

Keith P. Choe, Ph.D.

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Professional positions

Assistant professor, Department of Biology, University of Florida, 2009-present
Post-doctoral research fellow, Vanderbilt Medical Center, Mentor: Dr. Kevin Strange 2005-2009

Education

Ph.D.: University of Florida, Zoology, May 2005
M.S.: Georgia Southern University, Biology, May 1999
B.S.: University of South Florida, Zoology, December 1996

Other training

Cold Spring Harbor Laboratory: *Caenorhabditis elegans* Biology and Genetics, August 2005
Manager Training, Leading with Courage, University of Florida, July 2015
Manager Training, Emotional Intelligence, University of Florida, July 2015

Professional memberships

American Physiological Society, 2001-present
Genetics Society of America, 2007-present
Mount Desert Island Biological Laboratory, 1997-present
American Society of Microbiologists, 2013-present

Service to the profession

NSF pre-proposal panel member, 2017
Organizer of the Florida Worm Meeting, 2017
NSF pre-proposal panel member, 2016
Organizer of the Florida Worm Meeting, 2016
NSF fellowship panel member, 2016
Organizer of the Florida Worm Meeting, 2015
NSF pre-proposal panel member, 2014
Ad-hoc reviewer for NIH, 2013-present
Ad-hoc reviewer for NSF, 2011-present
Ad-hoc reviewer for the Wellcome Trust, 2010
Chair of a Special Topic for Experimental Biology, 2009
Ad-hoc reviewer for Current Microbiology, 2012
Ad-hoc reviewer for Nature, 2013
Ad-hoc reviewer for WormBook, 2014
Ad-hoc reviewer for JoVE, 2013-present
Ad-hoc reviewer for PLoS One, 2011-present
Ad-hoc reviewer for PLoS Genetics, 2011-present
Ad-hoc reviewer for Scientific reports, 2014-present

Ad-hoc reviewer for FEBS Letters, 2011
Ad-hoc reviewer for the Journal of Biological Chemistry, 2009
Ad-hoc reviewer for the American Journal of Physiology, 2006-present
Ad-hoc reviewer for the Canadian Journal of Zoology, 2008-2013
Ad-hoc reviewer for the Journal of Experimental Biology, 2007-present
Ad-hoc reviewer for Comparative Biochemistry and Physiology, 2007-present

Service to universities

Genetics Institute Symposium Planning Committee, University of Florida, 2015-present
Genetics Institute Graduate Admissions Committee, University of Florida, 2014-present
Biology Department Public Relations and Fund Raising, University of Florida, 2014-2017 (chair 2015-2017)
Biology Department Recruitment Committee, University of Florida, 2014-present (chair 2015-present)
Biology Department Strategic Planning Committee, University of Florida, 2014-2016
Zoology Major Revision Committee Member, University of Florida, 2014-2015
College of Liberal Arts and Sciences Teaching Award Committee, University of Florida, 2015
Mechanisms of Development or Behavior Search Committee, University of Florida, 2011-2012
Biology Department Advisory Committee, University of Florida, 2011-2014
Graduate Program Committee, University of Florida, 2011-2014
Graduate Student Admissions Committee, Biology, University of Florida, 2010-2011
Undergraduate Research Committee, University of Florida, 2001-2002
Graduate Student Welcoming Committee, University of Florida, 2000
Biology Faculty Search Committee, Georgia Southern University, 1999

Awards and honors (since 2007)

University of Florida, University-wide Teacher of the Year Award, 2013-2014
University of Florida, College of Liberal Arts and Sciences Teaching Award, 2013
American Physiological Society, Comparative and Evolutionary Physiology Section Young Investigator Award, 2012
Vanderbilt University Medical Center, Anesthesiology Retreat, Best Poster Award, 2009
Vanderbilt University Medical Center, Postdoctoral Poster Symposium, Cell Biology 1st Place Award, 2009
American Physiological Society, Comparative and Evolutionary Physiology Section Research Recognition Award, 2008
American Physiological Society, Molecular and Cellular Physiology Section Research Recognition Award, 2008 (declined because of overlap with CEPS award)
Vanderbilt University Medical Center, Postdoctoral Poster Symposium, Biochemistry 2nd Place Award, 2008
Vanderbilt University Medical Center, Anesthesiology Retreat, Best Presentation Award, 2007
Vanderbilt University Medical Center, Postdoctoral Poster Symposium, Best Postdoctoral Poster Award, 2007

Grants and fellowships (since 2007)

National Science Foundation, CAREER: Using *C. elegans* to understand how a fundamental cellular stress response is integrated into a tissue system at the interface with the environment and to improve education, training, and public appreciation for basic research (2015-2020), \$754,109

total costs, PI.

