

Curriculum Vitae
Wannaporn Klangpetch Ueno, Ph.D.
Assistant Professor

Address

Division of Food Science and Technology
Faculty of Agro-Industry
Chiang Mai University, Chiang Mai, Thailand 50100
Tel +66-84-640-4753
e-mail wannaporn.u@cmu.ac.th

Education

2010-2013 Kyushu university, Japan Ph.D. Agricultural Science
(Royal Thai Government Scholarship)
2008-2010 Kyushu university, Japan M.Sc. Bioscience and Biotechnology
(Royal Thai Government Scholarship)
2004-2008 Kyushu university, Japan B.Sc. Food Science and Technology
(Royal Thai Government Scholarship)

Career

2020-Present Division of Food Science and Technology, Faculty of Agro-Industry,
Chiang Mai University, Chiang Mai, Thailand
2013-2020 Department of Agro-Industry, Faculty of Agriculture, natural resources
and environment, Naresuan University, Phitsanulok, Thailand

Academic Interests

Non-thermal processing; Microbial control in food; Food safety; Agricultural waste utilization as antimicrobials and prebiotics

Publications

1. Singh, K., Srichairatanakool, S., Chewonarin, T., Brennan, C.T., Brennan, M.A., Klangpetch, W. and Utama-ang, N. 2022 Manipulation of the Phenolic Quality of Assam Green Tea through Thermal Regulation and Utilization of Microwave and Ultrasonic Extraction Techniques. *Horticulturae*. 8(4). 338.
2. Salee, N., Chaiyana, W., Yawootti, A., Naruenartwongsakul, S., Klangpetch, W., Walter, P. and Utama-ang, N. 2022. Optimization of the pulse electric field assisted extraction of black rice grain for antioxidant and sirtuin1 enzyme stimulation activities. *Sci Rep*. 12. 6459.
3. Jaichakan, P., Thongsook, T., Nakphaichit, M., Wattanasiritham, L.D., Phongthai, S., Pattarapisitorn, A., Utama-ang, N., Laokuldilok, T. and Klangpetch, W. 2022. Xylobiose and Xylotriose Production from Alkali Soluble Defatted Rice Bran Arabinoxylan Using Endoxylanase from *Neocallimastix partriciarum*. *Starch*. 74. 2100177
4. Klangpetch, W., Pattarapisitorn, A., Phongthai, S., Utama-ang, N., Laokuldilok, T., Tangjaidee, P., Wirjantoro, T.I. and Jaichakan, P. 2022. Microwave-assisted enzymatic hydrolysis to produce xylooligosaccharides from rice husk alkali-soluble arabinoxylan. *Sci Rep*. 12(1). 2035.
5. Jaichakan, P., Nakphaichit, M., Rungchang, S., Weerawatanakorn, M., Phongthai, S., Klangpetch, W. (2021) Two-stage processing for xylooligosaccharide recovery from rice by-products and evaluation of products: Promotion of lactic acid-

