes a corresponding author)

- Le B, Pan JH, and **Kim JK***. **2020**. Hepatic transcriptomics suggests that xenobiotics metabolism is altered in isocitrate dehydrogenase 2 deficient mice. Presented at Undergraduate Research Celebratory Symposium, Newark, DE
- Trudo SP, Narvaez RM, Pan JH, Gallaher DD, **Kim JK**, and Chai J, and Zhao J. **2020**. Cruciferous vegetable supplementation modifies composition of mouse gut microbiome regardless of background diet. Presented at Nutrition 2020. ASN. Seattle, WA
- Redding MC, Beane K, Tang J, Lee JH, Kong B, **Kim JK**, and Pan JH. **2019**. An integration of transcriptomics and proteomics reveals that miR-33-3p is a key player for lipogenesis signaling in fructose induced NAFLD in C53BL/6N mice. Presented at Experimental Biology. American Physiology Society (APS). Orlando, FL
- Beane K, Pan JH, Kim JH, Tang J, Park JW, Kong B, Shin EC, Lee JH, and **Kim JK***. **2019**. Acute alcohol exposure-induced let-7a inhibition exacerbates hepatic apoptosis by regulating caspase-3 in mice. Presented at Experimental Biology. APS. Orlando, FL
- Beane K, Montalbano A, Pan JH, Kong BC, and **Kim JK***. **2018**. IDH2 deficiency aggravates fructose-induced NAFLD by activating inflammatory signaling in female mice. Presented at Experimental Biology. APS. San Diego, CA
- Tang J, Pan JH, Zhao J, **Kim JK***, and Huang Y*. **2018**. IDH2 deficiency disrupts energy homeostasis and skeletal muscle development by up-regulating UCP1 expression in mice. Presented at Experimental Biology. APS. San Diego, CA
- Pan JH, Lim HJ, Shin EC, and **Kim JK***. **2017**. Alcalase-hydrolyzed camellia seed hull inhibited angiotensin converting enzyme activity and lowered blood pressure in spontaneous hypertensive rats. Presented at Experimental Biology. ASN. Chicago, IL
- Pan JH, Lim YJ, Shin HJ, Kim JH, Lee KY, **Kim JK**, Lee JH, and Kim YJ. **2017**. Root bark of *Ulmus davidiana var. japonica* restrains alcohol-induced hepatic steatosis and inflammation in mice by inhibiting ROS accumulation. Presented at Experimental Biology. ASN. Chicago, IL
- Kim HJ, Pan JH, **Kim JK**, Kim YJ, Lee JH, and Park JW. **2017**. Chlorogenic acid ameliorates alcoholic liver disease through microRNA-mediated restoration of mitochondrial redox system. Presented at Experimental Biology. ASN. Chicago, IL
- **Kim JK**, Gallaher DD, and Trudo SP. **2016**. Apiaceous vegetable intake modulates expression of DNA damage signaling pathway genes and miRNA in Wistar rats. Presented at Experimental Biology. ASN. San Diego, CA
- **Kim JK**, Warnert M, Gallaher DD, and Trudo SP. **2013**. Apiaceous and cruciferous vegetables and their purified phytochemicals decrease PhIP genotoxicity in rat colon and prostate. Presented at Experimental Biology. ASN. Boston, MA
- **Kim JK**, Chen C, Gallaher DD, and Trudo SP. **2012**. Modulation of the metabolism of the carcinogen PhIP in rats by cruciferous and apiaceous vegetables. Presented at Experimental Biology. ASN. San Diego, CA
- **Kim JK**, Choi SJ, Kim HK, Cho HY, and Shin DH. **2008**. Isolation of anti-dementia material from native plants for

remedying Alzheimer's disease. Presented at International Symposium and Annual Meeting. *Korean Society of Food Science and Technology*. Gwangju, Republic of Korea

- **Kim JK**, Choi SJ, Kim MJ, Kim HK, Cho HY, Hong BS, Kim YJ, and Shin DH. **2007**. Protective effect of plant extracts against Aβ-induced neurotoxicity. Presented at International Symposium and Annual Meeting. *Korean Society of Food Science and Technology*. Busan, Republic of Korea

Conference Abstracts (advisees are underlined; * denotes corresponding authors)

