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EDUCATION

Ph.D. (Food Science and Human Nutrition) University of Illinois at Urbana-Champaign, USA
Ph.D. (Bioscience) Kasetsart University, Thailand under the cooperation between Kasetsart University and The Institute of Physical and Chemical Research (RIKEN), Japan
M.Sc. (Biotechnology) King Mongkut's Institute of Technology Ladkrabang, Thailand
B.Sc. (Biology) Silpakorn University, Thailand

RESEARCH INTERESTS

Food Microbiology
Probiotics and prebiotic oligosaccharides
Human milk oligosaccharides (HMOs)
Genetic manipulation of lactobacilli
Bacterial community, microbiota and metagenomics

RECOGNITION AND AWARDS

NRCT Innovation Award in the field of engineering and industrial research for ENZbleach: An alkaline-tolerant enzyme for pulp bleaching process from National Research Council of Thailand (NRCT), January, 2013.
Alice and Charlotte Biester Award. Department of Food Science and Human Nutrition, University of Illinois at Urbana-Champaign, 2012.
Alice and Charlotte Biester Award. Department of Food Science and Human Nutrition, University of Illinois at Urbana-Champaign, 2011.
Blanche Larson Award. Department of Food Science and Human Nutrition, University of Illinois at Urbana-Champaign, 2010.
Royal Thai Government Scholarship to study Microbiology, 2009.
NRCT Innovation Award in the field of engineering and industrial research for ENZhance enzymes detection kit from National Research Council of Thailand (NRCT), 2007.
Graduate Fellowship, Asian Program Associate (APA program), RIKEN, Japan, 2002-2005.

EMPLOYMENT/PROFESSIONAL EXPERIENCE

Researcher, Enzyme technology laboratory, National Center for Genetic Engineering and Technology, Thailand, 2006-2008.

- Developed quick and efficient techniques for construction of metagenomic libraries and enzymes detection kit. Planned and executed workshop in order to promote organization in association with university groups.



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- Supervised undergraduate and graduate students in conducting their educational research.
 - 1) Construction of metagenomic fosmid library of termite gut and isolation of novel genes encoding lignocellulose-degrading enzymes using activity-based approach.
 - 2) Prokaryotic diversity in the rumen of swamp buffalo and Holstein cattle.

RESEARCH EXPERIENCE

RIKEN Asian Program Associate (current RIKEN International Program Associates) Research training at Environmental Molecular Biology Laboratory, The Institute of Physical and Chemical Research (RIKEN), Saitama, Japan, 2002-2005.

Research: Comparison of bacterial communities of the alkaline gut segment among various species of higher termites.

Experience: Microbiology and molecular biology techniques (16S rDNA sequencing, T-RFLP analysis, and clone libraries etc).

Research assistant, Microbiological Resource Center (MIRCEN), Institute of Scientific and Technological Research (TISTR), Thailand, 1996-1999.

Research: Screening, isolation, and identification of potent cyanobacteriolytic microorganisms.

Experience: High Performance Liquid Chromatograph (HPLC) for toxic analysis.

ผลงาน

สิทธิบัตร

1. กรรมวิธีการตรวจและคัดกรองเอนไซม์ต่างๆอย่างรวดเร็ว เลขที่คำขอ: 0701002712 วันที่ขอ: 1 มิถุนายน 2550 เลขที่ประกาศ: 112259 วันที่ประกาศ: 20 กุมภาพันธ์ 2555 ผู้จดทะเบียนสิทธิบัตร: สำนักงานพัฒนาวิทยาศาสตร์และเทคโนโลยีแห่งชาติ ผู้ประดิษฐ์/ออกแบบ: นางรัชดาภรณ์ ศรีปรารงค์ โคบายาชิ, นายอุกฤษฏ์ รัตนโหมศรี, นางสาวลลิตี เอื้อวิไลจิตร, นางสาวสุทิพา ธนพงศ์พิพัฒน์, นางสาวปิยนันท์ หาญพิชาญชัย, นางสาวทักษวัน ทองอร่าม, นายวีระวัฒน์ แซ่มปรีดา

