Siraphat Taesuwan, PhD
Faculty of Agro-Industry, Chiang Mai University,
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Education

PhD, 2018, Nutrition, Cornell University, Ithaca, NY, USA
Dissertation titled "Relationship of choline and trimethylamine-*N*-oxide intake with metabolic and health outcomes in humans"
BS, 2013, Food Science, University of California at Davis, Davis, CA, USA

Position:

Assistant Professor, Division of Food Science and Technology, Faculty of Agro-Industry, Chiang Mai University, Chiang Mai, Thailand, 2023-current
Professional Associate, University of Canberra, Australia, 2024-current
Head, Food Science and Technology Program (International Program), Faculty of Agro-Industry, Chiang Mai University, Chiang Mai, Thailand, 2022-current
Lecturer, Division of Food Science and Technology, Faculty of Agro-Industry, Chiang Mai University, Chiang Mai, Thailand, 2018-2022

Classes taught:

<u>Undergraduate level</u>
Food and Nutrition throughout Life Span, Chiang Mai University, 2025-current
Human Nutrition Survey and Improvement, Chiang Mai University, 2018-current
Food for Health and Beauty, Chiang Mai University, 2019-current
Nutrition for Contemporary Living, Chiang Mai University, 2023-current
Food Analysis, Chiang Mai University, 2018-2022

<u>Graduate level</u>
Modern Food Science and Technology, Chiang Mai University, 2023-current
Advanced Human Nutrition, Chiang Mai University, 2020-current
Nutrient Metabolism, Chiang Mai University, 2020-current
Nutritional Epidemiology, Chiang Mai University, 2020-current
Advanced Food Science and Analysis, Chiang Mai University, 2019-2022

Awards and Honorary Distinctions

Global Young Scientists Summit 2020 Thai representative, the National Research Foundation Singapore, 2020

Ministry of Science and Technology Scholarship, Royal Thai Government, Thailand, 2008-2018
Partial Doctoral Fellowships, Cornell University, 2013-2018
Conference Travel Grant, Cornell University, 2016
Three-Minute Thesis finalist, Cornell University, 2016
Mary Regan Meyer Prize, College of Agricultural and Environmental Sciences, University of California, Davis, 2013
Summa Cum Laude, College of Agricultural and Environmental Sciences, University of California, Davis, 2013
Davis Sensory Science Foundation Scholarship, University of California, Davis, 2012
Food Industry Foundation Scholarship, University of California, Davis, 2011-2012
David D. Peebles Scholarship, University of California, Davis, selected to receive, 2011-2012

Publications

Ponsuporn W, Naumovski N, McKune AJ, Khemacheewakul J, Leksawasdi, N, Rachtanapun P, & Taesuwan S. Relationships between consumption of theobromine in cocoa products and cardiovascular risk factors in 2015–2020 National health and nutrition examination survey. *European Journal of Nutrition*. 2026;65(2):38. https://doi.org/10.1007/s00394-026-03893-0 ISI Q1 IF 4.3

Feng J, Mahakuntha C, Htike SL, Techapun C, Phimolsiripol Y, Rachtanapun P, Khemacheewakul J, Taesuwan S, Porninta K, Sommanee S, Nunta R, & Leksawasdi N. A Substrate–Product Switch Mathematical Model for the Growth Kinetics of Ethanol Metabolism from Longan Solid Waste Using Candida tropicalis. *Agriculture*. 2025;15(14):1472. https://doi.org/10.3390/agriculture15141472 ISI Q1 IF 3.6

Bano S, Sommano SR, Leksawasdi N, Taesuwan S, Rachtanapun P, Techapun C. Sumonsiri N, & Khemacheewakul J. Innovative Cold Plasma Pretreatment and Enzyme-Assisted Extraction of Genistein from Edamame and Storage Stability of Dried Extract Powder. *Foods*. 2025;14(12): 2118. https://doi.org/10.3390/FOODS14122118 ISI Q1 IF 4.7