- Trudo SP, Narvaez RM, Pan JH, Gallaher DD, **Kim JK**, and Chai J, and Zhao J. 2020. Cruciferous vegetable supplementation modifies composition of mouse gut microbiome regardless of background diet. Curr. Dev. Nutr. (DOI: 10.1093/cdn/nzaa062_052)
- Redding MC, Beane K, Tang J, Lee JH, Kong B, **Kim JK*** and Pan JH*. **2019**. An integration of transcriptomics and proteomics reveals that miR-33-3p is a key player for lipogenesis signaling in fructose induced NAFLD in C53BL/6N mice. *FASEB J.* 33: 870.8
- Beane K, Pan JH, Kim JH, Tang J, Park JW, Kong B, Shin EC, Lee JH, and **Kim JK***. **2019**. Acute alcohol exposure-induced let-7a inhibition exacerbates hepatic apoptosis by regulating caspase-3 in mice. *FASEB J.* 33: 582.8
- Tang J, Pan JH, Zhao J, **Kim JK***, and Huang Y*. **2018**. IDH2 deficiency disrupts energy homeostasis and skeletal muscle development by up-regulating UCP1 expression in mice. *FASEB J.* 32: 589.12
- Beane K, Montalbano A, Pan JH, Kong BC, and **Kim JK***. **2018**. IDH2 deficiency aggravates fructose-induced NAFLD by activating inflammatory signaling in female mice. *FASEB J.* 32: 670.37
- Kim HJ, Pan JH, **Kim JK**, Kim YJ, Lee JH, and Park JW. **2017**. Chlorogenic acid ameliorates alcoholic liver disease through microRNA-mediated restoration of mitochondrial redox system. *FASEB J.* 31: 46.3
- Pan JH, Lim YJ, Shin HJ, Kim JH, Lee KY, **Kim JK**, Lee JH, and Kim YJ. **2017**. Rood bark of *Ulmus davidiana var. japonica* ameliorates alcohol-induced hepatic steatosis in mice by inhibiting oxidative stress-mediated MAPK activation. *FASEB J.* 31: 793.10
- **Kim JK**, Gallaher DD, and Trudo SP. **2016**. Apiaceous vegetable intake modulates expression of DNA damage signaling pathway genes and miRNA in Wistar rats. *FASEB J.* 30: 688.17
- **Kim JK**, Warnert M, Gallaher DD, and Trudo SP. **2013**. Cruciferous and apiaceous vegetable intake protect colon and prostate against PhIP genotoxicity in Wistar rats. *FASEB J.* 27: 235.7
- **Kim JK**, Gallaher DD, and Peterson S. **2012**. Modulating effects of cruciferous, apiaceous, and combination diet on PhIP metabolism in Wistar rats. *FASEB J*. 26: 376.5
- Strapazzon N, Gallaher CM, **Kim, JK**, Thomas W, Gallaher DD, and Peterson S. **2011**. Time course effect of cruciferous and apiaceous vegetable intake on rat CYP1A1 and CYP1A2. *FASEB J*. 25: 583.10

Research Grant Proposals

In Preparation (for new submission and/or resubmission)

2021 Effects of Westernized diets on metabolism of a dietary carcinogen, PhIP, and colon cancer markers in mice (To be submitted to the NCI/NIH in October 2021, R01; Role: PI)

2022 Interactions between alcohol and dietary carcinogen-induced colon cancer: Exploratory study; submitted to the NIH, R03 (Received score for A0, to be revised and resubmitted in Feb 2022; Role: co-I)

2022 Mitigation of comorbidity and secondary morbidities of radiotherapy in mitochondrial isocitrate dehydrogenase 2 deficient mice; submitted to the NIH, R01 (to be revised and resubmitted in Feb 2022; Role: multi-PI)

Under Review

2020 Mitigating radiotherapy related side effects in liver cancer patients by targeting mitochondrial redox system;

preclinical and biomarker studies. submitted to the Department of Defense (DoD), Peer Reviewed Cancer Research Program - Translational Team Science Award (Requested direct budget: $2,500,000/4 years; Role: multi-PI; *scored 'Excellent' in 2021 thus revised and resubmitted*)