National Science Foundation, Characterization of a gene regulatory pathway that balances animal survival and proliferation IOS-1120130 (2011-2017), \$721,663 total costs, PI

Southeastern Center for Integrated Metabolomics: Metabolic profiling of aging in a long-lived and stress resistance *C. elegans* mutant (2015-2016), \$9,500, PI

Florida Translational Research Program Grant (2014), Sanford-Burnham Medical Research Institute, PI; supported collaborative medicinal chemistry and biological characterization of SKN-1 inhibitors, \$100,000 estimated total costs

National Institutes of Health S10 (2013-2017) Union Biometrica BIOSORTER PRO large-particle flow cytometer. S10-OD012006 \$599,953 direct costs, Co-PI

National Institutes of Health, Assay Development for High Throughput Molecular Screening R21 NS067678-02S1 (2012-2013) \$25,000 direct cost supplement, PI

University of Florida Opportunity Grant, Characterization of the Tmem16 family of Ca²⁺-activated Cl⁻ channels using the *C. elegans* and mouse model systems (2010-2012) \$81,000, Co-PI

National Institutes of Health, Assay Development for High Throughput Molecular Screening R21 NS067678-01 (2010-2013) \$100,000 direct costs, PI

National Institutes of Health, Ruth L. Kirschstein National Research Service Award, 1 F32 GM077904-01 (2006-2009) \$119,986 direct costs

Nation Kidney Foundation Postdoctoral Fellowship (2006-2008), declined because of overlap with NRSA.

American Heart Association Postdoctoral Fellowship (2006-2008), declined because of overlap with NRSA.

Grants submitted, not funded

National Science Foundation, IOS Preliminary Proposal: Mechanisms Underlying Multiple-Stressor Interactions in a Model Organism (2016), Co-PI

National Institutes of Health R01 (2013) Dietary seaweeds as suppressors of cancer initiation and progression. \$1,500,000 direct costs, Co-PI

National Institutes of Health R01 (2013) A high-throughput assay for small molecule proteostasis regulators in *C. elegans*. \$750,000 direct costs, Co-PI

National Science Foundation Major Research Instrumentation (2013) Union Biometrica BIOSORTER PRO large-particle flow cytometer. \$692,536, Co-PI

Keck Foundation pre-proposal (2012) A rapid high-throughput biochip for studying developmental physiology. \$954,307 total costs, Co-PI

National Institutes of Health NCRR S10 (2011) Proposal for a shared nematode sorter. \$413,263 direct costs, Co-PI

National Science Foundation Major Research Instrumentation (2011) UF internal competition \$413,350 total costs, PI

Cystic Fibrosis Foundation (2011) Characterization of Ca²⁺-activated Cl⁻ channels (CaCC) in *C. elegans* and mice. \$247,891, Co-PI

Ellison Medical Foundation New Scholar Award in Aging (2011) Molecular mechanisms of growth and reproductive suppression by the *C. elegans* pro-longevity transcription factor SKN-1. \$362,443 direct costs, PI

National Institutes of Health R01 (2010) Coordination of cellular stress with animal growth and metabolism, 2010, \$900,000 direct costs, PI

National Institutes of Health R21 (2010) Characterization of Ca²⁺-activated Cl⁻ channels (CaCC) in *C. elegans* and mice. \$275,000 direct costs, Co-PI