2. เอนไซม์ฟอสโฟไลเปสและเอสเทอร์ชนิดใหม่ เลขที่คำขอ: 0701003516 วันที่ขอ: 13 กรกฎาคม 2550 เลขที่ประกาศ: 115333 วันที่ประกาศ: 31 กรกฎาคม 2555 ผู้จดทะเบียนสิทธิบัตร: สำนักงานพัฒนาวิทยาศาสตร์และเทคโนโลยีแห่งชาติ ผู้ประดิษฐ์/ออกแบบ: นายวีระวัฒน์ แซ่มปรีดา, นางสาวทักษวัน ทองอร่าม, นางสาวปิยนันท์ หาญพิชาญชัย, นางสาวสุทิพา ธนพงศ์พิพัฒน์, นางสาวลลิตี เอื้อวิไลจิตร, นางรัชดาภรณ์ ศรีปรารงค์ โคบายาชิ, นางสาวภควดี ตีรวงศาโรจน์, นายกุศล ภูชนกิก

3. กระบวนการฟอกเยื่อกระดาษโดยไม่ต้องปรับพีเอชด้วยเอนไซม์ไซแลนเนสทนต่างจากเมต้าจีโนมของแบคทีเรียในลำไส้ปลวก เลขที่คำขอ: 1101002054 วันที่ขอ: 15 กันยายน 2554 เลขที่ประกาศ: 135637 วันที่ประกาศ: 28 กรกฎาคม 2557 ผู้จดทะเบียนสิทธิบัตร: สำนักงานพัฒนาวิทยาศาสตร์และเทคโนโลยีแห่งชาติ ผู้ประดิษฐ์/ออกแบบ: นางสาวธิดารัตน์ นิมเชื้อ, นางสาวลลิตี เอื้อวิไลจิตร, นางสาวทักษวัน ทองอร่าม, นางพิงใจ ดิณสุลานนท์, นางสาวเสาวนีย์ อภาวศิน





ผลงานทางวิชาการ

Thongaram T, Pulsawat W, Faeksamut A and Khunsri I. 2020. Antimicrobial resistance of *Escherichia coli* recovered from pork and swine feces. Proceedings of the 17th National Kasetsart University Kamphaeng Saen Conference, Nakhonpathom, Thailand, December 2-3, 2020. (Poster presentation).

Thongaram T, Samlee A, Lertprasert N, Klongpitkul N, Chaiyananta S, and Sirinavee H. 2020. Probiotic potential of lactic acid bacteria as antibiotic alternatives in feed for swine. Abstract of the 30th National Academic Conference at Thaksin University: Thailand-Driven Research & Innovation, Songkhla, Thailand, May 30, 2020. (Poster presentation).

Romruen U, Thangsiri S, Pongsutas T, Bangyeekhun E, Borirak O, **Thongaram T**, and Waithaisong K. 2018. Optimization of chemical mutagenesis in the king oyster mushroom, *Pleurotus eryngii*. Proceedings of the 30th Annual Meeting of the Thai Society for Biotechnology and International Conference, Bangkok, Thailand, November 22-23, 2018. (Poster presentation).

Noocharoen B, Jamornman T, Waithaisong K, Borirak O, Romreun U, Charoenpanich A, Charoenpanich P, and **Thongaram T**. 2018. Evaluation of probiotic potential of lactic acid bacteria isolated from goat milk. Proceedings of the International BioScience Conference and the 7th Joint International PSU-UNS BioScience Conference 2018, Krabi, Thailand, September 17-18, 2018. (Poster presentation).

Leaujaroen T, Phanthong S, **Thongaram T**, Charoenpanich A, and Charoenpanich P. 2018. Selection of lactic acid bacteria for potential goat milk yoghurt starter. Proceedings of the International BioScience Conference and the 7th Joint International PSU-UNS BioScience Conference 2018, Krabi, Thailand, September 17-18, 2018. (Oral presentation).