Funded Research Projects-Ongoing

2019-2021 Apiaceous vegetables mitigate acrolein-induced atherosclerosis in ApoE null mice; granted by the NIH/NIGMS, 5P20GM113125-04 NIH/NIGMS (Granted budget: $370,510; Role: PI of a sub-project)

2018-2021 Protective effects of curcumin in pulmonary system against acrolein induced toxicity in mice and Asian city dwellers; granted by the Ottogi Research Foundation (Granted budget: $300,000/3 years; Role: Co-PI)

2020-2021 Delaware INBRE core center access application; Granted by Delaware INBRE, NIH/NIGMS (Granted budget: $8,000; P20GM103446; Role: PI)

2021 The effect of apiaceous and cruciferous vegetable intake in infancy on gastrointestinal microbiota; submitted to the University of Delaware Summer Doctoral Fellows, (Requested direct budget: $4,500; Role: co-Mentor; Mentee: Lynn Ferro)

Funded Research Projects-Completed

2021 Apiaceous and cruciferous vegetable impact on the modification of gut bacterial communities in infants; submitted to the McNair Scholars Program, (Requested budget: $250 plus student stipend; Role: Mentor; Mentee: Justin Brown)

2021 Impacts of cruciferous and apiaceous vegetables on human carcinogen urinary metabolites; submitted to the University of Delaware Undergraduate Research Program Summer Fellows, (Requested direct budget: $750; Role: Mentor; Mentee: Alexandra Wunderlich)

2020 Apiaceous vegetables enhance detoxification of environmental toxicant, acrolein; granted by the University of Delaware Undergraduate Research Program (Granted budget: $4,000; Role: Mentor; Awardee: Brandy Le)

2019-2020 Gene editing and transgenic poultry production; granted by the Office of the Chancellor, UA (Granted budget: $115,665/2 years; Role: Co-PI)

2019 Acquisition of high-performance liquid chromatography; submitted to the College of Health Sciences, UD (Granted budget: $25,000; Role: PI)

2018-2019 Effects of chondroitin sulfate on immune functions in lipopolysaccharide treated mice; granted by the Kwangdong Pharmaceuticals (Granted budget: $200,000/1 year; Role: Co-PI)

2018 Effect of fructose on lipolysis signaling pathways in mitochondrial isocitrate dehydrogenase 2 deficient mice; granted by the Honors College Research Grant (Granted budget: $3,200/6 months; Role: Mentor; Awardee: Kaleigh Beane)

2018 Effect of fructose on lipogenic signaling pathways in mitochondrial isocitrate dehydrogenase 2 deficient mice; granted by the Student Undergraduate Research Fellowship (Granted budget: $2,750/6 months; Role: Mentor; Awardee: Allison Montalbano)

2017-2020 Determination of roles of mitochondrial small RNAs in metabolic disease phenotypes using isocitrate dehydrogenase 2 knock-out mice and genetically selected chicken models; granted by the Arkansas Biosciences Institute (ABI) (Granted budget: $150,000/3 years; Role: Co-PI)

2017-2019 Impact of glucosinolate-rich broccoli on gut microbiota, microRNA profile, and immune health in infants; granted by the Office of the Chancellor, UA (Granted budget: $125,184/2 years; Role: PI)

2017-2018 MicroRNA-mediated chemopreventive mechanisms of apiaceous vegetables against acrolein-induced lung injury; granted by the ABI (Granted budget: $32,235/year; Role: PI)

2017 Effects of chlorogenic acid on liver microRNA profile in C57BL/6J mice; granted by KU (Granted budget: $3,700; Role: PI)

2016-2017 An investigation on the utilization of camellia (*Camellia japonica* L.) seed oil and seed cake as food sources; granted by the National Research Foundation of Korea (NRF) (Granted budget: $110,000/30 months; Role: Consultant)

Letter of Intent-Approved

2020 Mitigating radiotherapy related side effects in liver cancer patients by targeting mitochondrial redox system; submitted to the DoD (Requested budget: $1,500,000/4 years; Role: PI)

2018 Effects of apiaceous vegetables intake on PhIP-induced colon carcinogenesis in humanized mice; submitted to the American Institute for Cancer Research (AICR) (Requested budget: $165,000/2 years; Role: PI)

