



NAME

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POSITION

Assistant Professor at Department of Industrial Biotechnology

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EDUCATION

1984 B.Sc. (Agro-Industry) 1st Class Honors, Prince of Songkla University, Thailand

1992 M.Sc. (Biotechnology) Prince of Songkla University, Thailand

2000 Ph.D. (Food Science) University of Wisconsin-Madison, USA

EMPLOYMENT & EXPERIENCES

1991 to present: Assistant professor at Faculty of Agro-Industry, Prince of Songkla University, Hat Yai, Songkhla, Thailand.

2015 to present: Technical consultant, Dutchmill Group, Ltd.

2011 to present: Technical consultant, Songkla Canning Public Company Limited

2002 to 2006: received NRCT-JSPS visiting research fellowship to conduct the research under the topic of "Purification and substrate specificity of D-amino acid amidase in bacteria isolated from soil in Thailand" at Toyama Prefectural University, Japan.

1994: received 1993 NRCT-JSPS visiting research fellowship to conduct the research under the topic of "Production of Monoglyceride from Palm Oil by Immobilized-Lipase-Catalyzed Glycerolysis Reaction" at University of Nagoya, Japan.

1990 to 1992: Food inspector and Starkist representative in Thailand, Starkish Company, Long Beach, California, USA

1985 to 1989: Head of Quality Control Division at a tuna canning factory, Royal Canning Company, Songkhla, Thailand.

RESEARCH OF INTEREST

1. Antagonistic mechanisms involved in probiotic function in controlling foodborne pathogens in the highly competition of fecal microflora
2. Prebiotic efficacy and mechanism on anti-*Salmonella* activity in the combination with prebiotic-degrading probiotic strain.
3. Isolation and screening of inulin-degrading probiotics from human breast milk and infant feces
4. Development of synbiotic formula to control and prevent growth of foodborne pathogens in humans

5. Human probiotics with cholesterol reduction
6. Enhancement of probiotic survival in health food products
7. Probiotics in food fermentation and food safety
8. Human probiotic diversity in breastmilk and colon model system
9. *Lactobacillus plantarum* diversity, their probiotic characteristics and whole genome sequences
10. Prebiotic oligosaccharides, exopolysaccharides and resistant starch from starchy plants
11. Antifungal and antibacterial activity of lactic acid bacteria
12. Exopolysaccharides produced by lactic acid bacteria and related enzymes
13. Development of antimicrobial and anticancer compounds from citrus and herbal plant and their application in food products
14. Biodiesel production via transesterification reaction catalyzed by methanol-tolerant whole-cell biocatalyst
15. Control of histamine development in canned tuna processing and diversity of histamine forming bacteria in tuna

PUBLICATIONS (* Corresponding author)

1. Taweerodjanakarn, S., Haertlé, T., Chobert, J.M. and **Hongpattarakere***, T. 2017. Antibacterial producing enterococci abundantly isolated from breast milk of Thai mothers and their probiotic mechanisms essential for establishment in infant. (revised)
2. Buntin, N., de Vos, W.M. and **Hongpattarakere***, T. 2017. Variation of adhesion, cell surface properties, and adhesion mechanisms of *Lactobacillus plantarum* strains isolated from various sources. *Appl. Microbiol. Biotechnol.* (submitted)
3. Buntin, N., Ritari, J., Paulin, L., Douillard, F.P., **Hongpattarakere***, T., de Vos, W.M. Comparative genome of *Lactobacillus plantarum* isolated from different environmental niches and potential probiotic profiles. *Appl. Environ. Microbiol.* (submitted)
4. Kanjan, P. and **Hongpattarakere***, T. 2017. Prebiotic efficacy and mechanism of inulin in combination with inulin-degrading *Lactobacillus paracasei* I321 in controlling *Salmonella* under highly competitive environment of fecal microflora. *Carbohydr. Polym.* (submitted) IF (2014) = 4.074
5. Buntin, N., **Hongpattarakere***, T., Ritari, J., Douillard, F.P., Paulin, L., Boeren, S., Shetty, S.A. and de Vos*, W.M. 2017. Comparative proteogenomics and metabolic profiling identify an inducible operon involved in inulin utilization in *Lactobacillus plantarum* strains. *Appl. Environ. Microbiol.* 83(2): e02402-16. IF (2015/2016) = 3.823