Meegaswatte H, McKune AJ, Panagiotakos DB, Osiriphun S, Leksawasdi N, Rachtanapun P, Veysey M, Naumovski N, & Taesuwan S. The Association Between the American Heart Association Life's Essential 8 and Metabolic Syndrome Among Postmenopausal Women: Findings from NHANES 2011–2020. *Nutrients*. 2025;17(10):1688. https://doi.org/10.3390/nu17101688 ISI Q1 IF 4.8

Taesuwan S, Kouvari M, McKune AJ, Panagiotakos DB, Khemacheewakul J, Leksawasdi N, Rachtanapun P, & Naumovski N. Total choline intake, liver

fibrosis and the progression of metabolic dysfunction-associated steatotic liver disease: Results from 2017 to 2020 NHANES. *Maturitas*. 2025;191. https://doi.org/10.1016/j.maturitas.2024.108150 ISI Q1 IF 3.9

Taesuwan S, Inchai J, Boonyingsathit K, Chimkerd C, Judprasong K, Rachtanapun P, Muanprasat C, & Vaddhanaphuti CS. Holy Basil (Ocimum sanctum L.) Flower and Fenofibrate Improve Lipid Profiles in Rats with Metabolic Dysfunction Associated Steatotic Liver Disease (MASLD): The Role of Choline Metabolism. *Plants*. 2024;14(1):13. ISI Q1 IF 4.0 https://doi.org/10.3390/plants14010013

Taesuwan S, Jirarattanarangsri W, Wangtueai S, Hussain MA, Ranadheera S, Ajlouni S, Zubairu IK, Naumovski N, & Phimolsiripol Y. Unexplored Opportunities of Utilizing Food Waste in Food Product Development for Cardiovascular Health. *Current Nutrition Reports*. 2024;4(13):896–913. https://doi.org/10.1007/s13668-024-00571-7 ISI Q1 IF 4.6

Feng J, Techapun C, Phimolsiripol Y, Rachtanapun P, Phongthai S, Khemacheewakul J, Taesuwan S, Porninta K, Htike SL, Mahakuntha C, Sommanee S, Nunta R, Kumar A, & Leksawasdi N. Co-substrate model development and validation on pure sugars and corncob hemicellulosic hydrolysate for xylitol production. *Scientific Reports*. 2024;14(1):1–13. https://doi.org/10.1038/s41598-024-77462-y ISI Q1 IF 3.8

Htike SL, Khemacheewakul J, Techapun C, Phimolsiripol Y, Rachtanapun P, Phongthai S, Tochampa W, Taesuwan S, Jantanasakulwong K, Porninta K, Sommanee S, Mahakuntha C, Feng J, Kumar A, Zhuang X, Wang W, Qi, W., Nunta R, & Leksawasdi N. Production of Xylitol and Ethanol from Agricultural Wastes and Biotransformation of Phenylacetylcarbinol in Deep Eutectic Solvent. *Agriculture (Switzerland)*. 2024;14(11):2043. https://doi.org/10.3390/AGRICULTURE14112043/S1 ISI Q1 IF 3.3

Feng J, Techapun C, Phimolsiripol Y, Phongthai S, Khemacheewakul J, Taesuwan S, et al. Utilization of agricultural wastes for co-production of xylitol, ethanol, and phenylacetylcarbinol: A review. *Bioresour Technol*. 2024;392:129926. ISI Q1 IF 9.7

Jindasereekul P, Jirarattanarangsri W, Khemacheewakul J, Leksawasdi N, Thiennimitr P, & Taesuwan, S. Usual intake of one-carbon metabolism nutrients in a young adult population aged 19–30 years: a cross-sectional study. *J Nutr Sci*. 2023;12(10), e51. ISI Q3 IF 2.4