- producing bacterial growth and food application in a high-pressure process. Food Res. Int. 147. 100529.
6. Pattarapisitporn, A., Thiangthong, N., Inthajak, P., Jaichakan, P., Panpa, W., Klangpetch, W. (2021) Production of Xylooligosaccharides from Rice Straw by Microwave-assisted Enzymatic Hydrolysis and Evaluation of Their Prebiotic Properties. Chiang Mai University Journal of Natural Sciences. 20(2): 2021037.
 7. Sharma, P., Wichaphon, J., Klangpetch, W. (2020). Antimicrobial and antioxidant activities of defatted *Moringa oleifera* seed meal extract obtained by ultrasound-assisted extraction and application as a natural antimicrobial coating for raw chicken sausages. International Journal of Food Microbiology. 332. 108770.
 8. Panpa, W., Jaichakan, P., Chueanak, P., Kumpamai, T., Klangpetch, W. (2020), Chemical composition of Sacha Inchi hulls (*Plukenetia Volubilis* L.) and oligosaccharides production using commercial xylanases. Srinakharinwirot University Journal of Science and Technology (in-press).
 9. Jaichakan, P., Dang, T.H.N., Nakphaichit, M., Klangpetch, W. (2020), The effect of alkali pretreatment and acid debranching on rice husk, rice straw and defatted rice bran for xylobiose production by commercial xylanases. Srinakharinwirot University Journal of Science and Technology (in-press).
 10. Pattarapisitporn, A., Jaichakan, P., and Klangpetch, W. (2020), Oligosaccharides from rice straw and rice husks produced by glycoside hydrolase family 10 and 11 xylanases. Asia-Pacific Journal of Science and Technology. 25(1): 1-8.
 11. Sharma, P., Wichaphon, J., Klangpetch, W. (2019), Effect of ethanol concentration on antibacterial and antioxidant activity of defatted seed meals. The 21th Food Innovation Asia Conference 2019 (FIAC 2019), Bangkok, Thailand, 13-15 June 2019. (Proceedings).
 12. Panpa, W., Nakphaichit, M., Klangpetch, W. (2019), Effects of pretreatment methods On oligosaccharides produced from Sacha Inchi hulls by commercial cellulases. International Congress on Chemical, Biological and Environmental Sciences (ICCBES 2019), Osaka, Japan, 7-9 May 2019. p. 182-191. (Proceedings).
 13. Klangpetch, W., Noma, S. 2018. Inhibitory effects of nisin combined with plant-derived antimicrobials on pathogenic bacteria and the interaction with complex food systems. Food science and technology research. (in press)
 14. Yaemchuen, N., Wichaphon, J., Klangpetch, W. Antibacterial and Antioxidant Activities of Green Colorants Extracted from Asiatic and Spinach. The 20th Food Innovation Asia Conference 2018 (FIAC 2018), Bangkok, Thailand 14-16 June 2018. p. 427-432. (Proceedings).
 15. Yaemchuen, N., Wichaphon, J., Klangpetch, W. Antioxidant and antibacterial activities of natural red colorants from red dragon fruit peel and roselle. International Conference on Food and Applied Bioscience 2018 (FAB 2018), Chiang Mai, Thailand 1-2 February 2018. p. 163-167. (Proceedings).
 16. Klangpetch, W. 2017. Evaluation of antioxidant, anti-pathogenic and probiotic growth stimulatory activities of spent coffee ground polyphenol extracts. International Food Research Journal. 24(5). 2246-2252.
 17. Nguyen, K.T., Jaichakan, P., Klangpetch, W. Production of xylooligosaccharides from riceberry husk and evaluation of their effects on probiotic growth promotion. The 19th Food Innovation Asia Conference 2017 (FIAC 2017), Bangkok, Thailand 15 - 17 June 2017. p. 121-129. (Proceedings).
 18. Klangpetch, W., Phromsurin, K., Hannarong, K., Wichaphon, J., Rungchang, S. 2016. Antibacterial and antioxidant effects of tropical citrus peel extracts to improve the shelf life of raw chicken drumettes. International Food Research Journal. 23(2). 700-707.

19. Jaichakan, P., Thongsook, T., Rungchang, S., Klangpetch, W. Enzymatic production of xylooligosaccharides from alkali-soluble hemicellulose of defatted rice bran. The 18th Food Innovation Asia Conference 2016 (FIAC 2016), Bangkok, Thailand 16-18 June 2016. p. 92-99. (Proceedings).
20. Wanna, A., Singanusong, R., Wichaphon, J., Klangpetch, W. Determination of antioxidant and antimicrobial properties of Homnil rice bran extracted by organic solvents. 28th International Conference on Food and Agricultural Engineering, Tokyo, Japan, 18 February, 2016. p. 45-48. (Proceedings).
21. Wanna, A., Singanusong, R., Wichaphon, J., Klangpetch, W. Effect of extraction solvents on antioxidant and antibacterial activities of Ricberry bran extracts. The 17th Food Innovation Asia conference (FIAC 2015), Bangkok, Thailand 18-19 June 2015. p. 423-428. (Proceedings).
22. Nakai, T., Tani, S., Klangpetch, W., Noma, S., Igura, N., Shimoda, M. 2014. The effect of combined treatment with carbonation, heating, and monoglycerol Fatty Acid Esters on the Inactivation and Growth Inhibition of *Geobacillus stearothermophilus* Spores, Food science and technology research. 20, 273-277.
23. Klangpetch, W., Nakai, T., Noma, S., Igura, N., Shimoda, M. 2013. Combined effects of carbonation with heating and fatty acid esters on inactivation and growth inhibition of various *Bacillus* spores, Journal of Food Protection 76(9), 1568-74.
24. Klangpetch, W., Noma, S., Igura, N., Shimoda, M. 2013. Effects of high-pressure carbonation on intracellular ATP and NADH levels and DNA damage in *Escherichia coli* cells, Biocontrol Science 18(4), 199-203.
25. Klangpetch, W., Nakai, T., Nishiyama, K., Noma, S., Igura, N., Shimoda, M. 2012. Effect of Low-Pressure Carbonation on the heat inactivation and cytoplasmic acidification of *Saccharomyces cerevisiae*, Journal of Food Science and Engineering 2, 712-718.
26. Klangpetch, W., Noma, S., Igura, N., Shimoda, M. 2011. The effect of low pressure carbonation on the heat inactivation of *Escherichia coli*. Bioscience, Biotechnology, and Biochemistry 75(10), 1945-1950.
27. Noma, S., Klangpetch, W., Nakamura, S., Ishibashi, T., Huang, H., Igura, N., Shimoda, M. Effect of low-pressure carbonation on heat inactivation of yeast and bacterial vegetative cells, Food science and technology research 16(5), 389-394, 2011.
28. Noma, S., Yamashita, N., Klangpetch, W., Igura, N., Shimoda, M. 2011. Effects of carbonation with heating on germination of *Bacillus subtilis* spores, Food science and technology research 17(6), 523-527.