National Institutes of Health R21 (2010) Functional genomic and genetic analysis of macrocyclic

lactone resistance mechanisms in the nematode model *Caenorhabditis elegans*, PI
 Pew Scholars Program in the Biomedical Sciences (2010) Targeting and defining a multidrug
 resistance pathway in nematodes. \$240,000 total costs, PI
 Searle Scholars Program (2010) Targeting and defining a multidrug resistance pathway in nematodes.
 \$300,000 total costs, PI
 National Institute of Allergy and Infectious Diseases, Research Scholar Development Award, K22
 (2009) Characterization of the nematode WDR-23/SKN-1 xenobiotic detoxification pathway.
 \$263,338 direct costs, PI

Teaching experience

Principles of Biology, Animal Function section, University of Florida, 2012-present
 Animal Physiology and Molecular Biology, University of Florida, 2010-present
C. elegans molecular genetics research methods, University of Florida, 2014
 Stress Biology and Signaling graduate seminar, University of Florida, 2011
 Invited lectures on *C. elegans* research tools, Interdisciplinary Graduate Program Methodology
 course, Vanderbilt University, 2007
 Invited lectures for Animal Physiology, University of Florida, 1999-2003
 Invited lectures for General Biology, University of Florida, 1999-2003
 Teaching Assistant in Animal Physiology, University of Florida, 2000-2002
 Teaching Assistant in General Biology, University of Florida, 1999-2000
 Teaching Assistant in General Biology, Georgia Southern University, 1999
 Teaching Assistant in Physiology, Georgia Southern University, 1998

Mentoring, training, and outreach

I have mentored three **post-doctoral fellows**: Mike Wu, Ying Wang, and Chi K. Leung
 I have served on the committees of seven graduate students and as primary or co-advisor for three
graduate students: Lanlan Tang, PhD, Pauline Fontaine, and Keon Wimberly; Dr. Tang is
 currently a post-doctoral fellow in the Aging Institute at the Univ. of Florida.
 I have mentored and/or trained 32 **undergraduate students**: Christopher Bartlett, Justin Catches,
Teresa Cao, Connie Fernandez, Rebecca Kreh, Siobhan O'Brien, Jill Weakly, Rachael Rose, Kirk
 Giesbrandt, Adam Parise, Meggie O'brien, Sara Takeuchi, Justin Havird, Oriana Galardi-Este,
 Stacey Johnston, Yiliu Chen, Ira Snapp, Hyacinth Empinado, Sarah Fajari, Tashriq Alam,
Alejandro Lopez, Yishui Chen, Stephanie Prasse, Alexander Loumakis, Stephanie Daniels,
 Esteban Perez, Fiorinda Muhaj, William Dodd, Iryna Mysnyk, Adele Pietras, Claudia Consalvo,
 Marie Portuallo, and Kona Menyonga – students underlined later entered, or have been accepted
 to, graduate or health-professional programs
 I have conducted workshops for 90 **middle and high school teachers** on model organisms, molecular
 biology, and genetics
 I have conducted workshops for 101 **high school students** on molecular genetics and molecular
 biology
 I have mentored and/or trained seven **high school students**: Adele Pietras, Niki Wadhwa, Alexandra
 Sourakov, Katie Mackoul, Monica Wilson, Samuel Jacobson, and Salena Huang

Undergraduate and graduate student awards and honors

Pauline Fontaine, Florida Worm Meeting 3rd Place Poster Award (Melbourne, FL 2016)
 Pauline Fontaine, Biology Department, University of Florida, May, Reiwald, Olowo research award
 (2016)

Pauline Fontaine, Burroughs Wellcome Fund Award to Pauline Fontaine, supporting travel to the University of Calgary to initiate a new collaboration (2016)
 Iryna Mysnyk, Florida Worm Meeting Poster award, 2nd Place (Melbourne, FL 2015)
 William Dodd, Florida Worm Meeting Poster award, 3rd Place (Melbourne, FL 2015)
 William Dodd, University of Florida, University Scholars Program Award, ~\$2000 in total support (2014-2015)
 Esteban Perez, American Physiological Society Integrative Organismal Systems Physiology Fellowship 2014, ~\$2250 in total support (supported by NSF award IOS-1238831).
 Esteban Perez, American Physiological Society Integrative Organismal Systems Physiology Minority Fellowship 2013, ~\$5000 in total support (supported by NSF award IOS-1238831).