Note: This paper was selected to be the 'Articles of Significant Interest' from *Appl. Environ. Microbiol* Volume 83 Issue 2 by the AEM Editors

6. Kanjan, P. and **Hongpattarakere***, T. 2016. Antibacterial metabolites secreted under glucose-limited environment of the mimicked proximal colon model by lactobacilli abundant in infant feces. *Appl. Microbiol. Biotechnol.* 100(17): 7651-7664. IF (2014) = 3.337
7. **Hongpattarakere***, T., Buntin, N. and Nuylert, N. 2016. Histamine development and bacterial diversity in microbially-challenged tonggol (*Thunnus tonggol*) under temperature abuse during canning manufacture. *J. Food Sci. Technol.* 53(1): 245–256. IF (2014) = 2.203
8. Uraipan, S. and **Hongpattarakere***, T. 2015. *In vitro* Probiotic and antagonistic characteristics against foodborne pathogens of lactic acid bacteria and bifidobacteria isolated from feces of healthy Thai infants. *Jundishapur J. Microbiol.* 8(6): e18264. IF (2014) = 0.387
9. **Hongpattarakere***, T. and Uraipan, S. 2015. Bifidogenic characteristic and protective effect of saba starch on survival of *Lactobacillus plantarum* CIF17AN2 during vacuum-drying and storage. *Carbohydr. Polym.* 117: 255–261. IF (2014) = 4.074
10. Uraipan, S., Brigidi, P. and **Hongpattarakere***, T. 2014. Antagonistic mechanisms of synbiotic between *Lactobacillus plantarum* CIF17AN2 and green banana starch in the proximal colon model challenged with *Salmonella* Typhimurium. *Anaerobe.* 28: 44–53. IF (2014) = 2.475
11. Sangmanee, P. and **Hongpattarakere***, T. 2014. Inhibitory of multiple antifungal components produced by *Lactobacillus plantarum* K35 on growth, aflatoxin production and ultrastructure

