

## Curriculum Vitae



### Personal information

Name Mr. Phanat Kittiphattanabawon  
Position Associate Professor in Food Science and Technology at Department of Food Science and Technology, Faculty of Agro and Bio Industry, Thaksin University, Thailand  
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### Educations

2012 Ph.D. in Food Science and Technology, Prince of Songkla University, Thailand  
2004 M.Sc. in Food Technology, Prince of Songkla University, Thailand  
2002 B.Sc. in Agro-Industry, Prince of Songkla University, Thailand

### Field of interests

- Collagen and Gelatin: Extraction and Characteristics
- Food Processing: Chilling, Freezing, and Innovation of Food Processing
- Bioactive Compound of Protein Hydrolysate: Antioxidant and Cryoprotective Activities
- Utilization of Seafood By-products
- Functional Property of Food Protein
- Lipid Oxidation in Foods

### Work experiences

2022-present Associate Professor at Department of Food Science and Technology, Faculty of Agro and Bio Industry, Thaksin University, Thailand  
2017-2022 Assistance Professor at Department of Food Science and Technology, Faculty of Technology and Community Development, Thaksin University, Thailand  
2015-2016 Lecturer at Department of Food Science and Technology, Faculty of Technology and Community Development, Thaksin University, Thailand  
2013-2015 Lecturer at Department of Agro-Industry Technology and Management, Faculty of Agro-Industry, King Mongkut's University of Technology North Bangkok, Thailand  
2007-2008 Research and development senior supervisor at Sea Wealth Frozen Food Co., Ltd, Thailand

- 2006-2007 Production senior supervisor at Sea Wealth Frozen Food Co., Ltd, Thailand
- 2004-2006 Research and development supervisor at Sea Wealth Frozen Food Co., Ltd, Thailand

### Awards

- 2017 Outstanding Basic Science Research Award 2016 in the topic of “Extraction and Characterization of Collagen and Gelatin from the Skin of Clown Featherback (*Chitala ornata*) and Substitution of Gelatin in Chicken Sausage”, Thaksin University
- 2016 Outstanding Poster Presentation Award 2016, Thailand Research Fund (TRF) and The Office of Higher Education Commission (OHEC)
- 2014 Outstanding Ph.D Thesis Award 2014 in Biological Science, Prince of Songkla University
- 2014 Outstanding Ph.D Thesis Award 2014, Agro-Industry academic Council Association (AIAC)
- 2013 Outstanding Ph.D Thesis Award 2013 in Food Science and Technology, Faculty of Agro-Industry, Prince of Songkla University

### Ad hoc Reviewer for:

- Food Chemistry
- Food hydrocolloids
- Food structure
- Foods
- Food chemistry advances
- Journal of Functional Foods
- LWT-Food Science and Technology
- International journal of food science & technology
- International journal of food science
- Journal of food science
- Journal of the Science of Food and Agriculture
- Journal of Food Biochemistry
- Journal of Biotechnology and Biomaterials
- Animal Science Journal
- ACS food science & technology
- Applied sciences
- Arabian journal of chemistry
- Asia-Pacific Journal of Science and Technology
- British food journal
- Ciência rural
- Current Applied Science and Technology
- Current research in nutrition and food science
- CyTA: journal of food
- Emirates Journal of Food and Agriculture
- Fish physiology and biochemistry
- Food bioscience
- Green processing and synthesis
- International aquatic research

- International Food Research Journal
- International journal of food properties
- Journal of aquatic food product technology
- Journal of food composition and analysis
- Journal of food processing and preservation
- Journal of food quality
- Journal of physical science
- Marine drugs
- Natural and Life Sciences Communications
- Recent patents on food, nutrition & agriculture
- Songklanakarin Journal of Science and Technology
- Warasan Witthayasat Burapha
- KMITL Science and Technology Journal

## Publications

### *Book chapter*

1. Benjakul, S., **Kittiphattanabawon, P.** and Regenstein, J.M. 2012. Fish gelatin. *In* Food biochemistry and food processing. 2<sup>nd</sup> Ed. (Simpson, B.K., Paliyath, G., Nollet, L.M.L., Benjakul, S. and Toldrá, F., eds.). p. 388-405. Wiley-Blackwell Publishers. USA.