Borirak O, **Thongaram T**, Romreun U, and Waithaisong K. 2018. Isolation and screening of bioplastic (poly- β -hydroxybutyrate) producing thermophilic cyanobacteria from Bo-Khlueng hot spring. Proceedings of the International BioScience Conference and the 7th Joint International PSU-UNS BioScience Conference 2018, Krabi, Thailand, September 17-18, 2018. (Poster presentation).

Thongaram T, Hoeflinger J, Chow J, and Miller MJ. 2017. Human milk oligosaccharide consumption by probiotic and human-associated bifidobacteria and lactobacilli. *Journal of Dairy Science*. 100 (10): 7825-7833. doi: 10.3168/jds.2017-12753.

Thongaram T, Hoeflinger J, Chow J, and Miller MJ. 2017. Prebiotic galactooligosaccharide metabolism by probiotic lactobacilli and bifidobacteria. *Journal of Agricultural and Food Chemistry*. 65 (20): 4184-4192. doi: 10.1021/acs.jafc.7b00851.

Thongaram T and Singtabut S. *In vitro* evaluation of selected probiotic properties of lactic acid bacteria isolated from Thai traditional fermented vegetable. Proceedings of the International Scientific Conference on Probiotics and Prebiotics – IPC 2016, Budapest, Hungary, June 21-23, 2016. (Poster presentation).



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Nimchua T, **Thongaram T**, Uengwetwanit T, Pongpattanakitshote S, and Eurwilaichitr L. 2012. Metagenomic analysis of novel lignocellulose-degrading enzymes from higher termite guts inhabiting microbes. *Journal of Microbiology and Biotechnology*. 22: 462–469.

Nimchua T, **Thongaram T**, Uengwetwanit T, Pongpattanakitshote S, and Eurwilaichitr L. Metagenome-derived clones encoding novel lignocellulose-degrading enzymes from higher termite gut inhabiting microbes. Abstract of the 15th International Biotechnology Symposium and Exhibition. EXCO, Daegu, Republic of Korea. September 16-21, 2012. (Oral presentation).

Thongaram T, Miller MJ, and Chow J. Fermentation of prebiotics and human milk oligosaccharides by selected probiotics. ASM 2012 General Meeting, San Francisco, California, June 16-19, 2012. (Poster presentation).

Miller MJ, Chow J and, **Thongaram T**. Fermentation of prebiotics and human milk oligosaccharides by Bifidobacteria. FASEB Summer Research Conference on Probiotics, Intestinal Microbiota and the Host: Physiological and Clinical Implications, Carefree, Arizona, July, 2011. (Poster presentation).

Francl AL, **Thongaram T**, and Miller MJ. 2010. The PTS transporters of *Lactobacillus gasseri* ATCC 33323. *BMC Microbiology*. 10: 77.

Nimchua T, **Thongaram T**, Uengwetwanit T, Kanokrattana P, Champreda V, Pongpattanakitshote S, and Eurwilaichitr L. Isolation and functional characterization of novel genes encoding alkali-tolerant lignocellulose-degrading enzymes from metagenomic fosmid library of termite gut bacteria. Abstract of 22nd Annual Meeting of the Thai Society for Biotechnology, Prince of Songkla University, Trang Campus, Thailand, October 20–22, 2010. (Oral presentation).

Bunterngsook B, Kanokratana P, **Thongaram T**, Tanapongpipat S, Uengwetwanit T, Rachdawong S, Vichitsoonthonkul T, and Eurwilaichitr L. 2010. Identification and characterization of lipolytic enzymes from a peat-swamp forest soil metagenome. *Bioscience, Biotechnology, and Biochemistry*. 74:1848-54.

Tirawongsaroj T, Sriprang R, Harnpicharnchai P, **Thongaram T**, Tanapongpipat S, Pootanakit K, and Eurwilaichitr L. 2008. Novel thermophilic and thermostable lipolytic enzymes from a Thailand hot spring metagenomic library. *Journal of Biotechnology*. 133: 42-49.