- alterations of *Aspergillus flavus* and *Aspergillus parasiticus*. *Food Control*. 40 : 224–233 IF (2014) = 2.806
12. Buntin, N. and **Hongpattarakere***, T. 2014. Antimicrobial activity and plantaricin (*pln*) encoding genes of *Lactobacillus plantarum* isolated from various sources. *J. Biotechnol.* 185 (Supplement): S74. (May 2014) IF (2014)=2.871
 13. **Hongpattarakere***, T. and Uraipan, S., 2014. Antagonistic activity of *Lactobacillus plantarum* and saba banana starch under proximal colon model challenged with *Salmonella Typhimurium*. *J. Biotechnol.* 185 (Supplement): S76. (May 2014) IF (2014)=2.871
 14. Kongnum, K. and **Hongpattarakere***, T. 2014. Cholesterol-lowering mechanism of lactic acid bacteria and Bifidobacterium sp. isolated from breast milk and infant feces. *J. Biotechnol.* 185 (Supplement): S78. (May 2014) IF (2014)=2.871
 15. Nuylert, A. and **Hongpattarakere***, T. 2013. Improvement of cell-bound lipase from *Rhodotorula mucilaginosa* P11189 using as methanol-tolerant whole-cell biocatalysts for production of palm-oil biodiesel. *Ann. Microbiol.* 63(3): 929–939. IF (2013)=1.039
 16. **Hongpattarakere***, T. and Rattanaubon, P. 2013. Improvement of freeze-dried *Lactobacillus plantarum* survival using water-soluble and insoluble prebiotics from food crops. *Food Bioproc. Technol.* 6(8): 1885–1896. IF (2013)=3.126
 17. Kongnum, K. and **Hongpattarakere***, T. 2012. Effect of *Lactobacillus plantarum* isolated from digestive tract of wild shrimp on growth and survival of white shrimp (*Litopenaeus vannamei*) challenged with *Vibrio harveyi*. *Fish Shellfish Immunol.* 32 (1): 170–177. IF (2011)=3.044
 18. **Hongpattarakere***, T., Cherntong, N., Wichienchot, S., Kolida, S. and Rastall, R.A. 2012. *In vitro* prebiotic evaluation of exopolysaccharides produced by marine isolated lactic acid bacteria. *Carbohydr. Polym.* 87(1): 846–852. IF (2012)=3.479
 19. Rammamee, K. and **Hongpattarakere***, T. 2011. Effects of tropical citrus essential oils on growth, aflatoxin production and ultrastructure alterations of *Aspergillus flavus* and *Aspergillus parasiticus*. *Food Bioproc. Technol.* 4(6): 1050–1059. IF (2011)=3.703
 20. Srimhan, P., Kongnum, K., Taweerodjanakarn, S. and **Hongpattarakere***, T. 2011. Selection of methanol-tolerant-lipase producing yeasts for whole-cell biocatalysis application in palm-oil transesterification. *Enzym. Microb. Technol.* 48(3): 293–298. (March 2011) IF=2.638
 21. **Hongpattarakere***, T. and Srimhan, P. 2010. Application of Methanol tolerant and lipase-producing yeast, *Rhodotorula mucilagenosa* P11189, as whole-cell biocatalyst for palm-oil transesterification. *J. Biotechnol.* 150S: S156. (November 2011) IF (2011)=2.970
 22. **Hongpattarakere***, T., Cherntong, N., Wichienchot, S., Kolida, S. and Rastall, R.A. 2010. *In Vitro* prebiotic evaluation of exopolysaccharides produced by marine isolated lactic acid bacteria. *J. Biotechnol.* 150S: S61. (November 2011) IF (2011)=2.970
 23. Wichienchot, S., Prasertsan, P., **Hongpattarakere***, T., Rastall, R.A. 2009. Manufacture of gluco-oligosaccharide prebiotic by *Gluconobacter oxydans* NCIMB 4943. *Songklanakarin J. Sci. Technol.* 31: 597–603.
 24. Thammarutwasik, P., **Hongpattarakere***, T., Chantachum, S., Kijroongrojana, K., Itharat, A., Reanmongkol, W., Tewtrakul, S. and Ooraikul, B. 2009. Prebiotics-A review. *Songklanakarin J. Sci. Technol.* 31: 401–408.
 25. Buntin, N., Chanthachum, S. and **Hongpattarakere***, T. 2008. Screening of lactic acid bacteria from gastrointestinal tracts of marine fish for their potential use as probiotics. *Songklanakarin J. Sci. Technol.* 30 (Suppl.1): 141–148.
 26. Chanthaphone, S., Chanthachum, S. and **Hongpattarakere***, T. 2008. Antimicrobial activities of essential oils and crude extracts from tropical *Citrus* spp. against food-related microorganisms. *Songklanakarin J. Sci. Technol.* 30 (Suppl.1): 125–131.
 27. **Hongpattarakere***, T. and Riyaphan, O. 2008. Effect of deacetylation conditions on antimicrobial activity of chitosans prepared from carapace of black tiger shrimp (*Penaeus monodon*). *Songklanakarin J. Sci. Technol.* 30 (Suppl.1): 1–9.