2017 Protective effects of curcumin in pulmonary system against acrolein induced toxicity in mice and Asian city dwellers; submitted to the Ottogi Research Foundation (Requested budget: $300,000/3 years; Role: Co-PI; 50% to my program)

Letter of Intent-Not invited

2020 Fructose promotes a dietary carcinogen, PhIP-induced colon tumorigenesis via suppression of hepatic and colonic AhR signaling in humanized mice; submitted to the AICR (Role: PI; Requested budget: $175,000)

2019 Effects of fructose intake on PhIP-induced colon carcinogenesis in humanized mice; submitted to the Concern Foundation (Requested budget: $120,000/2 years; Role: PI)

2017 Optimization of curcumin extraction conditions and protective effects of curcumin in pulmonary system against acrolein induced toxicity in mice and Asian city dwellers; submitted to the Ottogi Research Foundation (Requested budget: $450,000/5 years; Role: Co-PI)

2016 Impact of glucosinolate-rich broccoli on gut microbiota, microRNA profile, and immune health in infants; submitted to the Gerber Foundation (Requested budget: $350,000/3 years; Role: Co-PI)

Research Grants-Not funded

2021 Mitigation of secondary morbidities of radiotherapy in IDH2 deficient mice; submitted to the Delaware INBRE, NIH/NIGMS (Requested direct budget: $120,000/2 years; Role: PI)

2021 Impacts of mitochondrial $NADP^+$-dependent isocitrate dehydrogenase on a dietary carcinogen, PhIP,-induced colon carcinogenesis in mice; submitted to the University of Delaware Research Foundation (Role: PI; Requested budget: $38,500; *recommended to resubmit*)

2020 Mitigating radiotherapy related side effects in liver cancer patients by targeting mitochondrial redox system; submitted to the Department of Defense (DoD), Peer Reviewed Cancer Research Program - Translational Team Science Award (Requested direct budget: $1,500,000/4 years; Role: multi-PI; *scored 'Excellent' but 'not recommended to fund'*)

2020 Fructose exacerbates a dietary carcinogen, PhIP-induced colon carcinogenesis in humanized mice; submitted to the Allen Foundation (Role: PI; Requested budget: $121,008)

2020 Impacts of mitochondrial $NADP^+$-dependent isocitrate dehydrogenase on a dietary carcinogen, PhIP,-induced colon carcinogenesis in mice; submitted to the University of Delaware Research Foundation (Role: PI; Requested budget: $38,500; *recommended to revise and resubmit*)

2020 Effects of high fructose corn syrup on carcinogen metabolism and inflammatory markers in healthy adults; submitted to the Center for Innovative Health Research (Role: PI; Requested budget: $15,000)

2019 The Arkansan gut microbiome in healthy aging; submitted to the Office of the Chancellor, UA (Requested budget: $150,000/2 years; Role: Co-PI)

2018 Reducing colon inflammation and cancer risk with cruciferous and apiaceous vegetables; revised and re-submitted to the USDA (Requested budget: $500,000/3 years; Role: Co-PD)

2018 Investigation of pulmonary protection of red ginseng intake through modulation of microRNA and lung microbiome; revised and re-submitted to the Korean Society of Ginseng (Requested budget: $60,000/year; Role: PI)

2018 Effects of apiaceous vegetables intake on PhIP-induced colon carcinogenesis in high-fat diet fed humanized mice; submitted to the AICR (Requested budget: $165,000/2 years; Role: PI)

2018 Gene editing and transgenic poultry production; submitted to the Office of the Chancellor, UA (Requested budget: $149,590/2 years; Role: Co-PI)

2018 The Arkansan gut microbiome in healthy aging; submitted to the Office of the Chancellor, UA (Requested budget: $150,000/2 years; Role: Co-PI)

2018 Transformed fat, a new strategy against obesity?; submitted to the Office of the Chancellor, UA (Requested budget: $89,922/1 year; Role: Co-PI)

2018 Effects of PhIP on JAK/STAT signaling in human adipocytes and brown adipocyte differentiation: is PhIP a hidden culprit of obesity?; submitted to the UAMS Office of the Vice Chancellor for Research (Requested budget: $25,000/year; Role: PI)

