CURRICULUM VITAE

Libo Tan, PhD

Assistant Professor

The University of Alabama

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# Education

## 2013 Ph.D. in Nutritional Sciences

Department of Nutritional Sciences, **The Pennsylvania State University**, PA

Supervisor: Dr. A. Catharine Ross

Dissertation: Model-based compartmental analysis of the whole-body vitamin A metabolism and kinetics in neonatal rats

## 2007 Bachelor in Biological Sciences

Biochemistry Major, College of Life Science, **Shandong University**, Jinan, China

# Scholarly Training

## 2014-2015 NIH Junior Investigator’s Program, University of Alabama

2012 **Training as Nutrition Evidence Analysis Abstractor**, Center for Nutrition Policy and Promotion, United States Department of Agriculture

2012 **WinSAAM Workshop**, University of Pennsylvania

# Professional Experience

2014- **Assistant Professor**, Department of Human Nutrition & Hospitality Management, College of Human Environmental Sciences, **The University of Alabama**, Tuscaloosa, AL

Areas of research: Bioavailability and metabolism of carotenoids; Retinoids, carotenoids and chronic diseases; Compartmental modeling of nutrients kinetics; Vitamin A metabolism; Vitamin A supplementation

2013-2014 **Postdoctoral Fellow**, Department of Nutritional Sciences, The Pennsylvania State University, University Park, PA

Research topic: The effects of maternal and neonatal vitamin A supplementation on vitamin A status and vitamin A kinetics in neonatal rats.

# Peer-Reviewed Publications

# (\*denotes student mentored research)

Wang S, Kong L, Zhao Y, **Tan L**, Zhang J, Du Z, and Zhang H. (2018). Lipophilization and molecular encapsulation of p-coumaric acid by amylose inclusion complex. ***Food Hydrocolloids.*** Under Review.

**Tan L** and Kong L**.** (2018). Starch-Guest Inclusion Complexes: Formation, Structure, and Enzymatic Digestion. ***Critical Reviews in Food Science and Nutrition.*** In Press.

\*Senkus KE, **Tan L**, and Crowe-White KM. (2018). Lycopene and Metabolic Syndrome: A Systemic Review of the Literature. ***Advances in Nutrition.*** doi: 10.1093/advances/nmy069. [E-pub ahead of print].

Yuan S, Zhang Y, Liu J, Zhao Y, **Tan L**, Liu, J, Wang Q, and Zhang H. (2018). Structure-affinity relationship of the binding of phenolic acids and their derivatives to bovine serum albumin, and effects on antioxidant activity. ***Food Chemistry.*** doi.org/10.1016/j.foodchem.2018.11.060 [E-pub ahead of print].

Wei J, Yin X, Liu Q, **Tan L**, and Jia C. (2018). Association between hypertension and cognitive function: A cross-sectional study in people over 45 years old in China. ***Journal of Clinical Hypertension.*** 20(11):1575-1583.

Hodges JK, **Tan L**, Green MH, and Ross AC. (2017). Vitamin A and retinoic acid combined have a more potent effect compared to vitamin A alone on the uptake of retinol into extrahepatic tissues of neonatal rats raised under vitamin A-marginal conditions. ***Current Developments in Nutrition.*** 1(12).

Hodges JK, **Tan L**, Green MH, and Ross AC. (2017). Vitamin A supplementation redirects the flow of retinyl esters from peripheral to central organs of neonatal rats raised under vitamin A-marginal conditions. ***American Journal of Clinical Nutrition.*** 105(5):1110-1121.

Hodges JK, **Tan L**, Green MH, and Ross AC. (2016). Vitamin A supplementation transiently increases retinol concentrations in extrahepatic organs of neonatal rats raised under vitamin A-marginal conditions. ***The Journal of Nutrition***. 146(10):1953-1960.

Hodges JK, **Tan L**, Green MH, and Ross AC. (2016). Vitamin A supplementation increases the uptake of chylomicron retinyl esters into the brain of neonatal rats raised under vitamin A-marginal conditions. ***The Journal of Nutrition***. 146(9):1677-83.

**Tan L**, Babbs AE, Green MH, and Ross AC. (2016) Direct and indirect vitamin A supplementation strategies result in different plasma and tissue retinol kinetics in neonatal rats. ***The Journal of Lipid Research***. 57(8):1423-34.

**Tan L**, Green MH, and Ross AC. (2015) Vitamin A kinetics in neonatal rats vs. adult rats: comparison based on model-based compartmental analysis. ***The Journal of Nutrition***. 145(3): 403-410.

**Tan L**, Wray AE, Green MH, and Ross AC. (2014). Compartmental modeling of whole-body vitamin A kinetics in unsupplemented and vitamin A-retinoic acid supplemented neonatal rats. ***The Journal of Lipid Research***. 55(8): 1738-1749.