28. Suyala, S., Prasertsan, P., and **Hongpattarakere, T.** 2008. Effect of culture medium on polymer production and temperature on recovery of polymer produced from newly identified *Rhizopus oryzae* ST29. *Songklanakarin J. Sci. Technol.* 30 (Suppl.1): 121–124.
29. Sukkasem, D., **Hongpattarakere, T.** and H-Kittikun, A. 2007. Combined effect of crude herbal extracts, pH and sucrose on the survival of *Candida parapsilosis* and *Zygosaccharomyces fermentati* in orange juice. *Songklanakarin J. Sci. Technol.* 29 (3): 793–800.
30. Wichienchot, S., Prasertsan, P., **Hongpattarakere, T.**, Gibson, G. R. and Rastall, R. A. 2006. *In vitro* fermentation of mixed linkage glucooligosaccharides produced by *Gluconobacter oxydans* NCIMB 4943 by the human colonic microflora. *Current Issues in Intestinal Microbiology* 7: 7–12.
31. Wichienchot, S., Prasertsan, P., **Hongpattarakere, T.**, Gibson, G. R. and Rastall, R. A. 2006. *In vitro* three-stage continuous fermentation of glucooligosaccharides produced by *Gluconobacter oxydans* NCIMB 4943 by the human colonic microflora. *Current Issues in Intestinal Microbiology* 7: 13–18.
32. **Hongpattarakere***, T., Komeda, H. and Asano, Y. 2005. Purification, characterization, gene cloning and sequencing of D-stereospecific amino acid amidase from *Delftia acidovorans*. *J. Indust. Microbiol. Biotechnol.* 32: 567–576. (December) IF (2010) = 2.465
33. **Hongpattarakere***, T. N. Seksun and A. Suriya. 2003. Screening and isolation of D-amino acid amidase-producing microorganisms from soil samples. *Songklanakarin J. Sci. Technol.* 25 (2): 255–265.
34. **Hongpattarakere***, T. 2002. Hyperthermostable cellulolytic and hemicellulolytic enzymes and their biotechnological applications. *Songklanakarin J. Sci. Technol.* 24:481–491.
35. **Hongpattarakere***, T. 2001. Production of monoglyceride from palm oil immobilized-lipase-catalyzed glycerolysis reaction. *Songklanakarin J. Sci. Technol.* 23:547–553.
36. **Hongpattarakere***, T. and A. H-Kittikun. 1995. Optimization of single-cell protein production from cassava starch using *Schwanniomyces castellii*. *World J. Microbiol. Biotechnol.* 11: 607–608.

CONFERENCES/PROCEEDINGS

- Buntin, N., Boeren, S., Ritari, J., Paulin, L., **Hongpattarakere***, T., de Vos, W.M*. 2016. Identification of an inducible operon and key protein involved in inulin degradation of two strains of *Lactobacillus plantarum* by comparative proteomic analysis metabolic profiling. The 28th Annual Meeting of the Thai Society for Biotechnology and International Conference. The Empress Hotel, Chiang Mai November 28th-30th, 2016.
- Hongpattarakere***, T. and Kanjan, P. 2015. Probiotic characteristics and antagonistic mechanisms against gram-negative food-borne bacteria of lactobacilli isolated from healthy Thai infant feces. The 8th Asian Conference on Lactic Acid Bacteria, The Emerald Hotel, Bangkok. July 8th-10th, 2015. p. 180.
- Kongnum, K. and **Hongpattarakere***, T. 2015. Diversity of lactic acid bacteria present in fecal microflora of infants under various types of feedings. The 8th Asian Conference on Lactic Acid Bacteria, The Emerald Hotel, Bangkok. July 8th-10th, 2015. p. 98.
- Taweerodjanakarn, S. and **Hongpattarakere***, T. 2015. Antagonistic interactions against Gram-negative foodborne pathogens of probiotic lactic acid bacteria isolated from human milk. The 8th Asian Conference on Lactic Acid Bacteria, The Emerald Hotel, Bangkok. July 8th-10th, 2015. p. 181.
- Kanjan, P. and **Hongpattarakere***, T. 2014. Antibacterial activity against Gram-negative food-borne pathogens and presence of plantaricin genes in probiotic *Lactobacillus* spp. isolated from healthy infants. The 26th Annual Meeting of the Thai Society for Biotechnology and International Conference. Mae Fah Luang University, Chiang Rai, Thailand. November 26th-29th, 2014. p. 201.
- Taweerodjanakarn, S. and **Hongpattarakere***, T. 2014. Evaluation of potential probiotic properties of *Enterococcus faecalis* M125 isolated from breast milk. 24th International ICFMH conference - FOOD MICRO 2014, Nantes, France. September 1st-4th, 2014. p. 640.
- Buntin, N. and **Hongpattarakere***, T. 2014. Antimicrobial activity and plantaricin (*pln*) encoding genes of *Lactobacillus plantarum* isolated from various sources. European Biotechnology Congress 2014. Grand Hotel Tiziano e dei Congressi, Lecce, Italy. May 15th-18th, 2014.
- Hongpattarakere***, T. and Uraipan, S., 2014. Antagonistic activity of *Lactobacillus plantarum* and saba banana starch under proximal colon model challenged with *Salmonella* Typhimurium. European

Biotechnology Congress 2014. Grand Hotel Tiziano e dei Congressi, Lecce, Italy. May 15th-18th, 2014.