### *Published papers*

1. **Kittiphattanabawon, P.**, Benjakul, S., Visessanguan, W., Nagai, T. and Tanaka, M. 2005. Characterisation of acid-soluble collagen from skin and bone of bigeye snapper (*Priacanthus tayenus*). *Food Chemistry*. 89: 363-372.
2. **Kittiphattanabawon, P.**, Benjakul, S., Visessanguan, W. and Shahidi, F. 2010. Isolation and properties of acid- and pepsin-soluble collagen from the skin of blacktip shark (*Carcharhinus limbatus*). *European Food Research and Technology* 230: 475-483.
3. **Kittiphattanabawon, P.**, Benjakul, S., Visessanguan, W. and Shahidi, F. 2010. Isolation and Characterization of Collagen from the Cartilages of Brownbanded Bamboo Shark (*Chiloscyllium punctatum*) and Blacktip Shark (*Carcharhinus limbatus*). *LWT- Food Science and Technology* 43: 792-800.
4. **Kittiphattanabawon, P.**, Benjakul, S., Visessanguan, W. and Shahidi, F. 2010. Comparative study on characteristics of gelatin from the skins of brownbanded bamboo shark and blacktip shark as affected by extraction conditions. *Food Hydrocolloids*. 24: 164-171.
5. **Kittiphattanabawon, P.**, Benjakul, S., Visessanguan, W., Kishimura, H. and Shahidi, F. 2010. Isolation and Characterisation of collagen from the skin of brownbanded bamboo shark (*Chiloscyllium punctatum*). *Food Chemistry*. 119: 1519-1526.

6. **Kittiphattanabawon, P.**, Benjakul, S., Visessanguan, W. and Shahidi, F. 2012. Effect of extraction temperature on functional properties and antioxidative activities of gelatin from shark skin. *Food and Bioprocess Technology*. 5: 2646-2654.
7. **Kittiphattanabawon, P.**, Benjakul, S., Visessanguan, W. and Shahidi, F. 2012. Cryoprotective effect of gelatin hydrolysate from blacktip shark skin on surimi subjected to different freeze-thaw cycles. *LWT-Food Science and Technology*. 47: 437-442.
8. **Kittiphattanabawon, P.**, Benjakul, S., Visessanguan, W. and Shahidi, F. 2012. Use of papaya latex enzymes for the production of gelatin hydrolysate from blacktip shark skin with antioxidant activity and its potential in food model systems. *Food Chemistry*. 135: 1118-1136.
9. **Kittiphattanabawon, P.**, Benjakul, S., Visessanguan, W. and Shahidi, F. 2013. Inhibition of angiotensin converting enzyme, human LDL cholesterol and DNA oxidation by hydrolysates from blacktip shark gelatin. *LWT-Food Science and Technology*. 51: 177-182.
10. Benjakul, S., **Kittiphattanabawon, P.**, Shahidi, F. and Maqsood, S. 2012. Antioxidant activity and inhibitory effects of lead (*Leucaena leucocephala*) seed extracts against lipid oxidation in model systems. *Food Science and Technology International* 19: 365-376.
11. Benjakul, S., **Kittiphattanabawon, P.**, Sumpavapol, P. and Maqsood, S. 2012. Antioxidant activity of lead (*Leucaena leucocephala*) seed as affected by extraction solvents, prior dechlorophyllisation and drying methods. *Journal of Food Science and Technology*. 51: 3026-3037.
12. Srikert, C. and **Kittiphattanabawon, P.** 2014. Phytochemicals and antioxidant activities of edible herbs. *KMITL Science and Technology Journal Part B*. 14: 10-17.
13. Maqsood, S., Kittiphattanabawon, P., Benjakul, S., Sumpavapol, P. and Abushelaibi, A. 2014. Antioxidant activity of date (*Phoenix dactylifera* var. Khalas) seed and its preventive effect on lipid oxidation in model systems. *International Food Research Journal*. 22: 1181-1189.
14. **Kittiphattanabawon, P.** Benjakul, S., Sinthusamran, S. and Kishimura, H. 2015. Characteristics of Collagen from the Skin of Clown Featherback (*Chitala ornata*). *International Journal of Food Science and Technology*. 50: 1972-1978.
15. **Kittiphattanabawon, P.**, Nalinanon, S., Benjakul, S., & Kishimura, H. 2015. Characteristics of pepsin-solubilised collagen from the skin of splendid squid (*Loligo formosana*). *Journal of Chemistry*, 2015, doi:10.1155/2015/482354.
16. **Kittiphattanabawon, P.**, Benjakul, S., Sinthusamran, S., & Kishimura, H. 2016. Gelatin from clown featherback skin: Extraction conditions. *LWT - Food Science and Technology*. 66: 186-192.

