

## CURRICULUM VITAE

**Janet C. Tou**

Professor of Human Nutrition and Foods  
 Division of Animal and Nutritional Sciences  
 2417 Agricultural Sciences Building  
 West Virginia University, Morgantown, WV 26506

### Education

1999-01 Postdoctoral Fellow, Nutritional Sciences, University of California, Berkeley, CA  
 1993-98 PhD, Nutritional Sciences, University of Toronto, Canada  
 1991-93 MS, Food Science, Dalhousie University, Canada  
 1986-90 MS Honors, Microbiology, Dalhousie University, Canada

### Academic Experience

2015 Full Professor of Human Nutrition and Foods  
 2010-2015 Associate Professor of Human Nutrition and Foods  
 Division of Animal and Nutritional Sciences, West Virginia University  
 2005-10 Assistant Professor of Human Nutrition and Foods  
 Division of Animal and Nutritional Sciences, West Virginia University  
 2008-present Adjunct Assistant/Associate Professor  
 Department of Pediatrics, School of Medicine, WVU  
 2006-present Adjunct Assistant/Associate Professor  
 Genetics and Developmental Biology, Davis College, WVU  
 2005-present Adjunct Assistant/Associate Professor  
 Community Medicine, School of Medicine, WVU

### Industry Experience

2003-05 Senior Research Scientist  
 Wyle Laboratories, NASA Ames Research Center, CA  
 2001-03 Research Scientist  
 Lockheed Martin Engineering and Sciences, NASA Ames Research Center, CA

### Professional Memberships

2006-present Agriculture Honor's Society Gamma Sigma Delta  
 1993-present American Society for Nutrition  
 1991-present Institute of Food Technologists

### Academic/Industry Awards

2015 WVU Davis College Outstanding Researcher Award  
 2014 Academy of Nutrition and Dietetics Rhododendron Award for contributions to the dietetics profession  
 2014 WVU Division of Animal and Nutritional Sciences Outstanding Teaching Award  
 2009 Gamma Sigma Delta Junior Faculty Award for Excellence in Teaching and Research  
 2005 NASA STS-107 Team Leadership Award  
 2004 NASA Award for Science Contributions to STS-107  
 2003 NASA Ames Award for Support of Mission Critical Science for STS-107

1999-01 NIH Postdoctoral Training Grant  
 1993-98 University of Toronto Doctoral Fellowship

### Research Areas

1. The Role of Bioactive Compounds in Bone Health and Disease
2. The Role of Omega-3 Polyunsaturated Fatty Acids in Health and Disease
3. The Role of Diet in Kidney Disease

