

## CURRICULUM VITAE (CV)

**1. Name and Surname:** Mr.Santad Wichienchot

**2. Identification Number:** 3930100023661

**3. Date of birth:** 11 July 1974

### **4. Graduate profile:**

Graduate Year	Degree	Major	Institute	Country
2005	*Ph.D.	Biotechnology	Prince of Songkla University	Thailand
2000	Msc.	Biotechnology	Prince of Songkla University	Thailand
1997	Bsc.	Agro-Industry	Prince of Songkla University	Thailand

\* under sandwich program with University of Reading, UK

### **5. Current position:**

Assistant Professor in Food Science and Technology

Director of Interdisciplinary Graduate School of Nutraceutical and Functional Food (IGS-NFF), Prince of Songkla University

Head of Curriculum of MSc. and Ph.D in Functional Food and Nutrition

### **6. Working address:**

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**7. Field of expert:** Prebiotics, Probiotics and Functional Foods

**8. Experiences in research administration:**

### Principal investigator

1. Production of synbiotic from resistant rice starch mixed probiotic
2. Production of capsule from dragon fruit oligosaccharides
3. Functional ingredient from rice and its formulation for person risk in kidney's disease
4. Food supplement for elderly
5. Beta-glucan from edible mushrooms
6. Xylooligosaccharide from rubber wood sawdust
7. Prebiotic galactooligosaccharide from lactic acid bacteria
8. Production of fructooligosaccharide by fructosyltransferase from Jerusalem artichoke root
9. Development of canned and pouched tuna added inulin for commercial production
10. Development of ice cream containing prebiotic from dragon fruit oligosaccharide and probiotic
11. Evaluation of jackfruit oligosaccharide in three-stage continuous culture
12. Resistance and immune response of Nile tilapia to *Streptococcus iniae* fed with prebiotics containing fed
13. Dragon fruit oligosaccharide and its prebiotic properties

### Research program administrator

1. Utilization of local rice for functional ingredient and functional food
2. Development and economic value added of probiotic and prebiotic functional food products

### Co-Investigator

1. Development of selected probiotic in yogurt and milk powder for prevention of dental caries
2. Production of resistant starch from jackfruit seed, rice and mung bean starches and determination of their prebiotic properties

3. Production of prebiotic from dragon fruit and evaluation on prebiotic properties in stimulated colon system
4. Separation and extraction of soybean whey oligosaccharide from disposal water by membrane technology
5. Viability and biological properties of probiotic and prebiotic in gelatin capsules
6. Antioxidant, antimicrobial and prebiotic properties of southern sour curry paste

### **9. Publications and proceedings:**

1. Wichienchot, S. and Ishak, W.R.W. 2016. Sustainability of nutraceuticals and functional foods. *In Sustainability Challenges in the AgroFood Sector*. Wiley & Son, Ltd. (In press).
2. Wichamane, Y., Acharaphan, M. and Santad, W. 2016. Effect of dragon fruit oligosaccharide, stabilizer and sucrose on physical and sensory quality of ice cream. *International Food Research Journal* 23(1): 269-276.
3. Dasaesamoh, R., Youravong, W. and Wichienchot, S. 2016. Optimization on pectinase extraction and purification by yeast fermentation of oligosaccharides from dragon fruit (*Hyloceus undatus*). *International Food Research Journal*. (Accepted)
4. Dasaesamoh, R., Youravong, W. and Wichienchot, S. 2016. Digestibility, fecal fermentation and anti-cancer of dragon fruit oligosaccharides. *International Food Research Journal*. (Accepted)
5. Wichienchot, S., Hemmaratchirakul, J., Jaturapiree, P. and Prueksasri, S. 2016. Evaluating prebiotic property of galactooligosaccharide produced by *Lactobacillus pentosus* var. *plantarum* BFP32 in fecal batch culture. *International Food Research Journal*. (Accepted)
6. Ngampanya, B., Keayarsa, S., Jaturapiree, P., Prakobpran, P. and Wichienchot, S. 2016. Characterization of transfructosylating activity enzyme from tubers of tropical Jerusalem artichoke (*Helianthus tuberosus* L.) for production of fructooligosaccharides. *International Food Research Journal*. (Accepted)