2017 Investigation of pulmonary protection of red ginseng intake through modulation of microRNA and lung microbiome; submitted to the Korean Society of Ginseng (Requested budget: $60,000/year; Role: PI)

2017 Reducing colon inflammation and cancer risk with cruciferous and apiaceous vegetables; submitted to the USDA (Requested budget: $500,000/3 years; Role: Co-PD; *recommended to revise and resubmit in 2018*)

2017 Implications of mitochondrial NADP+-dependent isocitrate dehydrogenase deficiency on adipose tissue transcriptome in fructose induced obese mice; submitted to the Youlchon Foundation (Requested budget: $20,000/1 year; Role: PI)

2017 Effect of metformin on beige adipogenesis through AMPKα1 pathway in UCP1 knockout mice; submitted to the Office of the Chancellor, UA (Requested budget: $90,249/2 years; Role: Co-PI)

2017 Multi-omics approaches to study the integrated regulation of growth and defense in plants and animals; submitted to the NSF (Requested budget: $5.9 million/4 years; Role: Co-PI; managing $616,305/4 years)

2017 Implications of mitochondrial NADP+-dependent isocitrate dehydrogenase deficiency in satiety hormonal dysregulation and non-alcoholic fatty liver disease conditions; submitted to the ABI (Requested budget: $59,800/year; Role: PI)

2017 The Arkansan gut microbiome in healthy aging; submitted to the ABI (Requested budget: $150,000/3 years; Role: Co-PI)

2017 Harnessing the power of plant glucosinolates and their chemopreventive potential against lung cancer; submitted to the ABI (Requested budget: $150,000/3 years; Role: Co-PI)

2017 Biomarker identification of menopausal metabolic disease associated with mitochondrial disruption; submitted to the NRF (Requested budget: $2.4 million/6 years; Role: PI)

2016 Investigation of immune enhancing activity of red ginseng through microRNA and gut microbiome mechanisms; submitted to the Korean Society of Ginseng (Requested budget: $70,000/year; Role: PI)

2016 Effects of *C. japonica* L. seed cake on the Renin-Angiotensin signaling pathway and blood pressure lowering potency through microRNA modulation in Spontaneously Hypertensive Rats; submitted to the NRF (Requested budget: $135,000/3 years; Role: Co-PI)

Honors and Awards

Honors

2019 Research Merit Honor Roll, School of Human Environmental Sciences, UA, Fayetteville, AR

2019 Faculty Research Award, Gamma Sigma Delta, The Honor Society of Agriculture, Arkansas Chapter, Fayetteville, AR

2018 Honors Program Mentor, Dale Bumpers College of Agricultural, Food and Life Sciences, UA, Fayetteville, AR

2018 Outstanding Mentor, Office of Nationally Competitive Awards, UA, Fayetteville, AR

2017 Teaching Merit Honor Roll, School of Human Environmental Sciences, UA, Fayetteville, AR

2017 Research Merit Honor Roll, School of Human Environmental Sciences, UA, Fayetteville, AR

2013 First Place in Student Poster Presentation Competition (Graduate student competition), Experimental Biology, ASN, Boston, MA

2013 First Place in Student Poster Presentation Competition (Graduate student competition), Department of Food Science and Nutrition, UMN, St. Paul, MN

2012 First Place in Student Poster Presentation Competition (Graduate student competition), Experimental Biology, ASN, San Diego, CA

2011 Second Place in Student Oral Presentation Competition (Graduate student competition), International Symposium and Annual Meeting, Korean Society of Food Science and Technology, Busan, Republic of Korea

2008 Certificate of Excellent Performance in Student Oral Presentation Competition, International Symposium and Annual Meeting, Korean Society of Food Science and Technology, Busan, Republic of Korea

2004-2006 First Class Honors, Department of Food Science and Biotechnology, KU, Republic of Korea

2006 First Place in Undergraduate Oral Presentation Competition, KU, Republic of Korea

Scholarships and Assistantships

2011-2012 Teaching Assistantship, Department of Food Science and Nutrition, UMN

2009-2013 Research Assistantship, Department of Food Science and Nutrition, UMN

2007-2009 Research Assistantship, Department of Food Science and Biotechnology, KU