Kongnum, K. and **Hongpattarakere***, T. 2014. Cholesterol-lowering mechanism of lactic acid bacteria and Bifidobacterium sp. isolated from breast milk and infant feces. European Biotechnology Congress 2014. Grand Hotel Tiziano e dei Congressi, Lecce, Italy. May 15th-18th, 2014.

Kanjan, P. and **Hongpattarakere***, T. 2014. Antagonistic interaction of probiotic lactic acid bacteria isolated from feces. The 2nd International Conference on Food and Applied Bioscience. The Empress Hotel, Chiang Mai, Thailand. February 6th-7th, 2014. p. 162.

Buntin, N. and **Hongpattarakere***, T. 2014. Adhesion mechanisms and cell surface properties of *Lactobacillus plantarum* isolated from various sources. The 2nd International Conference on Food and Applied Bioscience. The Empress Hotel, Chiang Mai, Thailand. February 6th-7th, 2014. p. 161.

Note: Best Poster Award-Honorable Mention Place

Fibriana, F., **Hongpattarakere, T.** and Upaichit*, A. 2013. Optimization of bioprocess variables for fungal lipase production using statistical experimental design: a mini review. The 2nd ASEAN Academic Society International Conference (AASIC 2013). Kasetsart University, Bangkok, Thailand. November 4th - 5th, 2013. p. 64-67.

Sangmanee, P. and **Hongpattarakere***, T. 2012. Antifungal activity of lactic acid bacteria against aflatoxin-producing fungi. The 23rd Annual Meeting of the Thai Society for Biotechnology "Systems Biotechnology: Quality & Success", Mahidol University, Bangkok, Thailand. February 1st-2nd, 2012. p. 244.

Uraipan, S. and **Hongpattarakere***, T. 2010. Antimicrobial susceptibility of lactic acid bacteria and bifidobacteria from infant feces. The 1st Current Drug Development International Conference. Woraburi Phuket Resort & Spa, Phuket, Thailand. May 6th-8th, 2010.

Nuyler, A. and **Hongpattarakere***, T. 2010. Optimization for producing cell-bound lipase from *Rhodotorula mucilagenosa*. Proceeding in The 22nd Annual Meeting of The Thai Society for Biotechnology TSB 2010: International Conference on Biotechnology for Healthy Living. Prince of Songkla University, Trang Campus. October 20th-22nd, 2010. p 177.

Hongpattarakere*, T., Chertong, N., Wichienchot, S., Kolida, S. and Rastall, R.A. 2010. *In Vitro* prebiotic evaluation of exopolysaccharides produced by marine isolated lactic acid bacteria. Proceeding in 14th International Biotechnology Symposium and Exhibition: Biotechnology for the Sustainability of Human Society. Palacongressi, Rimini, Italy. September 14th-18th, 2010. p

Hongpattarakere*, T. and Srimhan, P. 2010. Application of Methanol Tolerant and Lipase-Producing Yeast, *Rhodotorula mucilagenosa* P11I89, as Whole-Cell Biocatalyst for Palm-Oil Transesterification. Proceeding in 14th International Biotechnology Symposium and Exhibition: Biotechnology for the Sustainability of Human Society. Palacongressi, Rimini, Italy. September 14th-18th, p 2010.

Chuprom, J. and **Hongpattarakere***, T. 2009. Effect of potential prebiotic extracts and plant crude fiber on survival of microencapsulated probiotics under simulated gastric juice. Proceeding in The 21st Annual Meeting of The Thai Society for Biotechnology TSB 2009: Biotechnology A Solution to the Global Economic Crisis? Queen Sirikit National Convention Center, Bangkok. September 24th-25th 2009. p 453-458.

Srimhan, P., Cheirsilp, B. and **Hongpattarakere***, T. 2007. Environment screening for lipase producing yeasts from palm oil mill. Proceeding in The 19th Annual Meeting of The Thai Society for Biotechnology TSB 2007: Biotechnology for Gross National Happiness, Thammasat University, Pathumthani. October 9th-12th 2007. p 64.

