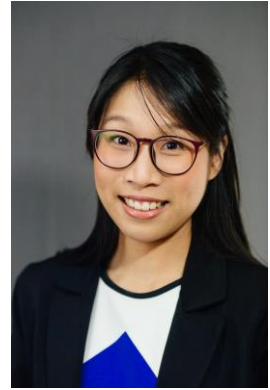


[rakariyathamk@outlook.com](mailto:rakariyathamk@outlook.com)

<https://www.linkedin.com/in/kanyasiri-rakariyatham-ba28aa97>



**KANYASIRI RAKARIYATHAM**

### Professional Summary

Food science researcher with biochemistry background practiced in phytochemical and marine bioactive research to improve health benefits including, antioxidant, anticancer and anti-inflammation by using *in vitro* and animal models. I have experienced in the area of diet-based strategies for disease prevention including investigating possible synergistic actions among dietary components and revealing their molecular mechanisms. In addition, I am currently conducting research to improve shelf-life and nutritional value of lipid in different marine species (fish, clam, shrimp and algae) under accelerated storage conditions by using food additive antioxidants as well as natural plant extracts.

### Education, Certification, and Trainings

2019	Post-Doctoral Associate at National Engineering Research Center of Seafood; Dalian Polytechnic University (DPU), China
2017	Ph.D. in Food Science Program at University of Massachusetts Amherst (UMASS)  A Certificate in Food Safety and Preventive Control Alliance (FSPCA) Preventive Control for Human Food (3-day training) Institute for Food Safety and Health; International Food Protection Training Institute; Association of Food and Drug Officials <b>Training location:</b> UMASS Amherst
2016	A Certificate in Sensory Evaluation (16-hour training) The New Jersey Agricultural Experiment Station, Office of Continuing Professional Education, Rutgers University, New Brunswick, New Jersey  A Certificate in Labeling Requirements and Implications for Food Marketed in the U.S. (2-day training); Institute of Food Technologists (IFT), Chicago, Illinois  Training in Business Foundations Series for Scientists and Engineers Isenberg School of Management, UMASS Amherst
2013	A Certificate in Hazard Analysis and Critical Control Points (HACCP) (3-day training) UMASS Amherst, Covance Lab Inc., and International HACCP Alliance
2011	M.Sc. in Chemistry (Biochemistry) California State University Fullerton (CSUF)
2007	B.Sc. in Biochemistry and Biochemical Technology (First class honor degree, gold medal) Chiang Mai University (CMU), Thailand