### Publications in Refereed Journals

- 2016 Kim M, Moon Y, Tou JC, Mou B, Waterland NL. Nutritional value, bioactive compounds and health benefits of lettuce (*Lactuca sativa L.*) Journal of Food Composition and Analysis (in press)
- 2015 Bridges K, Pereira-da-Silva L, Tou JC, Ziegler J, Brunetti L. Bone metabolism in very preterm infants receiving parenteral nutrition: do intravenous lipid emulsions have an impact? Nutr Rev 73:823-836.
- 2015 Tou JC. Evaluation resveratrol as a therapeutic bone agent: preclinical evidence from rat models of osteoporosis. Ann NY Acad Sci 1348:75-85.
- 2015 Maditz KH, Miller M, Oldaker C, Smith BJ, Tou JC. Feeding soy protein isolate and omega-3 polyunsaturated fatty acids affect mineral balance and bone in a rat model of autosomal recessive polycystic kidney disease. BMC Nephrol 10:16-23.
- 2015 Tou JC. Resveratrol supplementation affects bone acquisition and osteoporosis: pre-clinical evidence toward translational diet therapy. Biochimica et Biophysica Acta 1852:1186-1194.
- 2015 Tou JC, Gigliotti JC, Maditz KM. Evaluating the therapeutic value of omega-3 Polyunsaturated fatty acid supplementation on polycystic kidney disease and comorbidities. Current Opinions in Food Science 2:20-28.
- 2015 Maditz KH, Oldaker C, Nanda N, Benedito VA, Livengood R, Tou JC. Feeding soy protein isolate and omega-3 polyunsaturated fatty acids affect polycystic liver disease in a PCK rat model of autosomal recessive polycystic kidney disease. J Pediatr Gastroenterol Nutr 60:467-473.
- 2014 Maditz KH, Oldaker C, Nanda N, Benedito VA, Livengood R, Tou JC. Dietary n-3 polyunsaturated fatty acids or soy protein isolate did not attenuate disease progression in a female rat model of autosomal recessive polycystic kidney disease. Nutr Res 34:526-534.
- 2014 Durbin SM, Jackson J, Ryan MJ, Gigliotti JC, Alway SE, Tou JC. Resveratrol supplementation influences bone properties in ambulatory and hindlimb suspended old Fisher 344 x Brown Norway male rats. J Bone Miner Metab 32:38-47.
- 2014 Sun GS, Tou JC, Yu D, Girten BE, Cohen J. The past, present, and future of National Aeronautics and Space Administration spaceflight diet in support of microgravity rodent experiments. Nutrition 30:125-130.
- 2013 Maditz KH, Gigliotti JC, Tou JC. Evidence for a role of proteins, lipids, and phytochemicals in the prevention of polycystic kidney disease progression and severity. Nutr Rev 71:802-814.
- 2013 Gigliotti JC, Benedito VA, Livengood R, Oldaker C, Nanda N, Tou, JC. Feeding different omega-3 polyunsaturated fatty acid sources influences renal fatty acid composition, inflammation, and occurrence of nephrocalcinosis in female Sprague-Dawley rats. Food Nutr Sci 4:125-136.
- 2013 Baer LA, Wu X, Tou JC, Johnson E, Wolf SE, Wade CE. Contributions of severe burn and disuse to bone structure and strength in rats. Bone 52:644-650.

- 2012 Durbin SM, Jackson J, Ryan MJ, Gigliotti JC, Alway SE, Tou JC. Resveratrol supplementation influences bone properties in the tibia of hindlimb-suspended mature Fisher 344 × Brown Norway male rats. *Appl Physiol Nutr Metab* 37:1179-1188.
- 2012 Kassis N, Gigliotti JC, Beamer S, Tou JC, Jaczynski J. Characterization of lipids and antioxidant capacity of novel nutraceutical egg product developed with omega-3 rich oils. *J Sci Food Agric* 92:66-73.
- 2012 Sun GS, Tou JC, Reiss-Bubenheim DA, Hill EL, Liittschwager KW, Girten BE, Penayewkukhiw E. Oxidative and nutrient stability of a standard rodent spaceflight diet during long-term storage. *Lab Animal* 41:252-259.
- 2011 Lukas R, Gigliotti JC, Smith BJ, Altman S, Tou JC. Consumption of different sources of omega-3 polyunsaturated fatty acids by growing female rats affects long bone mass and microarchitecture. *Bone* 49:455-462.
- 2011 Tou JC, Altman SN, Gigliotti JC, Benedito VA, Cordonier EL. Different sources of omega-3 polyunsaturated fatty acids affects apparent digestibility, tissue deposition, and tissue oxidative stability in growing female rats. *Lipids Health Dis* 10:179-184.
- 2011 Gigliotti JC, Davenport MP, Beamer SK, Tou JC, Jaczynski J. Extraction and characterization of lipids from Antarctic krill (*Euphausia superba*). *Food Chem* 125:1026-1036.
- 2011 Gehring CK, Gigliotti JC, Moritz JS, Tou JC, Jaczynski J. Functional and nutritional characteristics of proteins and lipids recovered by isoelectric processing of fish by-products and low-value fish: a review. *Food Chem* 124:422-431.
- 2011 Pietrowski B, Tahergorabi R, Beamer S, Matak K, Tou J, Jaczynski J. Chemical properties of surimi seafood nitrified with omega-3 rich oils. *Food Chem* 129:912-919.
- 2010 Gigliotti JC, Smith AL, Jaczynski J, Tou JC. Consumption of krill protein concentrate prevents early renal injury and nephrocalcinosis in female Sprague-Dawley rats. *Urol Res* 39:59-67.
- 2010 Bridges K, Gigliotti JC, Altman S, Jaczynski J, Tou JC. Determination of digestibility, tissue deposition, and metabolism of omega-3 fatty acids derived from krill protein concentrate in growing rats. *J Agric Food Chem* 58:2830-2837.
- 2010 Sun G, Tou JC, Liittschwager K, Herrera AM, Hill EL, Girten B, Reiss-Bubenheim D, Vasques M. Evaluation of the nutrient-upgraded rodent food bar for rodent spaceflight experiments. *Nutrition* 26:1163-1169.
- 2010 Hanson ML, Brundage KM, Schafer R, Tou JC, Barnett JB. Prenatal cadmium exposure dysregulates sonic hedgehog and Wnt/ $\beta$ -catenin signalling in the thymus resulting in altered thymocyte development. *Toxicol Appl Pharmacol* 242:136-145.
- 2009 Ip TY, Peterson J, Byrner R, Tou JC. Bone responses to body weight and moderate treadmill exercising in growing male obese (fa/fa) and lean Zucker rats. *J Musculoskelet Neuronal Interact* 9:155-166.
- 2009 Light HR, Tsanzi E, Gigliotti J, Morgan K, Tou JC. The type of caloric sweetener added to water influences weight gain, fat mass, and reproduction in growing Sprague-Dawley female rats. *Exp Biol Med (Maywood)* 234:651-661.
- 2009 Taskaya L, Chen YC, Beamer S, Tou JC, Jaczynski J. Compositional characteristics of materials recovered from whole gutted silver carp (*Hypophthalmichthys molitrix*) using isoelectric solubilization/precipitation. *J Agric Food Chem* 57:4259-4266.
- 2009 Chen YC, Tou JC, Jaczynski J. Amino acid and mineral composition of protein and other components and their recovery yields from whole Antarctic krill (*Euphausia superba*) using isoelectric solubilization/precipitation. *J Food Sci* 74:H31-H39.
- 2008 Gigliotti J, Jaczynski J, Tou JC. Determination of the nutritional value, protein quality, and safety of krill protein concentrate isolated using an isoelectric solubilization/precipitation technique. *Food Chem* 111:209-214.