Salaipeth, L., Supamattaya, K. and **Hongpattarakere***, T. 2007. Effect of shrimp probiotics on survival and growth of white shrimp (*Litopenaeus vannamei*). Proceeding in The 19th Annual Meeting of The Thai Society for Biotechnology TSB 2007: Biotechnology for Gross National Happiness, Thammasat University, Pathumthani. October 9th-12th 2007. p 50.

Kongnum, K, Supamattaya, K and **Hongpattarakere***, T. 2007. Isolation and selection of lactic acid bacteria inhibitory to *Vibrio harveyi* from shrimp gastrointestinal tracts. Proceedings of The 7th National

- Graduate Research Conference GRAD-RESEARCH. Prince of Songkla University. Surat-Thani, Thailand. April 4-5, 2007.
- Billaso. S., Chanthachum, S. and **Hongpattarakere***, T. 2007. Prebiotic properties of oligosaccharides extracted from legumes. Proceedings of The 7th National Graduate Research Conference GRAD-RESEARCH. Prince of Songkla University. Surat-Thani, Thailand. April 4th-5th, 2007.
- Taweerodjanakarn, S., Chanthachum, S. and **Hongpattarakere***, T. 2007. Isolation, selection and identification of lactic acid bacteria produced antibacterial substances against foodborne pathogens. Proceedings of The 7th National Graduate Research Conference GRAD-RESEARCH. Prince of Songkla University. Surat-Thani, Thailand. April 4th-5th, 2007.
- Jantaphone, S., Chantachum, S. and **Hongpattarakere***, T. 2006. Antimicrobial activity of essential oils from Citrus spp. Proceedings of The 4th PSU Symposium on Graduate Research. Songkhla, Thailand. March 31st, 2006.
- Cherntong, N., H-Kittikun, A. and **Hongpattarakere***, T. 2006. Screening exopolysaccharides (EPSs) producing lactic acid bacteria from gastrointestinal tracts of marine fish. Proceedings of The 4th PSU Symposium on Graduate Research. Songkhla, Thailand. March 31st, 2006.
- Buntin, N., Chantachum, S. and **Hongpattarakere***, T. 2006. Screening of lactic acid bacteria as probiotics from gastrointestinal tracts of marine fish. Proceedings of The 4th PSU Symposium on Graduate Research. Songkhla, Thailand. March 31st, 2006.
- Cherntong, N., H-Kittikun, A. and **Hongpattarakere***, T. 2006. Prebiotic properties of exopolysaccharides from lactic acid bacteria. Proceedings of The 18th Annual Meeting of the Thai Society for Biotechnology. Bangkok, Thailand. Nov. 2nd-3rd, 2006.
- Buntin, N., Chantachum, S. and **Hongpattarakere***, T. 2006. Screening of prebiotic from root crops. Proceedings of The 18th Annual Meeting of the Thai Society for Biotechnology. Bangkok, Thailand. Nov. 2nd-3rd, 2006.
- Hongpattarakere***, T. 2004. Free radical scavenging capacity in tropical fruits, herbal plants and locally-made fruit wines available in southern Thailand. Proceedings of The 10th World Congress on Clinical Nutrition. Phuket, Thailand. Nov. 30th - Dec. 3rd, 2004.
- Hongpattarakere***, T., and Riyaphan, O. 2004. Antimicrobial activity of chitosan prepared from carapace of black tiger shrimp (*Penaeus monodon*). Proceedings of The 10th World Congress on Clinical Nutrition. Phuket, Thailand. Nov. 30th - Dec. 3rd, 2004.
- Hongpattarakere***, T., Thanunchai, P., Sae-Lim, S. and Saknimit, G. 2004. Effects of ethanolic extracts from banana (*Musa sapientum*) on growth of probiotic bacteria. Proceedings of The 10th World Congress on Clinical Nutrition. Phuket, Thailand. Nov. 30th - Dec. 3rd, 2004.
- Hongpattarakere***, T., H. Komeda and Y. Asano. Purification, characterization, gene cloning and sequencing of D-stereospecific amino acid amidase from soil bacterium: *Delftia acidovorans*. Proceedings of 7th Biennial Symposium International Society for Environmental Biotechnology. Chicago, USA. June 18th-21st, 2004.