

# CURRICULUM VITAE

## PERSONAL INFORMATION

**Name:** Wai Prathumpai

**Date of birth:** 24 July 1974

**Place of birth:** Pichit province, Thailand

**Affiliation:** National Center for Genetic Engineering and Biotechnology (BIOTEC), National Science and Technology Development Agency (NSTDA), Bangkok, Thailand

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## EDUCATIONAL RECORDS

Degree	Year Started	Year Awarded	Details
Ph.D.	2000	2003	Ph.D. Process Biotechnology Technical University of Denmark, Lyngby, Denmark  <b>Research project:</b> Enzyme production in <i>Aspergilli</i> on different carbon sources. <b>Detail of project:</b> using fermentation technology, biochemical engineering, and metabolic engineering for enzyme production using fungi as cell factory. Batch, fed-batch and continuous fermentation were used in the study. Mathematic models were applied to evaluate the enzyme production level and its improvement to a better yield. Many feed stocks and substrates were used to produce these commercial enzymes. This research was granted by the European Union (EU) in the form of EuroFung networks and collaborated with other two partners, Novozyme A/S Denmark and Wageningen University, the Netherlands.

<b>M.Sc.</b>	<b>1997</b>	<b>1998</b>	M.Sc. Bioprocess Technology Asian Institute of Technology, Bangkok, Thailand
			<b>Thesis project:</b> Submerged and Solid state fermentation of <i>A. niger</i> <b>Detail of project:</b> Production of chitosan from fungi was studied using submerged and solid state fermentation and <i>A. niger</i> was used as a microorganism model. This chitosan is useful in pharmaceutical industry due to its high deacetylation.
<b>B.Sc.</b>	<b>1993</b>	<b>1996</b>	B.Sc. Microbiology (GPA 3.20) Srinakharinwirot University (Prasarnmitr, Bangkok)
			<b>Project:</b> Bacterial and fungal products

## SCHOLARSHIPS AND AWARDS

Duration	Details
9-15 Apr 2005	Post-Doctoral Fellowship, Biovision/Biosquare, Lyon, France.
2000-2003	European Union (EU) Scholarship (Framework 6) for a Ph.D. stipend at Technical University of Denmark, Through EuroFung Program.
Sep-Nov 1999	French Government Scholarship for Post-Graduate Exchange Program, CIRAD, Montpellier, France.
1999-2000	French Government Scholarship for Ph.D. scholarship of Sandwich Program at Asian Institute of Technology, Thailand, and CIRAD, Montpellier, France.
1997-1998	Chaiyong Limthongkul foundation (the manager group) for a master degree full scholarship at Asian Institute of Technology.
1992-1996	Chaiyong Limthongkul foundation (the manager group) for a bachelor degree full scholarship at Srinakharinwirot University.