- 2008 Tsanzi E, Light HR, Tou JC. The effect of feeding different sugar-sweetened beverages to growing female Sprague-Dawley rats on bone mass and strength. *Bone* 42:960-968.
- 2008 Tsanzi E, Fitch C, Tou JC. Effect of consuming different caloric sweeteners on bone health and possible mechanisms. *Nutr Rev* 66:301-309.
- 2008 Tou JC, Foley A, Yuan Y, Arnaud S, Wade C, Brown M. The effect of ovariectomy combined with hindlimb unloading and reloading on the long bones of mature Sprague-Dawley rats. *Menopause* 15:494-502.
- 2007 Tou JC, Jaczynski J, Chen YC. Krill for human consumption: nutritional value and potential health benefits. *Nutr Rev* 65:63-77.
- 2007 Chen YC, Tou JC, Jaczynski J. Amino acid, fatty acid, and mineral profiles of materials recovered from rainbow trout (*Oncorhynchus mykiss*) processing by-products using isoelectric solubilization/precipitation. *J Food Sci* 72:527-535.
- 2005 Tou JC, Arnaud SC, Grindeland RE, Wade CE. The effect of purified compared with non-purified diet on bone changes induced by hindlimb suspension of female rats. *Exp Biol Med (Maywood)* 230:31-39.
- 2005 Chang X, Tou JC, Hong C, Kim HA, Riby J, Firestone G, Bjeldanes LF. 3,3'-diindolylmethane inhibits angiogenesis and the growth of transplantable human breast carcinoma in athymic mice. *Carcinogenesis* 26:771-778.
- 2004 Tou JC, Grindeland RE, Wade CE. Effects of diet and exposure to hindlimb suspension on estrous cycling in Sprague-Dawley rats. *Am J Physiol Endocrinol Metab* 286:E425-E433.
- 2003 Hilder TL, Tou JC, Grindeland RE, Wade CE, Graves LM. Phosphorylation of insulin receptor substrate-1 serine 307 correlates with JNK activity in atrophic skeletal muscle. *FEBS Lett* 553:63-67.
- 2003 Tou JC, Grindeland R, Dalton B, Barrett J, Wade C. Evaluation of NASA foodbars as a standard diet in short-term rodent space flight experiments. *Nutrition* 19:947-954.
- 2002 Tou J, Ronca A, Grindeland R, Wade C. Models to study the biology of mammalian reproduction. *Biol Reprod* 67:1681-1687.
- 2002 Tou JC, Wade C. Determinants affecting physical activity levels in animal models. *Exp Biol Med (Maywood)* 227:587-600.
- 1999 Tou JC, Thompson LU. Exposure to flaxseed or its lignan component during different developmental stages influences rat mammary gland structures. *Carcinogenesis* 20:1831-1835.
- 1999 Tou JC, Chen J, Thompson LU. Dose, timing, and duration of flaxseed exposure affect reproductive indices and sex hormone levels in rats. *J Toxicol Environ Health A* 56:555-570.
- 1998 Tou JC, Chen J, Thompson LU. Flaxseed and its lignan precursor, secoisolariciresinol diglycoside, affect pregnancy outcome, and reproductive development in rats. *J Nutr* 128:1861-1868.
- 1993 Speers RA, Durance TD, Tung MA, Tou J. Colloidal properties of flocculent and non-flocculent brewing yeast suspensions. *Biotechnology progress* 9:267-272.