**Tan L**, Wray AE, Green MH, and Ross AC. (2014). Retinol kinetics in unsupplemented and vitamin A-retinoic acid supplemented neonatal rats: A preliminary model. ***The Journal of Lipid Research***. 55(6):1077-1086.

**Tan L**, Wray AE, and Ross AC. (2012). Oral vitamin A and retinoic acid supplementation stimulate antibody production and splenic Stra6 expression in tetanus toxoid-immunized mice. ***The Journal of Nutrition***. 142(8):1590-5.

# Book Chapters

Ross AC, **Tan L**. (2016). Vitamin A Metabolism in the fetus and neonate, In: **Fetal and Neonatal Physiology**, 5th Edition, Chapter 38, Polin R, Abman S, Benitz W, Rowitch D, eds. Elsevier, Inc. Philadelphia, PA.

Ross AC, **Tan L**. (2015). Vitamin A deficiencies and excess, In: **Nelson’s Textbook of Pediatrics**, 20th Edition, Chapter 45, Kliegman RM, Stanton BF, St. Geme J, Schor N, eds. Elsevier, Inc. Philadelphia, PA.

# Presentations

## Peer-Reviewed

## *National*

Senkus K, **Tan L** and Crowe-White K. (2018). Lycopene Attenuates High-Fat Diet-Induced Oxidative Stress in Sprague-Dawley Rats. Poster presentation. Nutrition 2018, Boston, MA.

Li Y, Wei CH, Hodges J, Green, M, **Tan L** and Ross AC. (2018). Intestinal Uptake of Vitamin A is Stimulated by Retinoic Acid Pretreatment in Neonatal Rats. Poster presentation. FASEB 4th International Conference on Retinoids, Steamboat Springs, CO.

Hodges J, **Tan L**, MH Green and Ross AC. (2017). Vitamin A Supplementation Redirects the Flow of Retinyl Esters from Peripheral to Central Organs in Neonatal Rats Raised under Vitamin A-Marginal Conditions. Poster presentation. The Experimental Biology 2017, Chicago, IL.

Li Y, Green MH, **Tan L**, and Ross AC. (2017). Hepatic Uptake of Vitamin A is Independent of Retinoic Acid Pretreatment in Neonatal Rats. Poster presentation. The Experimental Biology 2017, Chicago, IL.

Ross AC, Green MH and **Tan L**. (2016). Neonatal versus maternal vitamin A supplementation – different effects on neonatal retinol kinetics. Oral presentation. FASEB 3rd International Conference on Retinoids, Palm beach, FL.

Urbanek J, **Tan L**, Ross AC, and MH Green. (2016). The transient effect of vitamin A supplementation on tissue levels in a neonatal rat model. Poster presentation. FASEB 3rd International Conference on Retinoids, Palm beach, FL.

Urbanek J, **Tan L**, Ross AC, and MH Green. (2016). Vitamin A supplementation transiently increases retinol concentrations in extrahepatic organs of neonatal rats raised under vitamin A-marginal conditions. Oral presentation. The Experimental Biology 2016, San Diego, CA.

Li Y, Urbanek J, Green MH, **Tan L**, and Ross AC. (2016). Retinoic acid pretreatment promotes vitamin A accumulation in the lung of neonatal rats. Poster presentation. The Experimental Biology 2016, San Diego, CA.

Urbanek J, **Tan L**, Ross AC, and MH Green. (2015). The uptake of vitamin A into the neonatal brain. Oral and poster presentation. The Experimental Biology 2015, Boston, MA.

**Tan L**, Green MH, and Ross AC. (2014). Vitamin A and retinoic acid (VARA) supplementation to neonatal rats or dietary vitamin A supplementation to lactating mothers differentially affect vitamin A status and kinetics in neonatal rats. Poster presentation. FASEB Retinoids Conference 2014, Chicago, IL.

**Tan L**, Green MH, and Ross AC. (2014). The effects of vitamin A and retinoic acid (VARA) supplementation to neonatal rats or dietary vitamin A supplementation to lactating mothers on vitamin A metabolism and kinetics in neonatal rats. Poster presentation. The Experimental Biology 2014, San Diego, CA.

Urbanek J, **Tan L**, Ross AC, and MH Green. (2014). Vitamin A supplementation promotes the uptake and tissue storage of vitamin A in a kinetic study of neonatal rats. Poster presentation. The Experimental Biology 2014, San Diego, CA.

**Tan L**, Green MH, and Ross AC. (2013). Model-based compartmental analysis of vitamin A kinetics in neonatal rats. Oral presentation. The Experimental Biology 2013, Boston, MA.