**Publication (International peer reviewed journals)**

- Rakariyatham K.**, Lu T., Xie H., Yu Z., Li D., Liu Z., Shen Y., Zhou D.\*, and Zhu B.\* (2019). "Retardation of refined tuna oil oxidation using longan (*Dimocarpus longan*) peel phenolic extracts under accelerated conditions" (Under preparation).
- Rakariyatham K.**, Zhou D., Rakariyatham N., and Shahidi F. (2020). REVIEW ARTICLE "Sapindaceae (*Dimocarpus longan* and *Nephelium lappaceum*) seeds and peel by-products: Potential sources for phenolic compounds and use as functional ingredients in food and health applications" *Journal of Functional Foods*. 68: 103846. <https://doi.org/10.1016/j.jff.2020.103846>.
- Shen Y., Lu T., Liu X., Zhao M., Yin F., **Rakariyatham K.** and Zhou D. (2020). "Improving the oxidative stability and lengthening the shelf life of DHA algae oil with composite antioxidants". *Food Chemistry*. 313:126139.
- Li D., Zhou D., Yin F., Dong X., Xie H., Liu Z., Li A., Li J., **Rakariyatham K.**, and Shahidi F. (2020). "Impact of different drying processes on the lipid deterioration and color characteristics of *Penaeus vannamei*". *Journal of the Science of Food and Agriculture*. <https://doi.org/10.1002/jsfa.10280>.
- DiMarco-Crook C., **Rakariyatham K.**, Li Z., Du Z., Zheng J., and Xiao H. (2020) "Synergistic anti-cancer effects of curcumin and 3',4'-didemethylnobiletin in combination on colon cancer cells". *Journal of Food Science*. <https://doi.org/10.1111/1750-3841.15073>.
- Liu Z., Li D., Song L., Liu Y., Yu M., Zhang M., **Rakariyatham K.**, and Shahidi F. (2020). "Effects of proteolysis and oxidation on mechanical properties of sea cucumber (*Stichopus japonicus*) during thermal processing and storage and their control". *Food Chemistry*. (Submitted).
- Wang Z., Xie H., Liu Z., **Rakariyatham K.**, Yu C., Shahidi F., Zhou D., and Liu X. (2020). "Antioxidant activity and properties of scallop protein hydrolysate and its functions on emulsifying system and *in vitro*". *Food Chemistry* (Submitted).
- Rakariyatham K.**, Du Z., Yuan B., Gao Z., Song M., Pan C., Han Y., Wu X., Tang Z., Zhang G. and Xiao H. (2019). "Inhibitory effects of 7,7'-bromo-curcumin on 12-O-tetradecanoylphorbol-13-acetate-induced skin inflammation". *European Journal of Pharmacology*. 858:172479.
- Rakariyatham K.**, Liu X., Liu Z., Wu S., Zhou D., and Zhu B. (2019) "Improvement of phenolic contents and antioxidant activities of longan (*Dimocarpus longan*) peel extracts by enzymatic treatments". *Waste and Biomass Valorization*. <https://doi.org/10.1007/s12649-019-00723-9>.
- Rakariyatham K.**, Yang X., Gao Z., Song M., Han Y., Chen X., and Xiao H. (2019). "Synergistic chemopreventive effect of allyl isothiocyanate and sulforaphane on non-small cell lung carcinoma cells". *Food and Function*. 10(2):893-902.
- Liu Z., Zhou D., **Rakariyatham K.**, Xie H., Li D., Zhu B., and Shahidi F. (2019). "Impact of frying on changes in clam (*Ruditapes philippinarum*) lipids and frying oils: Compositional changes and oxidative deterioration". *Journal of the American Oil Chemists' Society*. <https://doi.org/10.1002/aocs.12293>.
- Han Y., Huang M., Li L., Cai X., Gao Z., Li F., **Rakariyatham K.**, Song M., Fernández-Tomé S., and Xiao H. (2019). "Non-extractable polyphenols from cranberry: A potential anti-inflammation and anti-colon cancer agent". *Food and Function*. 10:7714-7723.
- Zhao Q., Li J., Xu J., Lv D., **Rakariyatham K.**, and Zhou D. (2019). "Rapid extraction of free fatty acids from edible oil after accelerated storage based on amino-modified magnetic silica nanospheres". *Analytical Methods*. 11(35):4520-4527.

- Gang K., Wu X., Zhou D., Zhao Q., Zhou X., Lv D., **Rakariyatham K.**, Liu X., and Shahidi F. (2019). "Effects of hot air drying process on lipid quality of whelks *Neptunea arthritica cumingi* Crosse and *Neverita didyma*". *Journal of Food Science and Technology -Mysore-*. <https://doi.org/10.1007/s13197-019-03887-3>.
- Wu Z., Hu X., Zhou D., Tan Z., Liu Y., Xie H., **Rakariyatham K.**, and Shahidi F. (2019). "Seasonal variation of proximate composition and lipid nutritional value of two species of scallops (*Chlamys farreri* and *Patinopecten yessoensis*)". *European Journal of Lipid Science and Technology*. 121(7):1088493.
- Liu Y., Yin F., Liu Y., Wu Z., Zhang J., Zhao Q., **Rakariyatham K.**, and Zhou D. (2019). "Characterization of glycerophospholipid molecular species in two species of Arcidae (*Scapharca subcrenata* and *Scapharca broughtonii*)". *Journal of Aquatic Food Product Technology*. 28(4):342-351.
- Xie H., Zhou D., Yin F., **Rakariyatham K.**, Zhao M., Liu Z., Li D., Zhao Q., Liu Y., Shahidi F., and Zhu B. (2019) "Mechanism of antioxidant action of natural phenolics on scallop (*Argopecten irradians*) adductor muscle during drying process". *Food Chemistry*, 281, 251-260.
- Rakariyatham K.**, Wu X., Tang Z., Han Y., Wang Q., and Xiao H. (2018). "Synergism between luteolin and sulforaphane in anti-inflammation". *Food and Function*. 9(10), 5115-5123.
- Rakariyatham K.**, and Xiao H. "Anti-inflammatory and antioxidant properties of allyl Isothiocyanate and sulforaphane in combination and their synergism in RAW 264.7 macrophages". *Food and Function International Symposium 2018, Xi'an, China*.
- Zhou D., and **Rakariyatham K.** "Phospholipids". (2018). In book *Reference Module in Food Science, Encyclopedia of Food Chemistry*. Book Chapter
- Ding Y., Gao Z., Chen B., **Rakariyatham K.**, Suo H., Tong H., and Xiao H. (2018). "The effect of different treatments of (-)-epigallocatechin-3-gallate on colorectal carcinoma cell lines". *Nutrition and Cancer*, 1-11.
- Yin F., Hu X., Zhou D., Ma X., Tian X., Huo X., **Rakariyatham K.**, Shahidi F, and Zhu B. (2018). "Hydrolysis and transport characteristics of tyrosol acyl esters in rat intestine". *Journal of Agriculture and Food Chemistry*. 66(47), 12521-12526.
- Yin F., Hu X., Zhou D., Ma X., Tian X., Huo X., **Rakariyatham K.**, Shahidi F, and Zhu B. (2018). "Evaluation of the stability of tyrosol esters during *in vitro* gastrointestinal digestion". *Food and Function*. 9(7), 3610-3616.
- Hu Q., Yuan B., Xiao H., Zhao L., Wu X., **Rakariyatham K.**, Zhong L., Han Y., Kimatu B.M., and Yang W. (2018). "Polyphenols-rich extract from *Pleurotus eryngii* with growth inhibitory of HCT116 colon cancer cells and anti-inflammatory function in RAW264.7 cells" *Food and Function*. 9(3), 1601-1611.
- Vergne M., Patras A., Bhullar M. S., Shade L. M., Sasges M., **Rakariyatham K.**, Pan C., and Xiao H. (2018). "UV-C irradiation on the quality of green tea: effect on catechins, antioxidant activity, and cytotoxicity". *Journal of Food Science*. 83(5), 1258-1264.
- Bhullara M.S., Patras A., Kilanzo-Nthenge A., Pokharel B., Yannum S.K., **Rakariyatham K.**, Che P., Xiao H., and Sasges M. (2018). "Microbial inactivation and cytotoxicity evaluation of UV irradiated coconut water in a novel continuous flow spiral reactor". *Food Research International*. 103, 59-67.
- Rafiq S, Huma N., **Rakariyatham K.**, Hussain I., Gulzar N., And Hayat I. (2017). "Anti-inflammatory and anticancer activities of water-soluble peptide extracts of buffalo and cow milk Cheddar cheeses". *International Journal of Dairy Technology*. 70, 1-7.