7. Wichienchot, S., Prakobpran, P., Ngampanya, B. and Jaturapiree, P. 2016. Production, purification and fecal fermentation of fructooligosaccharide by FTase from Jerusalem artichoke. *International Food Research Journal*. (Accepted)
8. Chiraphon Chaikliang, Santad Wichienchot, Wirote Youravong and Potchanapond Graidist. 2015. Evaluation on prebiotic properties of  $\beta$ -glucan and oligo- $\beta$ -glucan from mushrooms by human fecal microbiota in fecal batch culture. *Functional Foods in Health and Disease*. 5(11): 395-405.
9. Santad Wichienchot, Wirote Youravong, Suwattana Prueksasri and Budsaraporn Ngampanya. 2015. Recent researches on prebiotics for gut health in Thailand. *Functional Foods in Health and Disease*. 5(11): 381-394.
10. Rueangwatcharin, U. and Wichienchot, S. 2015. Digestibility and fermentation of tuna products added inulin by colonic microflora. *International Food Research Journal*. 22(5): 2068-2077.
11. Hemmaratchirakul, J., Jaturapiree, P., Prueksasri, S. and Wichienchot, S. 2015. Production of galactooligosaccharide by  $\beta$ -galactosidase from *Lactobacillus pentosus* var. *plantarum* BFP32. *International Food Research Journal*. 22(6): 2550-2557.
12. Penporn Srinivorn, Wirote Youravong & Santad Wichienchot. 2015. Permeate flux enhancement in ultrafiltration of tofu whey using pH-shifting and gas-liquid two-phase flow. *Separation Science and Technology*. 50: 2367–2374.
13. Rueangwatcharin, U. and Wichienchot, S. 2015. Development of functional canned and pouched tuna products added inulin for commercial production. *Journal of Food Science and Technology*. 52(8): 5093-5101.
14. Parichat Phrukwiwattanakul, Santad Wichienchot and Piyarat Sirivongpaisal. 2014. Comparative studies on physic-chemical properties of starches from jackfruit seed and mung bean. *International Journal of Food Properties*. 17: 1965-1976.
15. Rawee Teanpaisan, Aksorntong Chooruk, Akom Wannun, Santad Wichienchot and Supatcharin Piwat. 2013. Effect of the probiotic *Lactobacillus paracasei* SD1 on salivary yeast in nonsyndromic cleft patients. *Thai Dental Association Journal*. (Accepted).

16. Rawee Teanpaisan, Aksornong Chooruk, Akom Wannun, Santad Wichienchot and Supacharin Piwat. 2012. Survival rates of human-derived probiotic *Lactobacillus paracasei* SD1 in milk powder using spray drying. *Songklanakarin J. Sci. Technol.* 34 (3): 241-245.
17. Hongpattarakere, T., Chertong, N., Wichienchot, S., Kolida, S. and Rastall, R.A. 2012. *In vitro* prebiotic evaluation of exopolysaccharides produced by marine isolated lactic acid bacteria. *Carbohydrate Polymers.* 87: 846-852.
18. S. Wichienchot and P. Chinachoti. 2011. Prebiotic oligosaccharides: origins and production, health benefits and commercial applications. In *Oligosaccharides: Sources, Properties and Applications*. Gordon, N.S. (ed). pp. 59-83. Nova Science Publishers, Inc., New York. (Book chapter)
19. Santad Wichienchot, Paiboon Thammarutwasik, Akkasit Jongjareonrak, Worrapanit Chansuwan, Preeya Hmadhlu, Tipparat Hongpattarakere, Arunporn Itharat, and Buncha Ooraikul. 2011. Extraction and analysis of prebiotics from selected plants from southern Thailand. *Songklanakarin Journal of Science and Technology.* 33(5): 517-523.
20. Plongbunjong, V., Phromkuntong, W., Suanyuk, N., Viriyapongsutee, B. and Wichienchot, S. 2011. Effects of prebiotics on growth performance and pathogenic inhibition in sex-reversed red tilapia (*Oreochromis niloticus* × *Oreochromis mossambicus*). *Thai Journal of Agricultural Science.* 44(5): 162-167.
21. Plongbunjong, V., Phromkuntong, W., Suanyuk, N., Viriyapongsutee, B. and Wichienchot, S. 2010. Effects of prebiotics on growth performance and pathogenic inhibition in sex-reversed red tilapia (*Oreochromis niloticus* × *Oreochromis mossambicus*). In *abstract book* of an International conference on Agriculture and Agro-Industry. November, 19-20, 2010, Mae Fah Luang University, Chiang Rai, Thailand.
22. Thungchoho, K., Wuttijumnong, P. and Wichienchot, S. 2011. Sugar extraction and non-reducing sugar determination from bulb and fiber of jackfruit (*Artocarpus heterophyllus* L.). *Proceeding in The 3<sup>rd</sup> BMB International Conference from*