Undergraduate Senior Theses

Consalvo C (2017) The *C. elegans* xenobiotic/antioxidant transcription factor SKN-1 influences extracellular matrix gene expression. High Honors
 Dodd W (2016) A specific extracellular matrix structure in *C. elegans* regulates the oxidative and osmotic stress responses via SKN-1. Highest Honors
 Mysnyk I (2016) Characterization of mutations that activate a cytoprotective gene *gst-4* in different tissues in *Caenorhabditis elegans*. High Honors
 Prasse S (2012) Transcriptional regulation of the oxidative stress response repressor, *wdr-23*, in *Caenorhabditis elegans*. Highest Honors
 Empinado H (2011) Characterizing the function of *wdr-46*, a novel WD40 repeat protein, in fertility and stress resistance in *C. elegans*. Highest Honors

Invited talks and seminars

Drug Discovery Symposium, College of Pharmacy, Gainesville, FL 2016
 Biology Department, Florida Institute of Technology, Melbourne, FL 2015
 University of Florida Genetics Institute, Gainesville, FL 2015
 Daytona State College, STEMinar series, Daytona, FL 2014
 Biology Department, University of North Carolina Charlotte, Charlotte, NC 2014
 Entomology and Nematology Department, University of Florida, Gainesville, FL 2013
 Experimental Biology, Non-mammalian models of salt and water homeostasis, San Diego, CA 2012
 Cellular Biology, Microbiology, and Molecular Biology Department, University of South Florida, Tampa, FL 2012
 Microbiology and Cell Science Department, University of Florida, Gainesville, FL 2011
 Genetics Institute Advisory Board, University of Florida, Gainesville, FL 2011
 Whitney Laboratory for Marine Bioscience, University of Florida, St. Augustine, FL 2010
 Genetics Institute, University of Florida, Gainesville, FL 2010
 Department of Animal Sciences, University of Florida, Gainesville, FL 2010
 Experimental Biology, Environmental Stress Responses: Cellular, Molecular, and Genetic Mechanisms, New Orleans, LA 2009
 Department of Biology, University of Florida, Gainesville, FL 2009
 Mount Desert Island Biological Laboratory, Bar Harbor, ME 2008
 Department of Biology, Appalachian State University, Boone, NC 2008
 Department of Biology, Georgia Southern University, Statesboro, GA 2007

German Society for Cell Biology, Frankfurt, Germany 2007
American Physiological Society Intersociety Meeting, Comparative Physiology, Virginia Beach, VA 2006
Department of Biological Sciences, Auburn University, Auburn, AL 2006
Department of Biology, Presbyterian College, Clinton, SC 2005
Mount Desert Island Biological Laboratory, Bar Harbor, ME 2005
Department of Animal Sciences, University of Florida, Gainesville, FL 2005
Department of Physiology and Biophysics, Case Western Reserve Univ., Cleveland, OH 2004
Whitney Laboratory for Marine Science, University of Florida, Gainesville, FL 2004
Ocean Research Institute, University of Tokyo, 2004

Peer-reviewed primary research publications (since 2007, over 35 total)