17. Savedboworn, W., **Kittiphattanabawon, P.**, Benjakul, S., Sinthusamran, S., & Kishimura, H. 2017. Characteristics of collagen from rohu (*Labeo rohita*) skin. *Journal of Aquatic Food Product Technology*. 26, 248-257.
18. **Kittiphattanabawon, P.** and Benjakul, S. 2017. Gel properties of gelatin from clown featherback (*Chitala ornata*) skin: Effect of swelling time. *Emirates Journal of Food and Agriculture*. 29(8): 567-572.
19. **Kittiphattanabawon, P.**, Sriket, C., Kishimura, H., & Benjakul, S. (2019). Characteristics of acid and pepsin solubilized collagens from Nile tilapia (*Oreochromis niloticus*) scale. *Emirates Journal of Food and Agriculture*. 31(2), 95-101.
20. Abuibaid, A., AlSenaani, A., Hamed, F., **Kittiphattanabawon, P.**, & Maqsood, S. (2020). Microstructural, rheological, gel-forming and interfacial properties of camel skin gelatin. *Food Structure*, 26, 100156.
21. Fawale, S. O., Abuibaid, A., Hamed, F., **Kittiphattanabawon, P.**, & Maqsood, S. (2021). Molecular, structural, and rheological characterization of camel skin gelatin extracted using different pretreatment conditions. *Foods*, 10(7), 1563.
22. Srimarut, Y., Malila, Y., **Kittiphattanabawon, P.**, Dumnil, J., Artpradid, P., & Visessanguan, W. (2021). Bovine ossein powder: Effect of particle size on its physicochemical and functional characteristics and its application in emulsion-type sausage. *International Journal of Food Science & Technology*, 56(8), 3970-3978.
23. **Kittiphattanabawon, P.**, Maqsood, S., Visessanguan, W., & Benjakul, S. (2023). Gelatin hydrolysate in freeze-thawed shrimp model system: Cryoprotective and antioxidative effects. *International Journal of Food Science & Technology*, 58(8), 4256-4263.
24. Sriket, C., **Kittiphattanabawon, P.**, Patil, U., Benjakul, S., Senphan, T., & Nalinanon, S. (2023). Development of yellow discoloration in Sawai (*Pangasianodon hypophthalmus*) muscle due to lipid oxidation. *Preventive Nutrition and Food Science*, 28(4), 483-491.

### Conferences and Meeting

1. **Kittiphattanabawon, P.**, Benjakul, S., Visessanguan, W. and Nagai, T. 2004. Characterization of acid soluble collagen from bigeye snapper, *Priacanthus tayenus* skins and bones. *Thaifex & Helfex*, 26-30 May 2004, Impact, Bangkok, Thailand.
2. Benjakul, S., **Kittiphattanabawon, P.**, Visessanguan, W. and Nagai, T. 2006. Effect of swelling process on the extraction efficacy and properties of gelatin from bigeye snapper skin. 13<sup>th</sup> World Congress of Food Science and Technology, Food is Life. 17-21 September 2006, Nantes, France.
3. Benjakul, S., **Kittiphattanabawon, P.** and Visessanguan, W. 2009. Properties of gelatins from shark skins as influenced by species and the extraction conditions. 3<sup>rd</sup> TAFT Conference. 15-18 September 2009. Copenhagen, Denmark.

4. **Kittiphattanabawon, P.**, Benjakul, S., Visessanguan, W. and Shahidi, F. 2010. Functional properties and antioxidative activities of gelatin from shark skin as affected by extraction temperatures. Bioscience for the Future. 7-8 October 2010. Hatyai, Thailand. (Oral presentation)
5. **Kittiphattanabawon, P.**, Benjakul, S., Visessanguan, W. and Shahidi, F. 2011. Effect of gelatin hydrolysate on physicochemical properties of surimi subjected to different freeze-thaw cycles. 41st West European Fish technologists Association (WEFTA) Annual Meeting. 27-30 September 2011. Gothenburg, Sweden. (Oral presentation)
6. **Kittiphattanabawon, P.**, Benjakul, S., Maqsood, S. and Sumpavapol, P. 2014. Antioxidant Activity of Date (*Phoenix dactylifera* var. Khalas) Seed: Effect of Ethanol and Acetone Extraction. The 16th Food Innovation Asia Conference 2014. 12-14 June 2014. Bangkok, Thailand.
7. Maqsood, S. Hammadi, A. F. A. A., **Kittiphattanabawon, P.** and Jobe, B. 2014. Extraction, Characterization and Stability of the Lipids from Oven and Freeze Dried Camel Meat. The 16th Food Innovation Asia Conference 2014. 12-14 June 2014. Bangkok, Thailand.
8. **Kittiphattanabawon, P.** and Benjakul, S. 2016. Collagen and Gelatin from the Skin of Clown Featherback (*Chitala ornata*): Extraction and Characterization. The 15th TRF-OHEC Annual Congress (TOAC2016). The Regent Cha-am Beach Resort, Petchburi, Thailand. 6-8 January 2016. pp. 141.
9. **Kittiphattanabawon, P.** and Benjakul, S. 2016. Gel and Functional Properties of Gelatin from Clown Featherback (*Chitala ornata*) Skin: Effect of Extraction Conditions. The 18<sup>th</sup> Food Innovation Asia Conference 2016 (FIAC 2016): Food Research and Innovation for Sustainable Global Prosperity. BITEC BANGNA, Bangkok, Thailand. 16-18 June 2016. pp. 44.
10. **Kittiphattanabawon, P.** and Benjakul, S. 2017. Effect of swelling time on characteristics and gel properties of gelatin from clown featherback skin. The 5<sup>th</sup> Higher Education Research Promotion Congress (HERP Congress V). Udon Thani Rajabhat University. 2-4 March 2017. pp. 289.
11. Sriket, P., Sinthusamran, S., Benjakul, S. and **Kittiphattanabawon, P.** 2017. Physical and Sensory Properties of Chicken Sausage Substituted Superior Water Holding Capacity Gelatin from Clown Featherback Skin. The 19<sup>th</sup> Food Innovation Asia Conference 2017 (FIAC 2017): Innovative Food Science and Technology For Mankind: Empowering Research for Health and Aging Society. BITEC BANGNA, Bangkok, Thailand. 17-19 June 2017. pp. 87.
12. **Kittiphattanabawon, P.** and Benjakul, S. 2018. Some Characteristics of Collagen from Tilapia Scale. The 20<sup>th</sup> Food Innovation Asia Conference 2018 (FIAC 2018): Creative Food for Future and Sustainability. BITEC BANGNA, Bangkok, Thailand. June 14-16, 2018. pp. 14.