- Yuan B., Zhao L., **Rakariyatham K.**, Han Y., Gao Z., Muinde B., Hu Q., and Xiao H. (2017). "Isolation of a novel bioactive protein from an edible mushroom *Pleurotus eryngii* and its anti-inflammatory potential". *Food and Function*. 8(6), 2175-2183.
- Wu X., Song M., Qiu P., **Rakariyatham K.**, Li F., Gao Z., Cai X., Wang M., Xu F., Zheng J., and Xiao H. (2017). "Synergistic chemopreventive effects of nobiletin and atorvastatin on colon carcinogenesis". *Carcinogenesis*. 38(4), 455-464.
- Islam M. S., Patras A., Pokharel B., Vergne M. J., Sasges M., Begum A., **Rakariyatham K.**, Pan C., and Xiao H. (2016). "Effect of UV irradiation on nutritional quality and cytotoxicity of apple juice". *Journal of Agriculture and Food Chemistry*. 64(41), 7812-7822.
- Liu X., Luo Q., **Rakariyatham K.**, Cao Y., Goulette T., Liu X., and Hang Xiao. (2016). "Antioxidation and anti-ageing activities of different stereoisomeric astaxanthin *in vitro* and *in vivo*". *Journal of Functional Foods*. 25, 50-61.
- Funaro A., Wu X., Song M., Zheng J., Guo S., **Rakariyatham K.**, Estrada M. T. R, and Xiao H. (2016). "Enhanced anti-inflammatory activities by the combination of luteolin and tangeretin". *Journal of Food Science*. 81(5), H1320–H1327.
- Wu X., Song M., **Rakariyatham K.**, Zheng J., Guo S., Tang Z., Zhou S., and Xiao H. (2015). "Anti-inflammatory effects of 4'-demethylnobiletin, a major metabolite of nobiletin". *Journal of Functional Foods*. 19, 278–287.
- Wu X., Song M., **Rakariyatham K.**, Zheng J., Wang M., Xu F., Gao Z., and Xiao H. (2015). "Inhibitory effects of 4'-demethylnobiletin, a metabolite of nobiletin, on 12-O-tetradecanoylphorbol-13-acetate (TPA)-induced inflammation in mouse ears". *Journal of Agricultural and Food Chemistry*. 63 (51), 10921–10927.
- Rangel N. A., Lin L., **Rakariyatham K.**, Bach A., Trinh K., Clement M. H. S. and Srinivasan C. (2012). "Unincorporated iron pool is linked to oxidative stress and iron levels in *Caenorhabditis elegans*". *Biometals*. 19, 971-985.