- Wu CW, Wang Y, and **Choe KP** (2017) F-box protein XREP-4 interacts with SKR-1 and regulates the WDR-23/SKN-1 oxidative stress response in *Caenorhabditis elegans*. *Genetics* 206(2):859-871
- Wu CW, Deonarine A, and **Choe KP** (2016) The Skp1 homologs SKR-1/2 are required for the *Caenorhabditis elegans* SKN-1 antioxidant/detoxification response independently of p38 MAPK. *PLoS Genetics* 12(10): 1006361
- Crombie TA, Tang L, **Choe KP**, and Julian D (2016) Inhibition of the oxidative stress response by heat stress in *Caenorhabditis elegans*. *Journal of Experimental Biology* 219(Pt 14):2201-2211
- Tang L, *Dodd W, and **Choe KP** (2015) Isolation of a hypomorphic *skn-1* allele that does not require a balancer for maintenance. *G3: Genes, Genomes, and Genetics*. pii: g3.115.023010
- Peddibhotla S, Fontaine P, Leung CK, Maloney P, Hershberger PM, Wang Y, Bousquet MS, Leusch H, Mangravita-Novo A, Pinkerton AB, Smith LH, Malany S, and **Choe KP** (2015) Discovery of ML358, a selective small molecule inhibitor of the SKN-1 pathway involved in drug detoxification and resistance in nematodes. *ACS Chemical Biology* 10(8):1871-9
- Tang L and **Choe KP** (2015) Characterization of stress resistance, longevity, and glutathione regulation by the *skn-1/wdr-23* detoxification pathway in *Caenorhabditis elegans*. *Mechanisms of Ageing and Development* 149:88-98
- Peddibhotla S, Leung CK, Maloney P, Hershberger PM, Nguyen K, Vasile S, Suyama E, Kane A, Bousquet MS, Leusch H, Stonich D, Mangravita-Novo A, Salaniwal A, Kung P, Diwan J, Smith LH, Chung TDY, Pinkerton AB, Malany S, and **Choe KP** (2014) A high throughput screen for inhibitors of nematode detoxification genes. Probe reports from the NIH Molecular Libraries Program NCBI Bookshelf. <http://www.ncbi.nlm.nih.gov/books/NBK246990/> PMID:25299039.
- †Leung CK, Hasegawa K, Wang Y, Deonarine A, Tang L, Miwa J, **Choe KP** (2014) Direct interaction between the WD40 repeat protein WDR-23 and SKN-1/Nrf inhibits binding to target DNA. *Molecular and Cellular Biology* 34(16):3156-3167 - *Retraction in: Mol Cell Biol. 2015 Sep;35(18):3255.*
- Wang R, Mason D, **Choe KP**, Lewin AS, Peters EC, Luesch H (2013) *In vitro* and *in vivo* characterization of a tunable dual-reactivity probe of the Nrf2-ARE pathway. *ACS Chemical Biology* 8(8):1764-1774

- †Wang Y, *Tashrique A, Hill-Harfe K, *Lopez AJ, Leung CK, *Iribarne D, *Bruggeman B, Miyamoto MM, Harfe BD, and **Choe KP** (2013) Phylogenetic, expression, and functional analyses of anoctamin homologs in *C. elegans*. *American Journal of Physiology* 305(11):R1376-1389 – *Retraction in: Am J Physiol 2015 309(11):R1461*
- †Leung CK, Wang Y, Deonarine A, Tang L, *Prasse S, and **Choe KP** (2013) A negative-feedback loop between the detoxification/antioxidant response factor SKN-1 and its repressor WDR-23 matches organism needs with environmental conditions. *Molecular and Cellular Biology* 33(17):3524-3537 - *Retraction in: Mol Cell Biol 2015 Sep;35(18):3254*
- Leung CK, Wang Y, Malany S, Deonarine A, Nguyen K, Vasile S, and **Choe KP** (2013) An ultra high-throughput, whole-animal screen for small molecule modulators of a specific genetic pathway in *Caenorhabditis elegans*. *PLoS One* 8(4):e62166
- Burkewitz K, **Choe KP (co-first author)**, Lee E, Deonarine A, and Strange K (2012) Proteostasis in *C. elegans* is maintained during extreme osmotic stress by reduced translation with resultant increases in molecular chaperone capacity. *PLoS One* 7(3):e34153 *A must read by the Faculty of 1000 Biology: <http://f1000.com/715498055#evaluations>*
- Leung CK, *Empinado H, and **Choe KP** (2012) Depletion of a nucleolar protein activates xenobiotic detoxification genes in *Caenorhabditis elegans* via Nrf /SKN-1 and p53/CEP-1. *Free Radical Biology and Medicine* 52(5):937-950
- Burkewitz K, **Choe KP**, and Strange K (2011) Hypertonic stress induces rapid and widespread protein damage in *C. elegans*. *American Journal of Physiology* 301(3):C566-576 - *Featured in an Editorial Focus: Hoppe (2011) American Journal of Physiology 301:C555-556 and Highlighted By Insel (2011) Physiology 26:310*
- Leung CK, Deonarine A, Strange K, and **Choe KP** (2011) High-Throughput screening and biosensing with fluorescent *C. elegans* strains. *Journal of Visualized Experiments* 51:2745
- Przybysz AJ, **Choe KP (co-first author)**, Roberts LJ, and Strange K (2009) Increased age reduces DAF-16 and SKN-1 signaling and the hormetic response of *Caenorhabditis elegans* to the xenobiotic juglone. *Mechanisms of Ageing and Development* 130:357-369
- Choe KP**, Przybysz AJ, and Strange K (2009) The WD40 repeat protein WDR-23 functions with the CUL4/DDB1 ubiquitin ligase to regulate nuclear abundance and activity of SKN-1 in *Caenorhabditis elegans*. *Molecular and Cellular Biology* 29:2704-2715 - *Featured in the Vanderbilt Reporter 6/26/2009*
- Havird JC, Miyamoto MM, **Choe KP**, and Evans DH (2008) Gene duplications and losses within the cyclooxygenase family of teleosts and other chordates. *Molecular Biology and Evolution* 25(11):2349-2359
- Claiborne JB, **Choe KP**, Morrison-Shetlar AI, Weakley JC, Havird J, Freiji A, Evans DH, and Edwards SL (2008) Molecular detection and immunological localization of gill Na⁺/H⁺ exchanger in the dogfish (*Squalus acanthias*). *American Journal of Physiology* 294:R1092-1102
- Choe KP** and Strange K (2008) Genome-wide RNAi screen and in vivo protein aggregation reporters identify degradation of damaged proteins as an essential hypertonic stress response. *American Journal of Physiology* 295:C1488-1498 - *Featured in an Editorial Focus: Kwon (2008) American*