**Tan L**, Wray AE, Green MH, and Ross AC. (2012). Development of a compartmental model of vitamin A metabolism in neonatal rats treated with oil or vitamin A and retinoic acid (VARA). Poster presentation. FASEB Retinoids Conference 2012, Snowmass, CO.

**Tan L**, Wray AE, Green MH, and Ross AC. (2012). Development of a compartmental model of vitamin A metabolism in neonatal rats treated with oil or vitamin A and retinoic acid (VARA). Poster presentation. The Experimental Biology 2012, San Diego, CA.

**Tan L** and Ross AC. (2011). The kinetics and regulation of Stra6 expression in spleen and antibody production in tetanus toxoid-immunized mice. Poster presentation. The Experimental Biology 2011, Washington DC.

## *International*

**Tan L**, Green MH, and Ross AC. (2013). Tracking the metabolism of vitamin A in neonates using a mathematical modeling approach. Oral presentation. The 11th China Nutrition Science Conference & International DRIs Summit, Hangzhou, China.

## Other Presentations (\*denotes student mentored research)

\*Kwan SH, **Tan L,** and Kong L. (2018). Recent Developments in Starch-Guest Inclusion Complex. Poster presentation. Annual Undergraduate Research and Creative Activity Conference, Tuscaloosa, AL.

\*Senkus KE, **Tan L**, and Crowe-White K. (2018). Lycopene and Metabolic Syndrome. Educational Studies in Psychology, Research Methodology, and Counseling Graduate Research Symposium, University of Alabama Department of Education, Tuscaloosa, AL.

\*Henry K and **Tan L**. (2018). Literature review on the impacts of obesity on vitamin A status and metabolism. Poster presentation. The Seventeenth Annual University of Alabama System Honors Research Conference, Tuscaloosa, AL.

\*Henry K and **Tan L**. (2017).Literature review on the impacts of obesity on vitamin A status and metabolism. Poster presentation. Annual Undergraduate Research and Creative Activity Conference, Tuscaloosa, AL.

\*Thompson E and **Tan L**. (2015).Vitamin A metabolism in the presence of TCDD. Oral presentation. University of Alabama’s Computer-Based Honor (CBH) Program 2015 Fall Research Presentations, Tuscaloosa, AL.

# Contracts and Grants

**Funded**

Ross AC (PI), Green MH (Co-PI), **Tan L (Co-PI).** **NIH/NICHD R01 HD066982-05**. *Vitamin A Supplementation and Retinol Metabolism in the Neonatal Period.* 2016-2020.

Kong L (PI), **Tan L (PI)**, Tiong K (Co-PI). **USDA Specialty Crop Block Grant Program.** *Postharvest Interventions to Improve Quality and Microbial Safety of Microgreens.* 2018-2019

**Tan L (PI).** **University of Alabama: ORED Internal Funding Small Grant Program.** *Age-mediated Pharmacokinetics of Lutein in Rats: the APL Study.* 2018.

**Tan L (PI).** University of Alabama College of Human Environmental Sciences: **Mary A. Crenshaw Endowed Research Fund**. *Model-Based Compartmental Analysis of the Effects of 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) on Vitamin A Kinetics in Rats.* 05/2015-08/2016.

**Tan L (PI).** **SEC Faculty Travel Program: Visiting Travel Grant**. 2015-2016

**Under Review**

**Tan L (PI)**, Crowe-White KM (Co-PI), Ellis AC (Co-PI). USDA-NIFA. *Adiposity–mediated Inflammatory Responses to Bioactive Compounds in 100% Watermelon Juice: a Clinical and Pharmacokinetic Investigation.* 2018.

**Unfunded**

Crowe-White KM (Co-PI), Ellis AC (Co-PI), **Tan L (Co-PI)**. National Watermelon Promotion Board: Nutrition Research Grant. *Pharmacokinetics of Bioactives in Watermelon: the POW Study.* 2018.

Crowe-White KM (Co-PI), Ellis AC (Co-PI), **Tan L (Co-PI)**. USDA-NIFA. *Adiposity–mediated Inflammatory Responses to Bioactive Compounds in 100% Watermelon Juice: a Clinical and Pharmacokinetic Investigation.* 2017.

Crowe-White KM (Co-PI), Ellis AC (Co-PI), **Tan L (Co-PI)**. National Watermelon Promotion Board: Nutrition Research Grant. *Pharmacokinetics of Bioactives in Watermelon and their Acute Influences on Endothelial Risk Factors: the POWER Study*. 2017.

**Tan L (PI).** University of Alabama: Research Grant Committee. *Does Extra Body Weight Influence the Kinetics and Distribution of Lycopene?* 2016.

