

## CURRICULUM VITAE

**Name:** Assistant Professor Dr. Phatthranit Klinmalai  
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### EDUCATION:

Year	Degree	Field of study	Major	University	Country
2011	B.Sc. (Food Science and Technology) with second class honours	Food Science and Technology	Food Science and Technology	Kasetsart University	Thailand
2014	M.Sc. (Food Science)	Food Science and Technology	Food Science and Technology	Kasetsart University	Thailand
2017	Ph.D. (Applied Marine Biosciences) (Japanese scholarship ;Monbukagakusho:MEXT)	Food Science and Technology	Food Science and Technology	Tokyo University of Marine Science and Technology	Japan

### ACADEMIC POSITION:

June 2024 – Present      **Assistant Professor**  
Faculty of Agro-Industry, Chiang Mai University, Thailand

June 2022 – June 2024      **Assistant Professor**  
College of Maritime Studies and Management,  
Chiang Mai University, Thailand

Aug 2018 – May 2022      **Lecturer**  
College of Maritime Studies and Management,  
Chiang Mai University, Thailand

### SKILLS AND EXPERTISE:

- Plant-based alternatives
- Freezing technology of foods
- Recrystallization of ice crystals in frozen food products
- Protein hydrolysate
- Functional foods and ingredients
- Utilization of by-products from food industry
- Starchy products

## TEACHING COURSE:

- Multidisciplinary for Food Innovation and Bioindustry
- Innovation in Marine Food Freezing
- Creation Process in Food Innovation and Bioindustry
- Bioactive Compounds from Marine Resources
- Chilling and Freezing of Marine Products
- Fundamental of Food Process Technology

## RESEARCH PROJECTS:

Name of Project	Status	Scholarship	Year
Scaling up into pilot production of highly nutritious plant-based milk from edamame to upgrade the technology into commercial production	Head of the Project	Program Management. Unit Competitiveness (PMUC)	2024-2025
Development of Fish Blood Protein Hydrolysate as a Functional ingredient and Cryoprotectant for improving the Quality of Frozen Surimi	Head of the Project	CMU Junior Research Fellowship Program	2023-2024
Novel Ice Recrystallization Behavior from Fish Blood Protein Hydrolysate with Antioxidant Activity	Head of the Project	Murata Scholarship	2021-2022
The Application of Polysaccharide from Durian Rind in Frozen Fish Fillet	Head of the Project	CMU Junior Research Fellowship Program	2020-2021
Effect of ultrasound treatment on phytochemical compounds and biological activity of freeze-dried mango pulp with peel powder	Co-Researcher	Fundamental Fund 2022	2022-2023
Innovative Hydroxyapatite extraction from By-products of Marine Product Processing Industries for Biomedical Industries	Co-Researcher	Flagship project 2020 National Research Council of Thailand (NRCT)	2020-2023