Journal of Physiology 295:C1474-1475

Choe KP and Strange K (2007) Evolutionarily conserved WNK and Ste20 kinases are essential for acute volume recovery and survival after hypertonic shrinkage in *Caenorhabditis elegans*. *American Journal of Physiology* 293:C915-927 - *Featured in the Vanderbilt Reporter and Recommended by the Faculty of 1000 Biology*:
<http://www.f1000biology.com/article/id/1088964/evaluation>

Choe KP, Edwards SL, Claiborne JB, and Evans DH (2007) The putative mechanism of Na⁺ absorption in euryhaline elasmobranchs exists in the gills of a stenohaline marine elasmobranch, *Squalus acanthias*. *Comparative Biochemistry and Physiology* 146:155-162

*Undergraduate student co-authors

†Retracted articles

Review articles and book chapters (*since 2007*)

Choe KP and Leung CK (2013) SKN-1/Nrf, a new unfolded protein response factor? *PLoS Genetics* 9(9):e1003827

Choe KP (2013) Physiological and molecular mechanisms of salt and water homeostasis in the nematode *Caenorhabditis elegans*. *American Journal of Physiology* 305(3):R175-186

Choe KP, Leung CK, and Miyamoto MM (2012) Unique structure and regulation of the nematode detoxification gene regulator SKN-1: implications to understanding and controlling drug resistance. *Drug Metabolism Reviews* 44: 209-223

Choe KP and Strange K, Volume regulation and osmosensing in animal cells, in *Osmotic and Ionic Regulation: Cells and Animals*, Evans DH, Editor. 2009, CRC Press: Boca Raton.

Choe KP and Strange K (2007) Molecular and genetic characterization of osmosensing and signal transduction in the nematode *Caenorhabditis elegans*. *Federation of European Biochemical Societies Journal* 274:5782-5789

Peer-reviewed brief communications (*since 2007*)

Choe KP and Strange K (2010) Stk39. *UCSD-Nature Molecule Pages* (doi:10.1038/mp.a003034.01)

Choe KP and Strange K (2010) OSR1. *UCSD-Nature Molecule Pages* (doi:10.1038/mp.a003033.01)

Havird JC, **Choe KP**, & Evans DH (2007) Phylogenetic analysis reveals at least 3 duplications of cyclooxygenase in the chordates. *Bulletin of the Mount Desert Island Biological Laboratory* 46:43

Havird JC, **Choe KP**, & Evans DH (2007) Expression of cyclooxygenase in the killifish (*Fundulus heteroclitus*) and longhorn sculpin (*Myoxocephalus octodecemspinosus*). *Bulletin of the Mount Desert Island Biological Laboratory* 46:45-46

Abstracts presented at scientific meetings (*since 2012*)

Wu CW, Wang Y, **Choe KP** (2016) Identification of an uncharacterized F-box as a novel regulator of SKN-1/Nrf2 oxidative stress responses. *Aging, Metabolism, and Stress C. elegans Meeting* (Madison, WI).