Scientific grants (Project investigator)

1. Improvement of quality and microbiological safety of ready to drink tender coconut water using pulsed electric field technique. Research and Researchers for Industries. National Research Council of Thailand. 2022-2023.
2. Valorization of orange juice processing wastes for development of functional ingredients: prebiotics. National Research Council of Thailand. 2022-2023.
3. Effects of pulsed electric field on pretreatment of polymer derived from fresh-cut Bhutan oyster mushroom by-products for development of prebiotic potential functional ingredients. Fundamental Fund. Thailand Science Research and Innovation. 2021-2022.
4. Development of non-thermal extraction from Assam tea by pulsed electric field process. Industrial Research and technology Capacity Development Program, Northern Science Park. 2021-2022.
5. Inactivation effects and mechanisms of high pressure processing individually or in combination with nisin on bacterial vegetative cells and spores in a plant-based model

- food system. Research Grant for New Scholar. Ministry of Higher Education, Science, Research and Innovation. 2021-2023.
6. Development of synbiotic drinking yogurt from Thai rice beverage and study on stability under simulated gastro-intestinal condition. Agricultural Research Development Agency (Public Organization). 2021-2022.
 7. Improvement of microbiological quality and safety of ready to drink pineapple juice supplemented with prebiotics by ultraviolet light and high pressure processing. Agricultural Research Development Agency (Public Organization). 2021-2022.
 8. Enzymatic production of oligosaccharides from defatted-deproteinated rice bran arabinoxylan and their prebiotic potentials under simulated gastrointestinal condition (yr 2). Agricultural Research Development Agency (Public Organization). 2021-2022.
 9. Production development of oligosaccharides from freshwater green algae, Kai (*Cladophora* spp.) and evaluation for their prebiotic potentials under simulated gastrointestinal condition. Agricultural Research Development Agency (Public Organization). 2021-2022.
 10. Shelf-life extension of cold-press vegetable and fruit juice products by high pressure process. Industrial Research and technology Capacity Development Program, Northern Science Park. 2020-2021.
 11. Cholesterol-free reduced fat salad cream supplemented with prebiotic. Innovative House. National Research Council of Thailand. 2021-2022.
 12. Ready to eat pork satay in retort pouch. Innovative House. National Research Council of Thailand. 2021-2022.
 13. Production of water-soluble and alkali-soluble hemicelluloses-derived oligosaccharides from rice production residues by microwave-assisted enzymatic hydrolysis and their effects on behaviors of probiotic bacteria under simulated gastrointestinal conditions. Research Grant for New Scholar. Thailand Research Fund. 2018-2020.
 14. Enzymatic production of oligosaccharides from defatted-deproteinated rice bran arabinoxylan and their prebiotic potentials under simulated gastrointestinal condition (yr 1). Agricultural Research Development Agency (Public Organization). 2018-2019.
 15. Inhibitory effect of nisin and plant-derived antimicrobials on vegetative and spore forms of bacteria and the interaction with food constituents. Research Grant for New Scholar. The Thailand Research Fund. 2015-2017.
 16. Enzymatic production of xylo-oligosaccharides from defatted rice bran and evaluation of their prebiotic properties. Research and Researchers for Industries. The Thailand Research Fund. 2015-2017.
 17. Combined effect of High hydrostatic pressure processing and pulse electric field with Thai pigmented rice bran extract on inactivation of food-borne bacteria. ASEA-UNINET Staff Exchange program. Office of the Higher Education joint with Austrian embassy. 2016-2016.
 18. Extraction of antimicrobial agents from Hommali, Homnil and Riceberry rice brans and their application in edible film. The Thailand Research Fund: Research and Researchers for Industries. 2014-2016.
 19. Extraction of anti-pathogenic agents and protein from rice bran and their application in edible film. National Research Council of Thailand. 2014-2015.
 20. Comparison of antibacterial effect of spent coffee ground extracts from instant coffee industry and typical coffee shop against pathogenic bacteria. Naresuan University. 2014-2015.
 21. Heat-resistant protein identification of *Escherichia coli* treated by carbonation. The Japan Science Society. 2011-2012.