Sanneur K, Leksawasdi N, Sumonsiri N, Techapun C, Taesuwan S, Nunta R, Khemacheewakul J. Inhibitory Effects of Saponin-Rich Extracts from Pouteria cambodiana against Digestive Enzymes α-Glucosidase and Pancreatic Lipase. *Foods*. 2023;12(20):3738. ISI Q1 IF 4.7

Naklong K, Therdtatha P, Sumonsiri N, Leksawasdi N, Techapun C, Rachtanapun P, Taesuwan S, et al. Microencapsulation of Bifidobacterium breve to Enhance Microbial Cell Viability in Green Soybean Yogurt. *Fermentation*. 2023;9(3):296. ISI Q2 IF 3.3

Klatt KC, McDougall MQ, Malysheva OV, Taesuwan S, Loinard-González AP, Nevins JEH, Beckman K, Bhawal R, Anderson E, Zhang S, Bender E, Jackson KH, King DJ, Dyer RA, Devapatla S, Vidavalur R, Brenna TJ, Caudill MA. Prenatal choline supplementation improves biomarkers of maternal docosahexaenoic acid (DHA) status among pregnant participants consuming supplemental DHA: a randomized controlled trial, *Am J Clin Nutr*. 2022;116(3):820–832. ISI Q1 IF 6.5

Khonchaisri R, Sumonsiri N, Prommajak T, Rachtanapun P, Leksawasdi N, Techapun C, Taesuwan S, Halee A, Nunta R, Khemacheewakul J. Optimization of Ultrasonic-Assisted Bioactive Compound Extraction from Green Soybean (Glycine max L.) and the Effect of Drying Methods and Storage Conditions on Procyanidin Extract. *Foods*. 2022; 11(12):1775. ISI Q1 IF 4.7

Leksawasdi N, Taesuwan S, Prommajak T, Techapun C, Khonchaisri R, Sittilop N, Halee A, Jantanasakulwong K, Phongthai S, Nunta R, Kiadtiyot M, Saefung A, Khemacheewakul J. Ultrasonic Extraction of Bioactive Compounds from Green Soybean Pods and Application in Green Soybean Milk Antioxidants Fortification. *Foods.* 2022; 11(4):588. ISI Q1 IF 4.7

Pakakaew P, Phimolsiripol Y, Taesuwan S, Kumphune S, Klangpetch W, Utama-ang N. The shortest innovative process for enhancing the S-allylcysteine content and antioxidant activity of black and golden garlic. *Sci Rep.* 2022;12:11493. ISI Q1 IF 3.8

Pakakaew P, Taesuwan S, Phimolsiripol Y, Utama-ang N. Comparison between the Physicochemical Properties, Bioactive Compounds and Antioxidant Activities of Thai and Chinese Garlics. *CAST*. 2022;22(3). Scopus Q4

Taesuwan S, Thammapichai P, Ganz A, Jirarattanarangsri W, Khemacheewakul J, Leksawasdi N. Associations of choline intake with hypertension and blood pressure among older adults in cross-sectional 2011 – 2014 NHANES differ by body mass index and comorbidity status. *Br J Nut*. 2022;128(1):1-22. ISI Q2 IF 3.0

Taesuwan S, McDougall1 MQ, Malysheva OV, Bender E, Nevins JEH, Devapatla S,Vidavalur R, Caudill MA, Klatt KC. Choline metabolome response to prenatal choline supplementation across pregnancy: A randomized controlled trial. *FASEB*. 2021;35(12). ISI Q1 IF 4.4

Nguyen Doan Mai H, Phan Thi Lan K, Techapun C, Leksawasdi N, Taesuwan S, et al. Quality Evaluation of Butter Cake Prepared by Substitution of Wheat Flour with Green Soybean (Glycine Max L.) Okara. *J Culin Sci Technol*. 2021:1–14. ISI Q4 IF 0.9

Khemacheewakul J, Taesuwan S, Nunta R et al. Validation of mathematical model with phosphate activation effect by batch (R)-phenylacetylcarbinol biotransformation process utilizing Candida tropicalis pyruvate decarboxylase in phosphate buffer. *Sci Rep*. 2021;11(11813). ISI Q1 IF 3.8