- Fontaine P and **Choe KP** (2016) The transcription factor SKN-1 confers resistance to albendazole in *Caenorhabditis elegans*. Biology at the Beach (St. Augustine, FL)
- Wimberly K and **Choe KP** (2016) Disruption of a specific extracellular matrix structure in the model organism *Caenorhabditis elegans* activates antioxidant, osmotic, and antimicrobial stress defenses. American Society for Matrix Biology Meeting (St. Petersburg, FL)
- Fontaine P and **Choe KP** (2016) The transcription factor SKN-1 confers resistance to albendazole in *C. elegans* by increasing drug metabolism. Florida Genetics Symposium (Gainesville, FL)
- Fontaine P and **Choe KP** (2016) The transcription factor SKN-1 confers resistance to albendazole in *Caenorhabditis elegans* through induction of the detoxification gene *ugt-22*. Florida Worm Meeting (Melbourne, FL)
- Wimberly K and **Choe KP** (2016) Disruption of extracellular matrix and secreted proteins activates cellular detoxification and osmotic stress responses. Florida Worm Meeting (Melbourne, FL)
- Wu CW, Wang Y, and **Choe KP** (2016) Identification of a novel F-box protein that regulates oxidative stress responses in *Caenorhabditis elegans*. Florida Worm Meeting (Melbourne, FL)
- Fontaine P and **Choe KP** (2016) The transcription factor SKN-1 confers resistance to albendazole in *Caenorhabditis elegans*. Biology at the Beach (St. Augustine, FL)
- Fontaine P and **Choe KP** (2016) The drug detoxification gene master regulator *skn-1* confers resistance to albendazole in *C. elegans*. Anthelmintics: Discovery to Resistance II (San Diego, CA)
- Tang L, *Dodd W, and **Choe KP** (2015) Disruption of a specific cuticle structure activates cellular detoxification and osmotic stress response genes implicating the presence of an environmental stress sensor in the extracellular barrier. International Worm Meeting (Los Angeles, CA)
- Wu CW, Deonaraine A, and **Choe KP** (2015) The Skp1 homologs SKR-1/2 regulate the SKN-1/Nrf antioxidant and detoxification response via a non-cononical mechanism independent of p38 MAPK. International Worm Meeting (Los Angeles, CA)
- Fontaine P, Wang Y, Leung CK, Peddibhotla M, Maloney P, Hershberger P, Malany S, and **Choe KP** (2015) ML358, a small molecule inhibitor of SKN-1 dependent detoxification genes, sensitizes *C. elegans* to oxidative stress and anthelmintics. International Worm Meeting (Los Angeles, CA)
- *Dodd W, Tang L, and **Choe KP** (2015) Genetic manipulation of a specific cuticle structure triggers osmotic and detoxification stress responses in *Caenorhabditis elegans*. Florida Worm Meeting (Melbourne, FL)
- *Mysnyk I and **Choe KP** (2015) Characterization of two mutations in *C. elegans* that activate cytoprotective genes in different tissues. Florida Worm Meeting (Melbourne, FL)
- Wu CW, Deonaraine A., Tang L., and **Choe KP** (2015) The Skp1 homologs SKR-1/2 regulate the SKN-1/Nrf antioxidant and detoxification response via a non-canonical mechanism independent of p38 MAPK. Florida Worm Meeting (Melbourne, FL)
- Tang L, *Dodd W, and **Choe KP** (2015) Disruption of a specific cuticle structure triggers cellular detoxification and osmotic stress responses. Florida Worm Meeting (Melbourne, FL)