## INTERNATIONAL PUBLICATIONS:

- **Klinmalai, P.**, Manajareansook, P., Charoensiddhi, S., & Katekhong, W. (2024). Freeze-Thaw Stability Regulating Mechanism of Polysaccharide Extracted from Mung Bean Seed Coat on Rice Starch Gel: Retardation of Retrogradation and Ice Crystal Growth. *Food and Bioprocess Technology*, 1-12.
- Jindapon, N., **Klinmalai, P.**, Surayot, U., Tanadchangsang, N., Pichaiakrit, W., Phimolsiripol, Y., ... & Wangtueai, S. (2023). Preparation, Characterization, and Biological Properties of Hydroxyapatite from Bigeye Snapper (*Priacanthus tayenus*) Bone. *International Journal of Molecular Sciences*, 24(3), 2776.
- Janpet, C., Manakit, P., **Klinmalai, P.**, Kaewprachu, P., Jaisan, C., Surayot, U., Chakrabandhu, Y., & Wangtueai, S. (2022). Characteristics and functional properties of gelatin and gelatin hydrolysate from bigeye snapper (*Priacanthus tayenus*) bone, *Food Research* 6 (2), 403 – 412.
- Khwanchai, P., Fong-in, S., & **Klinmalai, P.** (2022). Quality properties of northern Thai beef sausage (sai-ua-nuea) with different additional levels of selected herbs. *International Journal of Agricultural Technology*, 18(2), 595-608.
- Katekhong, W., Wongphan, P., **Klinmalai, P.**, & Harnkarnsujarit, N. (2022). Thermoplastic starch blown films functionalized by plasticized nitrite blended with PBAT for superior oxygen barrier and active biodegradable meat packaging. *Food Chemistry*, 374, 131709.
- **Klinmalai, P.**, Fong-In, S., Phongthai, S., & Klunklin, W. (2021). Improving the Quality of Frozen Fillets of Semi-Dried Gourami Fish (*Trichogaster pectoralis*) by Using Sorbitol and Citric Acid. *Foods*, 10(11), 2763.
- **Klinmalai, P.**, Srisa, A., Laurenza, Y., Katekhong, W., & Harnkarnsujarit, N. (2021). Antifungal and plasticization effects of carvacrol in biodegradable poly (lactic acid) and poly (butylene adipate terephthalate) blend films for bakery packaging. *LWT*, 112356.
- **Klinmalai, P.**, Shibata, M., & Hagiwara, T. (2017). Recrystallization of ice crystals in trehalose solution at isothermal condition, *Food Biophysics*, 12, 404-411.
- **Klinmalai, P.**, Hagiwara, T., Sakiyama, T., & Ratanasumawong, S. (2017). Chitosan effects on physical properties, texture, and microstructure of flat rice noodles. *LWT-Food Science and Technology*, 76, 117-123.
- Rachatanapun, C., Tantala, J., **Klinmalai, P.**, & Ratanasumawong, S. (2016). Effect of chitosan on *Bacillus cereus* inhibition and quality of cooked rice during storage. *International Journal of Food Science and Technology*, 50, 2419-2426.

## INTERNATIONAL CONFERENCES:

- Maliwan, P. & **Klinmalai, P.** 2024. Role of Skipjack Tuna (*Katsuwonus pelamis*) Blood Protein Hydrolysate as a Natural Cryoprotectant on Threadfin bream Surimi Protein after Freeze-Thaw Cycles. Food Innovation Asia Conference 2024. BITEC, Bangkok, Thailand. 13-14 June 2024 (Poster presentation)
- **Klinmalai, P.**, Wangteui, S. & Hagiwara, T. Novel Ice Recrystallization Behavior from Tuna (*Katsuwonus pelamis*) Blood Protein Hydrolysate with Antioxidant Activity. The 13<sup>th</sup> SPSJ International Polymer Conference (IPC2023). Hokkaido, Japan. July 19, 2023. (Oral presentation)
- **Klinmalai, P.**, Jindapon, N., Katekhong, W., Wongphan, P., & Harnkarnsujarit, N. 2021. Cryoprotective Effects, Antioxidant Activity, and Characterization of Pectin from Durian Rind (*Durio zibethinus*). The 33<sup>rd</sup> Annual Meeting of the Thai Society

for Biotechnology and International Conference (TSB2021). November 25, 2021. (Oral presentation)