## LIST OF PUBLICATIONS:

1. W. **Prathumpai**, M. McIntyre and J. Nielsen. 2004. The effect of CreA in glucose and xylose catabolism in *Aspergillus nidulans*. *Applied Microbiology and Biotechnology*, 63(6):748-53
2. W. **Prathumpai**, J. B. Gabelgaard, P. Wanchanthuek, P.J.I. van de Vondervoort, M.J.L. de Groot. M. McIntyre and J. Nielsen. 2003. Metabolic control analysis of xylose catabolism in *Aspergillus*. *Biotechnology Progress*, 19(4), 1136-41
3. W. **Prathumpai**, Simon J. Flitter, M. McIntyre and J. Nielsen. 2004. Lipase production of the recombinant strains of *A. niger* containing a lipolase encoding gene from *Thermomyces lanuginosus*, *Applied Microbiology and Biotechnology*, 65(6), 714-719.
4. Marco J. L. de Groot, Wai **Prathumpai**, Jaap Visser, and George J. G. 2005. Ruijter Metabolic Control Analysis of *Aspergillus niger* L-Arabinose Catabolism, *Biotechnology progress*, 21(6), 1601-09.
5. **Prathumpai**, W., Phimmakong, K., Srikitikulchai, P. and Wongsap, P. 2006. Kinetic study of naphthoquinone and key metabolite production of *C. unilateralis* BCC1869. *Thai Journal of Biotechnology*. 7(2), 39-43.
6. **Prathumpai**, W. \*, Kocharin, K., Phimmakong, K., and Wongsap, P. 2007. Effects of different carbon and nitrogen sources on naphthoquinone production of *Cordyceps unilateralis* BCC1869. *Applied Biochemistry and Biotechnology*, 136(2), 223-232.
7. Isaka, Masahiko, **Prathumpai**, Wai, Wongsap, Patcharaporn, and Tanticharoen, Morakot. 2006. Hirsutellone F, a Dimer of Antitubercular Alkaloids from the Seed Fungus *Trichoderma* Species BCC 7579. *Org. Lett.* 8(13), 2815 -2817.
8. Konokarn Kocharin and **Wai Prathumpai** (2008) Effects of physical condition on naphthoquinone production of *Cordyceps unilateralis* BCC 1869. *Thai Journal of Biotechnology*. 8(1), 20-25.
9. **Wai Prathumpai**, Konokarn Kocharin, Pranee Rachathevee, Jean-Jaques Sanglier, Exobiopolymer production of *Ophiocordyceps dipterigena* BCC 2073: optimization, scaling-up, and characterization, *BMC Biotechnology*, 2010.
10. **Wai Prathumpai**, Konokarn Kocharin, and Masahiko Isaka, Effect of different carbon and nitrogen sources on phomalactone production of *Ophiocordyceps communis* BCC 1842. *Thai Journal of Biotechnology*, 2010
11. Masahiko Isaka, Somporn Palasarn, **Wai Prathumpai**, and Pattiyaa Laksanacharoen. Pimarane diterpenes from the endophytic fungus *Eutypella* sp. BCC13199. *Chem. Pharm. Bull. Note*. 2011.
12. Techaoei, S., Lumyong, S., **Prathumpai**, W., Santiarwarn, D. and Leelapronpsid, P. Screening characterization and stability of biosurfactant produced by *Psuedomonas*

aeruginosa SCMU106 isolated from soil in northern Thailand. Asian journal of biological sciences. 2011.

13. Pawadee Methacanon, Ubolrat Weerawatsophon, Pariyada Tanjak, Pranee Rachtawee, **Wai Prathumpai**. Interleukin-8 stimulating activity of low molecular weight  $\beta$ -2 glucan depolymerized by  $\lambda$ -irradiation. *Carbohydrate Polymers*. 2011.

14. **Wai Prathumpai**, Pranee Rachathewee, Sutamat Khajeeram, Jean-Jacques Sanglier, Pariyada Tanjak, Pawadee Methacanon. Optimization, characterization and in Vitro evaluation of entomopathogenic fungal exopolysaccharides as prebiotic. *Advances in Biochemistry*, 2013.

15. Kocharin, Kanokarn; Supothina, Sumalee; **Prathumpai, Wai**. Hypothemycin production and its derivatives diversifying of *Aigialus parvus* BCC 5311 influenced by cultural condition. *Advances in Bioscience & Biotechnology*; Dec 2013, Vol. 4 Issue 12, p1049.

16. E.P. Leño, S. Babel, A. Sharp, **W. Prathumpai**. Effect of Thermophilic Heat Pretreatment of mixed inoculum on biohydrogen production from synthetic and sugarcane mill wastewater. Conference Proceedings. International Conference on Solid Waste 2013 Innovation in Technology and Management. P773-777.

17. **Prathumpai W**, Kocharin K. Phomalactone Optimization and Production of Entomopathogenic Fungi; *Ophiocordyceps communis* BCC 1842 and BCC 2763. *Prep Biochem Biotechnol*. Dec 2015.

18. **Wai Prathumpai**, Pranee Rachtawee, Sutamat Khajeeram. Potential of fungal exopolysaccharide as novel source for prebiotic supplement to broiler chicken diet. *Indian Journal of Animal Sciences*. Dec 2015. 83-89.