# Mentored Student Research

## Shu Hang Kwan – PhD student in Human Nutrition.

* Kwan, SH, Tan L and Kong L. (2018). Recent Developments in Starch-Guest Inclusion Complex. Poster presentation. Annual Undergraduate Research and Creative Activity Conference, Tuscaloosa, AL.

## Yanqi Zhang – MS student in Health Sciences.

## Sydney Miles – Undergraduate. Biology.

## Andrew Cooper – Undergraduate. Mathematics.

## Maddy Erwin – Undergraduate. Biology.

## Katherine Henry – Undergraduate. Nursing Major. *Literature review on Vitamin A and Obesity.* Advisor for the University of Alabama’s Emerging Scholars Program 2017-2018.

* Poster presentation at 2017 Undergraduate Research and Creative Activities Conference
* Poster presentation at the Seventeenth Annual University of Alabama System Honors Research Conference.

## Elena Thompson – Undergraduate. Nursing Major. *Vitamin A metabolism in the presence of TCDD.* Advisor for the University of Alabama’s Computer-Based Honor (CBH) Program 2014-2015.

* Oral presentation at CBH 2015 Fall Research Presentations

# Teaching Experience and Course Development

**Instructor**, Department of Human Nutrition & Hospitality Management, University of Alabama

* NHM 561: Advanced Vitamins and Minerals
* Teaching Evaluation: 4.67/5.00
* NHM 562: Advance Energy Metabolism
* Teaching Evaluation: 4.74/5.00
* NHM 361: Nutritional Biochemistry (On campus and Online)
* Teaching Evaluation: 4.50/5.00
* NHM 362: Nutrition at Cell Level
* Teaching Evaluation: 4.80/5.00
* NHM 101: Introduction to Human Nutrition
* Teaching Evaluation: 4.89/5.00

**Course development for online delivery**, Department of Human Nutrition & Hospitality Management, University of Alabama

* NHM 361: Nutritional Biochemistry
* NHM 362: Nutrition at Cell Level

**Teaching Assistant**, Department of Nutritional Sciences, Pennsylvania State University

* NUTR 445: Metabolism of Macronutrients

# Professional Activities

## Grant Reviewer

* Reviewer. The Council for the Earth and Life Sciences Netherlands Organisation for Scientific Research (NWO); 2015

## Evidence Analysis Reviewer (Competitive Appointment)

## Nutrition Evidence Abstractor, Nutrition Evidence Library (NEL) of USDA Center for Nutrition Policy and Promotion; 2012 to present.

* Contributed to the publication of Dietary Guideline for Americans 2015

## Journal Reviewer

* Current Developments in Nutrition
* Food Research International
* The Journal of Lipid Research
* The Journal of Nutrition
* The British Journal of Nutrition
* Jornal de Pediatria (A bimonthly publication of Brazilian Society of Pediatrics)
* Molecular Nutrition & Food Science
* The Journal of Nutrition & Food Sciences
* Linus Pauling Institute's Micronutrient Information Center at Oregon State University

## Abstract Reviewer

* Abstract Reviewer. Nutrition 2018 Conference; 2018

## Leadership

## Chair, Committee of Membership and Communication, North America Chinese Society for Nutrition; 2014 to present.

* **Co-Chair**, Election Committee for Leadership Group, North America Chinese Society for Nutrition; March-June 2016.
* **Co-Chair**, Election Committee for VP Position, North America Chinese Society for Nutrition; February-April 2017.

## Professional Memberships

* American Society for Nutrition (2008 to present)
* International Carotenoid Society (2013 to present)
* Institute of Food Technologies (2018 to present)
* International Society for Computational Biology (2012 to present)
* North America Chinese Society for Nutrition (2013 to present)
* The Obesity Society (2016 to present)

## Internal Committees

* Co-Chair, Search Committee for Associate Professor Position, Department of Human Nutrition, University of Alabama (2017-present)
* Graduate Program Admission Committee, Department of Human Nutrition, University of Alabama (2014-present)
* Graduate Studies Committee, College of Human Environmental Sciences, University of Alabama (2014-2015)
* Research Committee, College of Human Environmental Sciences, University of Alabama (2015-2016)

## Judge

## University of West Alabama 7th Undergraduate Research Symposium, 2018.

## Intern

## Center for Disease Control and Prevention (CDC) of Laiwu City, China, 2006.

# Honors and Awards

2015-2016 SECU Visiting Travel Award

2015 Certificate of Appreciation Awarded from USDA

2011-2012 The Woot-Tsuen Wu Leung Scholarships in Nutrition

2004-2006 The University Scholarship Award for Academic Excellence

2005 Guang-Hua Fellowship for Academic Excellence by the University

2004-2005 Dean’s List in the College of Life Sciences