- Chatkitanan, T., **Klinmalai, P.**, & Harnkarnsujarit, N. 2020. Improved Color and Quality of Vacuum Meat Products with Starch-Based Active Packaging. In The International Conference on Food and Applied Bioscience 2020 Insights for Research and Industry 4.0. Thailand (Oral presentation)
- **Klinmalai, P.**, Harnkarnsujarit, N., & Wangteui, S. 2020. Protein Hydrolysates from Skipjack Tuna (*Katsuwonus pelamis*) Blood: Cryoprotective Effect and Chemical Properties. In The International Conference on Food and Applied Bioscience 2020 Insights for Research and Industry 4.0. (Poster presentation)
- Wongphan, P., **Klinmalai, P.**, & Harnkarnsujarit, N. 2020. Mechanical, Physical and barrier Properties of Edible Starch and Polysaccharide Blend Films Produced by Extrusion. In The International Conference on Food and Applied Bioscience 2020 Insights for Research and Industry 4.0. (Oral presentation)
- Srisa, A., Prukpanukorn, K., Hongloy, S., **Klinmalai, P.**, & Harnkarnsujarit, N. 2019. Development of Antioxidant Edible Pouch for oil Product. In proceeding of The 57<sup>th</sup> Kasetsart University Annual Conference. 29 January-1 February 2019, Kasetsart University, Bangkok, Thailand. (Oral presentation)
- **Klinmalai, P.**, Shibata, M., & Hagiwara, T. 2017. Dielectric relaxation spectroscopy as a tool for prediction of recrystallization rate of ice crystals in frozen foods. 2017 Joint International Symposium on Food Science and Technology, National University of Singapore, Singapore. 7-8 December 2017 (Oral presentation)
- **Klinmalai, P.**, Shibata, M., & Hagiwara, T. 2016. Influence of trehalose and raffinose on ice recrystallization with various temperatures. Japan Society for Food Engineering 17, Tokyo University of Marine Science and Technology, Tokyo, Japan. 4-5 August 2016 (Oral presentation)
- **Klinmalai, P.**, Shibata, M., & Hagiwara, T. 2016. Predicting ice recrystallization of trehalose solution by using NMR technique in freeze-concentrated matrix at the various temperatures. 9th Joint Symposium on Food Science and Technology among NUS, TUMSAT and HU, Faculty of Fisheries Sciences, Hokkaido University, Hakodate, Japan. 1-2 December 2016 (Oral presentation)
- **Klinmalai, P.**, Shibata, M., & Hagiwara, T. 2016. Recrystallization of ice crystals in trehalose and raffinose solutions. International Symposium on the Properties of Water (ISOPOW), Olympic Museum, Lausanne, Switzerland. 26-29 June 2016 (Oral presentation)
- **Klinmalai, P.**, Shibata, M., & Hagiwara, T. 2015. Recrystallization behavior of ice crystals in various saccharides solutions. Japan Society for Food Engineering 16, Hiroshima University, Hiroshima, Japan. 10-11 August 2015 (Oral presentation)
- **Klinmalai, P.**, Shibata, M., & Hagiwara, T. 2015. Estimation of ice crystals behavior in trehalose and raffinose solutions with the various temperatures. 8th Joint symposium on Food Science and Technology between NUS and TUMSAT, National University of Singapore, Singapore. 3-4 December 2015 (Oral presentation)
- **Klinmalai, P.**, Ratanasumawong, S., Sakiyama, T., & Hagiwara, T. 2013. Effect of chitosan on the physico-chemical properties of rice noodle. Japan Society for Food Engineering 14, Kyoto-terrsa, Kyoto, Japan. 9-10 August 2013 (Oral presentation)
- **Klinmalai, P.**, & Ratanasumawong, S. 2013. Effect of acetic acid on the physicochemical properties of rice flour and the quality of rice noodle. The 51st of Kasetsart University Annual Conference, Kasetsart University, Bangkok, Thailand. 5-7 February 2013 (Poster presentation)

- **Klinmalai, P., & Ratanasumawong, S.** 2012. Effect of chitosan on eating quality of cooked rice. Food Innovation Asia Conference 2012. BITEC, Bangkok, Thailand. 14-15 June 2012 (Poster presentation)

**REVIEWER FOR JOURNALS:**

- Food Hydrocolloids
- International Journal of Biological Macromolecules
- Journal of Food Processing and Preservation
- Scientific reports
- Natural and Life Sciences Communications