Harnpicharnchai P, **Thongaram T**, Sriprang R, Champreda V, Tanapongpipat S, and Eurwilaichitr L. 2007. An efficient purification and fractionation of genomic DNA from soil by modified troughing method. *Letters in Applied Microbiology*. 45: 387-389.

Thongaram T, Hongoh Y, Kosono S, Ohkuma M, Trakulnaleamsai S, Noparatnaraporn N, and Kudo T. 2005. Comparison of bacterial communities of the alkaline gut segment among various species of higher termites. *Extremophiles*. 9: 229-238.





Thongaram T, Hongoh Y, Kosono S, Ohkuma M, Trakulnaleamsai S, Noparatnaraporn N, and Kudo T. Culture-based and culture-independent studies showed the gut of higher termites as a niche for alkaliphiles. Japan-Thailand International Cooperative Research, Bio-recycle Project, Japan Science and Technology Agency, RIKEN, Saitama, Japan, February, 2004. (Poster presentation).

Thongaram T, Kosono S, Ohkuma M, Hongoh Y, Kitada M, Yoshinaka T, Trakulnaleamsai S, Noparatnaraporn N, and Kudo T. 2003. Gut of higher termites as a niche for alkaliphiles as shown by culture-based and culture-independent studies. *Microbes and Environments*. 18: 152-159.

Ohkuma M, Shimizu H, **Thongaram T**, Kosono S, Moriya S, Trakulnaleamsai S, Noparatnaraporn N, and Kudo T. 2003. An alkaliphilic and xylanolytic *Paenibacillus* species isolated from the gut of a soil-feeding termite. *Microbes and Environments*. 18: 145-151.

Thongaram T, Hongoh Y, Kosono S, Ohkuma M, Trakulnaleamsai S, Noparatnaraporn N, and Kudo T. Characterization of alkaliphilic bacteria from the gut of higher-termites in Thailand. Nihon University, Fujisawa, Kanakawa, Japan, April, 2003. (Oral presentation).

Thongaram T, Hongoh Y, Kosono S, Ohkuma M, Trakulnaleamsai S, Noparatnaraporn N, and Kudo T. Isolation and characterization of alkaliphilic bacteria from the gut of higher-termites in Thailand. University of Tokushima, Tokushima, Japan, December, 2002. (Poster presentation).

Thongaram T, Mahakhant A, Ratanachot P, Kaya K, and Arunpairojana V. Control of toxic cyanobacteria by *Alcaligenes* sp. Proceedings of international conference on Asian Network on Microbial Research held at Chiang Mai Plaza Hotel, Chiang Mai, Thailand. Nov.29-Dec.1, 1999, TISTR, RIKEN, p.307-321.

Ratanachot P, Mahakhant A, **Thongaram T**, Kaya K, Watanabe MM, and Arunpairojana V. Factors affecting growth and toxin production of the toxic cyanobacterial strains, *Microcystis aeruginosa*. Proceeding of International Conference on Asian Network on Microbial Research held at Chiang Mai Plaza Hotel, Chiang Mai, Thailand. Nov.29-Dec.1, 1999, TISTR, RIKEN, p.336-350.

Mahakhant A, Sano T, Ratanachot P, **Thongaram T**, Srivastava VC, Watanabe MM, and Kaya, K. 1998. Detection of microcystins from cyanobacterial water blooms in Thailand fresh water. *Phycological Research*; 46: 25-29.

Mahakhant A, **Thongaram T**, Ratanachot P, Arunpairojana V, Sano T, Watanabe MM, and Kaya K. Controlling of toxic cyanobacterium, *Microcystis aeruginosa* TISTR 8325 by *Cytophaga* sp. Proceeding of International Conference on Asian Network on Microbial Research, Gedjah Mada University, Yogyakarta, Indonesia, Gedjah Mada University, The Institute of Physical and Chemical Research; Science and Technology Agency, Japan, Feb.23-25, 1998, p.432-440.