19. **Wai Prathumpai**, Nuntida Sahach-atiraklap, Kanokarn Kocharin. High cell density cultivation for docosahexanoic acid production of *Schizochytrium* sp. BCC 25505/High cell density cultivation for docosahexanoic acid production of *Schizochytrium* sp. BCC 25505. *KKU research Journal*, 2015, 127-143.

20. Prathumpai W, Rachtawee P. (2016) Relationship between Morphology and Docosahexanoic Acid Production by *Schizochytrium* sp. BCC 25505 and 25509 in Batch and Pulsed-Batch Cultivation. *Journal of Pure and Applied Microbiology*. Volume 10 No. 3 Page No. 1809-1816.

21. Prathumpai W, Rachtawee P, Isaka M. (2016) Optimization of medium for ascoclorin production by the leafhopper pathogenic fungus *Microcera* sp. BCC 17074. *Journal of Pure and Applied Microbiology* Volume 10 No. 3 Page No. 1715-1725.

22. Prathumpai W, Rachtawee P. (2016) Exobiopolymer production of *Phytocordyceps* sp. BCC 2744 and *Akanthomyces pistillariiformis* BCC 2694; optimization and scale-up, *KKU research journal*, 22(1), 68-80.

23. Prathumpai, W., Rachtawee, P., Khajeeram, S., Nakorn, P.N. (2017). Optimization and scale-up of extracellular  $\beta$ -glucan production by *ophiocordyceps dipterigena* bcc 2073 in low-cost media. Journal of Pure and Applied Microbiology, 11, 51-62. doi:10.22207/JPAM.11.1.08

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### Project Leader (PI) List

15 Oct 2008-15 Feb 2009 BIOTEC Fund 41,000.00 Baht + Biosolution 25,000.00 Baht  
1 Mar 2008- 30 Nov 2008 Bioresource Network Fund 368,500.00 Baht  
1 Feb – 31 Mar 2008 BIOTEC Fund 179,000.00 Baht  
1 May 2008 – 30 Oct 2009 BIOTEC Fund 855,000.00 Baht  
15 Feb 2005 -15 Jan 2007 BIOTEC Fund 1,062,000.00 Baht  
Jul 2010- Apr 2011 CPMO FUND 475,000.00 Baht  
Jun 2011-May 2013 Agricultural Research Development Agency (ARDA) Fund 1,600,000.00 Baht  
Jun 2011-Jul 2012 Ais citric acid Co.Ltd. 1,058,600.00 Baht  
Cluster Program Management Office (CPMO) Fund 960,160.00 Baht

### Co-Project Investigator

1. Oct 2008-Sep 2010 Contract research (Higrimm) 1,643,000.00 Baht
2. May 2008-Apr 2009 BIOTEC+Betagro Fund 750,000.00 Baht
3. (Mar 09- Feb 11) MTEC platform fund 500,000.00 Baht
4. Jan 2011-Dec 2011 BIOTEC fund 490,000.00 Baht

### Projects with private sectors

1. (PI) 15 Oct 2008-15 Feb 2009 BIOTEC Fund 41,000.00 Baht + Biosolution 25,000.00 Baht
2. (Co-PI) Jun 2006-May 2008 Mitrphol Fund 1,110,000.00 Baht
3. industry (CO-PI) 1 Aug 2007- 31 Jul 2008 Siam cement group (SCG) Fund 1,759,000.00 Baht
4. (Co-PI) 1 Feb 2010 -31 Jan 2012 Petroleum Authority of Thailand Fund 2,966,334.25 Baht
5. (PI) Virbac (France) Fund 967,000.00 Baht

### Patents and Petty Patents

1. Feed additives supplementing with exobiopolymer from *Ophiocordyceps dipterigena* BCC 2073. 2013.
2. Process development of beta-glucan production of *Ophiocordyceps dipterigena* BCC 2073. 2014

## Training and Consults

Sapthip ethanol production

BBGI ethanol production

PTTGC innovation building design

Mitphol R&D and ethanol production

Asia star trade group on beta-glucan production

Marubishi Co.,Ltd. On fermentor design

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