Orenbuch A, Fortis K, Taesuwan S, Yaffe R, Caudill MA, Golan HM. Prenatal Nutritional Intervention Reduces Autistic-Like Behavior Rates Among *Mthfr*-Deficient Mice. *Front Neurosci.* 2019;13:383. ISI Q2 IF 3.2

Taesuwan S, Vermeylen F, Caudill MA, Cassano PA. Relation of choline intake with blood pressure in the National Health and Nutrition Examination Survey 2007–2010. *Am J Clin Nutr*. 2019;109(3):648-655. ISI Q1 IF 6.5

Taesuwan S, Cho CE (co-first), Malysheva OV, Bender E, King JH, Yan J, Thalacker-Mercer AE, Caudill MA. The metabolic fate of isotopically labeled trimethylamine-N-oxide (TMAO) in humans. *J Nutr Biochem*. 2017;45:77–82. ISI Q1 IF 4.8

Cho CE, Taesuwan S, Malysheva OV, Bender E, Tulchinsky NF, Yan J, Sutter JL, Caudill MA. Trimethylamine-N-oxide (TMAO) response to animal source foods varies among healthy young men and is influenced by their gut microbiota composition: A randomized controlled trial. *Mol Nutr Food Res.* 2017;61(1):1600324. ISI Q1 IF 4.5

Cho CE, Taesuwan S, Malysheva OV, Bender E, Yan J, Caudill MA. Choline and one-carbon metabolite response to egg, beef and fish among healthy young men: A short-term randomized clinical study. *Clin Nutr Exp.* 2016;10:1–11. Scopus Q3 SJR 0.41

Ganz AB, Shields K, Fomin VG, Lopez YS, Mohan S, Lovesky J, Chuang JC, Ganti A, Carrier B, Yan J, Taesuwan S, Cohen VV, Swersky CC, Stover JA, Vitiello GA, Malysheva OV, Mudrak E, Caudill MA. Genetic impairments in folate enzymes increase dependence on dietary choline for phosphatidylcholine production at the expense of betaine synthesis. *FASEB*. 2016;30(10):3321–3333. ISI Q1 IF 4.4

Davenport C, Yan J, Taesuwan S, Shields K, West AA, Jiang X, Perry CA, Malysheva OV, Stabler SP, Allen RH, Caudill MA. Choline intakes exceeding recommendations during human lactation improve breast milk choline content by increasing PEMT pathway metabolites. *J Nutr Biochem*. 2015;26(9):903–911. ISI Q1 IF 4.8

Scientific Presentations and Invited speaker

"Health Food Trends", Invited speaker, Science and Technology Park, Chiang Mai University, 2025

"Adults are complicated: the case of choline and health", Invited speaker, Nutrition for the Life Stages Webinar, Australia Institute of Food Science and Technology, 2024

"Future Food Trends", Invited speaker, College of Maritime Studies and Management, Chiang Mai University, 2023

"Anti-aging diet", Invited speaker, Senior Wellness Center, Chiang Mai University, 2023

"Nutrition Fact Label: definition, labeling, benefits, formats and how to read", Invited speaker, Entrepreneur up-skill workshop, Science and Technology Park Chiang Mai University, Chiang Mai, Thailand, 2022

"Human Evidence for Choline Intake Promotion Across Lifespan", Oral Presentation, Tri-university symposium, Kagawa University, Online, 2021

"How sound methodology gets a paper published in a high impact journal?", Master and doctoral seminar, King Mongkut's Institute of Technology Thonburi, Online, 2021

"Choline Intake Was Mildly Associated With Hypertension Among Older Adults in Cross-Sectional NHANES 2011–2014", Poster Presentation, Nutrition Live Online, 2021

"Global Young Scientist Summit (GYSS2020)", 2nd Science Camp for 23rd JSTP and 1st-2nd JSTP-SCB paticipants, Junior Science Talent Project (JSTP), Online, Thailand, 2020