2006 General Scholarship ($10,000/year), Oh Hyun-Ho Scholarship Foundation

2006 Centennial Memorial Scholarship, KU

2004-2005 Honor Scholarship ($6,000 per semester; 3 consecutive semesters), KU

2004 Special Scholarship, Lee Sung-Won Scholarship Foundation

Patents

- Shin DH, Choi SJ, **Kim JK**, Cho HY, and Kim YJ. **2013**. Composition comprising *Ligularia fischeri* extract which contains inhibitor against amyloid β peptide-induced oxidative stress. (10-2010-0087968, Republic of Korea)
- Shin DH, Cho HY, Kim YJ, Kim HK, Heo HJ, Choi SJ, **Kim JK**, Cho CH, and Koo BS. **2009**. *Ipomoea batatas* extract having brain neuron cell-protective activity and use thereof. (10-2010-0093413, Republic of Korea)

D. SERVICE ACTIVITIES

For the Profession

Professional Affiliations

2018-Present Gamma Sigma Delta, The Honor Society of Agriculture, Member
2017-Present Korea Institute of Science and Technology, Expert Group Member (Nutritional Science)
2016-Present The Korean Society of Ginseng, Member
2016-Present The Obesity Society, Member
2009-Present ASN, Member

Ad Hoc Grant Review

2021 XNDA study section, Center for Scientific Review, NIH

Editorial Board

2020-2021 *Int. J. Mol. Sci.* (IF=5.923)

Standing Review Board

2021-Present *Metabolites* (IF=4.932)

Ad Hoc Manuscript Reviews

2021 *Metabolites.* (April), *Physiol. Genomics* (May)
2020 *Food Sci. Biotech.* (January); *J. Photochem. Photobiol.* (May); *Chem. Biol. Interact.* (July); *Pharm Res*. (August); *J. Leukoc. Biol.* (November); *Appl. Biol. Chem.* (December)
2019 *Food. Chem. Tox.* (January); *J. Med. Food* (March and October); *Nutrients* (August); *Environ. Tox*. (September); *Heliyon* (November)
2018 *Food Sci. Biotech.* (February and July); *PLoS One* (May and August); *Nutrients* (August)
2017 *J. Food Drug Anal.* (February); *Measurements* (February); *J. Agri. Food Chem.* (April); *Biomed Pharmcother* (September); *Oncotarget* (December)
2016 *Med. Chem.* (November)
2014 *J. Kor. Chem. Eng.* (January)
2013 *Food. Chem. Tox.* (July and September); *J. Acad. Nutr. Diet.* (January)

Ad Hoc Conference Abstract Reviews

2021 ASN Nutrition Meeting (February)
2020 ASN Nutrition Meeting (February)
2018 ASN Nutrition Meeting (January)
2016 Experimental Biology (December)

For the University

2017-2019 Center for Human Nutrition, UA, Member
2018 Honors College, UA, *Ad hoc* grant reviewer

For the Department

2021 Curriculum Committee, Department of Behavioral Health and Nutrition, Member
2020 Graduate Studies Committee, Department of Behavioral Health and Nutrition, Member
2019 Graduate Studies Committee, School of Human Environmental Sciences, Member
2018 Faculty Search Committee, Human Nutrition and Hospitality Innovation, Member

2017-2019	School Award Committee, School of Human Environmental Sciences, Member
2017-2019	Human Nutrition Initiative, Human Nutrition and Hospitality Innovation, Member
2016	Faculty Search Committee, Human Nutrition and Hospitality Innovation, Member

E. MISCELLANEOUS

Extracurricular Activities

2006 Basic training in intellectual property rights, KU

2002-2004 Korean augmentation troops to the United States Army, The U. S. Army, Republic of Korea

References

Daniel D. Gallaher, PhD
Professor
Department of Food Science and Nutrition
University of Minnesota
Email: dgallahe@umn.edu
Phone: 612-624-0746

Sabrina P. Trudo, PhD, RD
Associate Professor and Endowed Chair
School of Human Environmental Sciences
University of Arkansas
Email: trudo@uark.edu
Phone: 479-575-4863

Jiangchao Zhao, PhD
Associate Professor
Department of Animal Science
University of Arkansas
Email: jzhao@uark.edu
Phone: 479-575-2000