- Wimberly K, *Dodd W, Tang L, and **Choe KP** (2015) Disruption of extracellular matrix and secreted proteins activates cellular detoxification and osmotic stress responses. Florida Genetics (Gainesville, FL)
- Wu CW, Wang Y, and **Choe KP** (2015) Identification of skr-1 and an uncharacterized interacting F-box protein as novel regulators of SKN-1/Nrf oxidative stress responses. Florida Genetics (Gainesville, FL)
- Fontaine P and **Choe KP** (2015) The drug detoxification gene master regulator SKN-1 confers resistance to albendazole in *C. elegans*. Florida Genetics (Gainesville, FL)
- *Dodd W and **Choe KP** (2015) Genetic manipulation of extracellular matrix triggers stress responses in *Caenorhabditis elegans*. University of Florida Undergraduate Research Symposium (Gainesville, FL)
- *Mysnyk I and **Choe KP** (2015) Characterization of two mutations in *C. elegans* that activate cytoprotective genes in different tissues. University of Florida Undergraduate Research Symposium (Gainesville, FL)
- *Pietras A, Tang L, and **Choe KP** (2015) Characterization of genes regulated by an antioxidant response pathway in *Caenorhabditis elegans* implicate extracellular matrix remodeling in stress resistance. University of Florida Undergraduate Research Symposium (Gainesville, FL)
- Tang L and **Choe KP** (2014) Characterization of stress resistance and longevity control by the oxidative stress response pathway in *C. elegans*. Florida Genetics (Gainesville, FL)
- Wu CW, Leung CK, Deonaraine A, and **Choe KP** (2014) A non-canonical mechanism of activating the SKN-1/Nrf antioxidant/detoxification response associated with three novel regulators and changes in levels of the repressor protein WDR-23. Florida Genetics (Gainesville, FL)
- Tang L and **Choe KP** (2014) The conserved SKN-1/Nrf antioxidant response has complex interactions with the heat shock response. Experimental Biology (San Diego, CA)
- *Perez E and **Choe KP** (2014) Urea protects *Caenorhabditis elegans* against hypertonic stress: a genetic model for cellular responses to urea? Experimental Biology (San Diego, CA)
- *Dodd W and **Choe KP** (2014) Heavy metals, glowing worms, and gene regulation. University of Florida Undergraduate Research Symposium (Gainesville, FL)
- *Perez E and **Choe KP** (2014) Urea protects *Caenorhabditis elegans* against hypertonic stress: a genetic model for cellular responses to urea? University of Florida Undergraduate Research Symposium (Gainesville, FL)
- Choe KP**, Leung CK, Malany S, Peddibhotlal S, Maloney P, Hershberger PM, Bousquet M, Luesch H, Howell S, Kaplan RM (2014) Understanding and targeting SKN-1, a master regulator of detoxification genes. Anthelmintics: Discovery to Resistance (San Francisco, CA)
- Tang L and **Choe KP** (2013) Characterization of the mechanisms by which SKN-1/Nrf influence oxidative stress resistance and longevity. Florida Genetics (Gainesville, FL)
- Tang L, Deonaraine A, Leung CK, and **Choe KP** (2013) Transcriptional profiling reveals a principle role for *wdr-23* in regulating SKN-1 and potential interactions with molting and the cuticle.

International *C. elegans* Meeting (Los Angeles, CA)

Leung CK, Peddibhotlal S, Maloney P, Hershberger PM, Bousquet M, Luesch H, Malany S, and **Choe KP** (2013) Small molecule inhibitors of SKN-1 dependent detoxification genes identified in a screen of ~364,000 compounds. International *C. elegans* Meeting (Los Angeles, CA)

Wang R, Mason DE, **Choe KP**, Lewin AS, Peters EC, and Luesch H (2013) Mechanistic characterization of a small molecule targeting the cytoprotective Nrf2-are pathway. Retrometabolism Based Drug Design and Targeting Conference (Orlando, FL)

Bousquet MS, Liu Y, Leung CK, **Choe KP**, Luesch H. (2013) Elucidating Activation Pathways of the Antioxidant Response Element Using Chemical and Genomic Approaches. Retrometabolism Based Drug Design and Targeting Conference (Orlando, FL)

Deonarine A and **Choe KP** (2012) Novel regulators of cellular antioxidation and detoxification genes identified by RNAi screening in *C. elegans*. Florida Genetics (Gainesville, FL)

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