"Nutrition Fact Label: definition, labeling, benefits, formats and how to read", Invited speaker, Entrepreneur up-skill workshop, Science and Technology Park Chiang Mai University, Chiang Mai, Thailand, 2020

"Reduce salt for health: approaches to reduce sodium intake to lower disease risks", Invited speaker, Food Safety Forum Year 3, Food Science and Technology Association of Thailand, Chiang Mai, Thailand, 2019

"The Metabolic Fate of Isotopically-Labeled Trimethylamine-N-oxide (TMAO) in Humans", Oral Presentation, Experimental Biology, San Diego, CA, 2016

"A doubling of maternal choline Intake During Lactation Increases Phosphocholine Concentration in Breast Milk", Poster Presentation, Nutrition Research Symposium, Cornell University, NY, 2014

Research projects

"The association between lifestyle patterns, dietary intake, characteristics of metabolic dysfunction–associated steatotic liver disease and dementia risk in the Framingham Cohorts", Principal Investigator, Sponsorship for International Research Fellowship at Chiang Mai University (Visiting Professor), 2025-2026

"Building research capacity and tools to promote nutrition innovations for postmenopausal women in Thailand", Principal Investigator, Seed International Initiatives, 2024-2025

"Improving Thai cocoa supply chain through biotechnology, high-value neutraceuticals and evidence-based health claims", Principal Investigator, Fundamental Fund, Thailand Science Research and Innovation, 2024-2025

"Optimizing protein and choline quality in plant-based meat using economical and sustainable enzyme cross-linking technique", Principal

Investigator, US-ASEAN Science, Technology, and Innovation Cooperation (STIC) Program Seed Grant, 2024-2025

"Development of Choline Database for Thai Food and Population-Wide Assessment of Choline Intake Status in Thailand", Principal Investigator, The Murata Science Foundation, 2022-2023

"Building psychological safety in classrooms towards learning success", Co-Investigator, CMU 21st Century Learning Research Grant, Teaching and Learning Innovation Center, Chiang Mai University, 2022-2023

"Study of metabolic crosstalk between choline derivatives and novel AMPK-activating plant chalcones in the prevention of diabetic nephropathy", Principal Investigator, Research Grant for New Scholar, Office of the Permanent Secretary for Higher Education, Science, Research and Innovation, 2021-2023

"Development of choline-enriched, northern-styled, ready-to-eat chilled meals from local ingredients—a food business opportunity for healthy aging", Principal Investigator, Office of National Higher Education Science Research and Innovation Policy Council, 2021-2022

"An accurate and precise choline metabolite quantification method using isotope-dilution liquid chromatography tandem mass spectrometry (LC-MS/MS) and incorporation of choline values into the Thai Food Composition Database", Principal Investigator, Fundamental Fund, Thailand Science Research and Innovation, 2021-2022

"Survey of choline intake in Chiang Mai University students", Principal Investigator, Ministry of Science and Technology grant, 2021-2022

"Survey of folate intake in Chiang Mai University students", Principal Investigator, Young researcher grant, Chiang Mai University, 2021-2022

"Relationship between choline intake and blood pressure among the elderly in the National Health and Nutrition Examination Survey 2011-14", Principal Investigator, Young researcher grant, Faculty of Agro-Industry, Chiang Mai University, 2018-2019

Scientific, Honorary and Professional Societies

Nutrition Society of Thailand, 2025—current
American Society for Nutrition, 2015-16, 2021-2022
American Association for the Advancement of Science, 2013-16
Institute of Food Technologists, 2011-2012

Non-Academic Positions

Nutrition Consultant, Fusion Company Ltd. 2021-2022

Other Academic-Related Activities

Innovative Teaching Scholar Participant, Stanford Thailand Research Consortium, 2020-2021

Innovative Teaching Scholar Coach, Stanford Thailand Research Consortium, 2021-2022