## Public Presentation

---

### Oral Presentation:

**Rakariyatham K.**, Liu X., Liu Z., Wu S., Shahidi F., Zhou D., and Zhu B. "Improvement of Phenolic Contents and Antioxidant Activities of Longan (*Dimocarpus longan*) Peel Extracts by Enzymatic Treatment". The 2019 International Food Non-Thermal Processing Technology Seminar, Dalian, China, September 2019.

Wu X.\*, **Rakariyatham K.\***, Zhang G., and Xiao H. "Inhibitory effect of 4'-demethylnobiletin, a major metabolite of nobiletin, and 7,7'-bromo-curcumin, a bioactive analog of curcumin on 12-O-tetradecanoylphorbol-13-acetate (TPA)-induced skin inflammation". The 256<sup>th</sup> American Chemical Society Conference, Agricultural and Food Chemistry Division, Boston, Massachusetts, USA, August 2018.

**Rakariyatham K.**, Gao Z., and Xiao H. "Synergistic inhibitory effect of allyl isothiocyanate and sulforaphane on human non-small cell lung carcinoma cells". The 253<sup>th</sup> American Chemical Society Conference, Agricultural and Food Chemistry Division, International Student Symposium, San Francisco, USA, April 2017.

**Rakariyatham K.**, Wu X., and Xiao H. "Synergism between Sulforaphane and Luteolin in Anti-inflammation". The 252<sup>th</sup> American Chemical Society Conference, International Student Symposium, Philadelphia, USA, August 2016.

**Rakariyatham K.**, and Xiao H. "Anti-inflammatory Effect of Allyl Isothiocyanate and Curcumin in Combination". Experimental Biology, American Society of Nutrition Annual Meeting, Boston, Massachusetts, USA, March 2015.

**Rakariyatham K.**, "Curcumin and Colon Cancer Prevention". Nation University Conference, Thailand, December, 2014 (*invited speaker*)

**Rakariyatham K.**, "Defining the *in vivo* Effects of Divalent Manganese in *Caenorhabditis elegans*" Department of Chemistry and Biochemistry, College of Natural Sciences and Mathematics, California State University Fullerton, USA, August 1, 2011.

**Rakariyatham K.**, "Alcohol Production from Genetically Engineered *E. Coli*". Department of Mechanical Engineering, Faculty of Engineering, Chiang Mai University, Thailand, July 28, 2010. (*invited speaker*)

**Rakariyatham K.**, "Method Development to Quantify Reactive Oxygen Species in *C. elegans*". Department of Chemistry, Faculty of Science, Chiang Mai University, Thailand, June 11, 2009. (*invited speaker*)

**Symposium Poster Presentation:**

**Rakariyatham K.**, Wu X., and Xiao H. "Synergism between Sulforaphane and Luteolin in Anti-inflammation". The 252<sup>th</sup> American Chemical Society Conference, International Student Symposium, Philadelphia, USA, August 2016

**Rakariyatham K.**, Bach C., and Srinivasan C. "DAF-16 is necessary for divalent manganese to exert its antioxidant-like properties in *Caenorhabditis elegans*". The 23<sup>rd</sup> Annual CSU Biotechnology Symposium, Orange County, California, USA, January 2011.

**Rakariyatham K.**, Villarreal Ponce A. P., Trinh K., Bach C. and Srinivasan C. "*Caenorhabditis elegans* grown on Mn(II) enriched diet have reduced levels of Reactive Oxygen Species (ROS) *in vivo*". The Experimental Biology, American Society for Biochemistry and Molecular Biology (ASBMB) Annual Meeting, Anaheim, California, USA, April 2010

**Rakariyatham K.**, Villarreal Ponce A. P., Trinh K., Bach C. and Srinivasan C. "Defining the *in vivo* Effects of Divalent Manganese in *Caenorhabditis elegans*". The 22<sup>nd</sup> Annual CSU Biotechnology Symposium, Santa Clara, California, USA, January 2010

**Rakariyatham K.**, Bach C., and Srinivasan C. "Is Ionic Manganese a Free Radical Scavenger *in vivo*?" The 16th Annual Meeting of Free Radical Biology and Medicine (SFRBM) Society, San Francisco, California, USA, November 2009

**Rakariyatham K.**, Rakariyatham N., Kijjanapanich P., and Deming R. L. "Physical and chemical properties of Thai Panga fish *Pangasius bocourti* bone as calcium source for mineral supplements" Poster The 236th National Meeting & Exposition of American Chemical Society (ACS), Philadelphia, Pennsylvania, USA, August 2008