- Basic to Translational Researches for a Better Life. April, 6-8, 2011, The Empress Convention Centre, Chiang Mai, Thailand.
23. S. Wichienchot, M. Jatupornpipat and R.A. Rastall. 2010. Oligosaccharides of pitaya (dragon fruit) flesh and their prebiotic properties. *Food Chemistry*. 120(3): 850-857.
  24. S. Wichienchot, P. Prasertsan, T. Hongpattarakere and R.A. Rastall. 2009. Manufacture of oligodextrans by *Gluconobacter oxydans* NCIMB 4943. *Songklanakarin Journal of Science and Technology*. 31(6): 597-603.
  25. Prasertsan, P., Wichienchot, S., Doelle, H. and Kennedy, J.F. 2008. Optimization for Biopolymer Production by *Enterobacter cloacae* WD7. *Carbohydrate Polymers*. 71: 468-475.
  26. S. Wichienchot, P. Prasertsan, T. Hongpattarakere, R.A. Rastall and G.R. Gibson. 2006. *In vitro* Fermentation of Mixed Linkage Gluco-oligosaccharides Produced by *Gluconobacter oxydans* NCIMB 4943 on the Human Colonic Microflora. *Curr. Issu. Intes. Microbiol.* 7: 7-12.
  27. S. Wichienchot, P. Prasertsan, T. Hongpattarakere, R.A. Rastall and G.R. Gibson. 2006. *In vitro* Three-Stage Continuous Fermentation of Gluco-oligosaccharides, produced by *Gluconobacter oxydans* NCIMB 4943, by the Human Colonic Microflora. *Curr. Issu. Intes. Microbiol.* 7: 13-18.
  28. S. Wichienchot and M. Jatupornpipat. 2009. Extraction and purification of prebiotic oligosaccharides from dragon fruit flesh. *Proceeding in The 35<sup>th</sup> Congress on Science and Technology of Thailand*. Chonburi, Thailand.
  29. S. Wichienchot, P. Prasertsan, T. Hongpattarakere, R.A. Rastall. 2004. Development of Butyrogenic Prebiotics. *Proceeding in Academic Conference of Thai Students in France and Europe*. Montpellier, France.
  30. S. Wichienchot, P. Prasertsan, T. Hongpattarakere, R.A. Rastall. 2004. Development of Prebiotics targeting Against Colonic Cancer. *Proceeding in Annual Meeting of Nutrition Association in UK*. Reading, England.
  31. Duangkamon Lamtumluk, Santad Wichienchot and Wirote Youravong. Xylooligosaccharides production from rubber wood sawdust. *Proceeding in The*

- 4<sup>th</sup> International Conference on Natural Products for Health and Beauty (NATPRO 4). 28-30 November 2012, Chiang Mai, Thailand.
32. Penpilas Prakobpran, Santad Wichienchot and Busaraporn Ngampunya. Characterization of fructosyltransferase from Jerusalem artichoke. Proceeding in The 4<sup>th</sup> International Conference on Natural Products for Health and Beauty (NATPRO 4). 28-30 November 2012, Chiang mai, Thailand.
33. Hemmaratchirakul, J., Wichienchot, S. and Jaturapiree, P. 2012. Screening of  $\beta$ -galactosidase from Thai fermented food for production of galactooligosaccharides. Proceeding in The 4th International Conference on Natural Products for Health and Beauty: Future Trends in Health Products: Safety and Effectiveness for All. 28-30 November 2012, Chiang Mai, Thailand.
34. Uraporn Rueangwatcharin and Santad Wichiecnhot. Functionality Enhancement of Tuna Product Added Inulin. Proceeding in Euro Food Chem XVII. 7-10 May, 2013, Istanbul, Italy.
35. Anchana Ampai and Santad Wichienchot. Production of beta-glucans from edible mushroom. Proceeding in 1st Joint ACS AGFD – ACS ICSCT Symposium on Agricultural and Food Chemistry. 4-5 March 2014, Bangkok, Thailand.
36. Nattawan Chadakarn and Santad Wichienchot. Isomalto-oligosaccharides production from rice, tapioca and sago starches. Proceeding in 1st Joint ACS AGFD – ACS ICSCT Symposium on Agricultural and Food Chemistry. 4-5 March 2014, Bangkok, Thailand.
37. Santad Wichienchot, Wirote Youravong, Suwattana Prueksasri and Budsaraporn Ngampanya. 2015. Production and evaluation of prebiotics by fecal fermentation in simulated colon system, rat and clinical study. Proceeding in 19th International Conference of FFC and 7th International Symposium of Academic Society for Functional Foods and Bioactive Compounds. 17-18 November 2015, Kobe, Japan.

## **10. Patents:**

1. Wichienchot, S. Process for production of tuna products added inulin. Thai Pretty Patent no. 7864.

2. Wichienchot, S., Prakonpran, P. "Process for making of fructooligosaccharide by fructosyltransferase from Jerusalem artichoke root. Thai Pretty Patent no. 10463.
  3. Wichienchot, S., Prueksasri, S., Jaturapiree,P., Hemmaratchirakul, J. Process of production of galactooligosaccharide within one step in ultrafiltration membrane. Thai Patent Application no. 1301002808.
  4. Wichienchot, S., Youravong, W. and Lumtumluk, D. Process for production of xylooligosaccharide from rubber wood sawdust. Thai Patent Application no. 1301006889.
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