#### Book Chapters

- 2016 Tou JC, Baer L, Wade C, Seems M. Bone responses to weight and exercise in obese animal models. In: *Handbook of Nutrition and Diet in Therapy of Bone Diseases*. Wageningen Academic Publishers.

- 2013 Tou JC, Oldaker C, Yuan YV. Novel marine sources of nutraceuticals and functional foods: the marine crustacean krill, macro- and microalgae. In: *Advances in Seafood Science: Chemistry, Technology, and Applications*. Publisher CRC Press
- 2010 Tou JC, Fitch C, Bridges K. Sweeteners: uses, dietary intake, and health effects. In: *Food and Beverage Consumption and Health*. Nova Sciences Publishers
- 2010 Gehring CK, Gigliotti JC, Tou JC, Moritz JS, Jaczynski J. The biochemistry of isoelectric processing and nutritional quality of proteins and lipids recovered with this technique. In: *Handbook of Nutritional Biochemistry: Genomics, Metabolomics, and Food Supply*, Nova Sciences Publishers

#### Invited Conference Presentations

- 2014 Tou JC. Resveratrol promotes bone mass and prevents osteoporosis. 3rd International Conference of Resveratrol and Health. University of Hawaii, Hilo
- 2014 Tou JC. Omega-3 fatty acids and resveratrol supplementation and bone health. University of Texas Health Science Center, Houston, TX
- 2012 Tou JC. The effect of different omega-3 fatty acids sources on renal and bone health. Omega-3 PUFAs and human health and disease NC-1199 Annual Meeting Bloomington, MN
- 2011 Tou JC. Translational nutritional research. STEM Undergraduate Research Education Program, Health Science Center, WVU
- 2011 Tou JC. The health benefits and safety of krill. Canadian Institute of Food Science Conference. Charlottetown, Prince Edward Island, Canada
- 2007 Tou JC. The effect of different sugar-sweetened beverages on estrous cycling in young female rats. Frontiers in Reproduction Symposium, Woods Hole, MA

#### Current Funding

- 2015-19 PI: Matak KE. CoPI: Tou JC Innovative Protein Sources for a Growing Population – Repurposing Protein from Underutilized Resources.
- 2015-17 PI: Wade CE. Subcontractor: Tou JC. Congressional US Army Medical Research Grant. Combination therapies for the mitigation of musculoskeletal pathologic damage in novel model of severe injury and disuse.
- 2014-17 PI: Tou JC. WVU Agriculture and Forestry Experimental Station Hatch Grant H-665. Investigating diet therapy to prevent polycystic kidney disease progression and complications.
- 2014-16 PI: Tou JC. United Soybean Board Researcher Incentive Award. Investigating the efficacy and safety of combination omega-3 fatty acid supplementation to attenuate polycystic disease progression and related complications.
- 2012-15 PI: Tou JC. United Soybean Board Researcher Incentive Award. Investigating the efficacy and safety of combination omega-3 polyunsaturated fatty acid supplementation to optimize bone health.