13. **Kittiphattanabawon, P.**, Ja-Ngam, B., Issarapong, P. and Savedboworn, W. 2019. Antioxidant Activity of Noni (*Morinda citrifolia* L.) Leaf Extract. The 21<sup>st</sup> Food Innovation Asia Conference 2019 (FIAC 2019): Future Food Innovation for Better Health and Wellness. BITEC BANGNA, Bangkok, Thailand. June 13-15, 2019. pp. 18.
14. Klomklao, S., Poonsin, T., & **Kittiphattanabawon, P.** (2019). Biochemical properties of polyphenoloxidase from the cephalothorax of mud spiny lobster (*Panulirus polyphagus*). In: The 21st Food Innovation Asia Conference 2019 (FIAC 2019): Future Food Innovation for Better Health and Wellness (pp. 70-76). BITEC BANGNA, Bangkok, Thailand.
15. Kuepethkaew, S., Panyo, J., **Kittiphattanabawon, P.**, Benjakul, S., Damodaran, S., & Klomklao, S. (2020). Extraction and some characterization of gelatin from the skin of threadfin bream (*Nemipterus hexodon*). In: The 32nd Annual Meeting of the Thai Society for Biotechnology and International Conference (TSB 2020): Bio-Circular-Green Economy for New Normal (p. 80). Online conference, Bangkok, Thailand.
16. Kittiphattanabawon, P., & Klomklao, S. (2021). Effect of ultrasonic treatment on yield and some characteristics of pepsin soluble collagen from tilapia (*Oreochromis niloticus*) scale. In: The 23th Food Innovation Asia Conference 2021 (FIAC 2021): Food Innovation and Sustainability through Bio-Circular-Green Economy (p. 39). BITEC BANGNA, Bangkok, Thailand.
17. Kuepethkaew, S., Damodaran, S., Benjakul, S., Panyo, J., **Kittiphattanabawon, P.**, & Klomklao, S. (2021). Characteristics and properties of gelatin from lizardfish (*Saurida micropectoralis*) skin as influenced by extraction conditions. In: The 31st Thaksin University National Conference: Research and Social Innovations in the Post COVID-19 Era (pp. 44-45). Online conference: Thaksin University.
18. Kuepethkaew, S., Klomklao, S., **Kittiphattanabawon, P.**, Panyo, J., & Benjakul, S. (2022). Antioxidative and cryoprotective properties of gelatin hydrolysate from salmon (*Oncorhynchus nerka*) skin. In: The 24th Food Innovation Asia Conference 2022 (FIAC 2022): Innovative and sustainable development of functional ingredients and materials: Benefits, concerns and challenges in human health and well-being (p. 18): Online conference, BITEC BANGNA, Bangkok, Thailand.

19. Kuepethkaew, S., Panyo, J., **Kittiphattanabawon, P.**, Betti, M., & Klomklao, S. (2022). Antioxidant properties of gelatin hydrolysates from threadfin bream (*Nemipterus hexodon*) skin treated with pepsin from lizardfish (*Saurida micropectoralis*) stomach. In: The 6th International Conference on Food and Applied Bioscience 2022 (TSB 2022): Frontier Research in the Future Challenges (p. 70). Online conference, Chaing Mai University, Thailand.
20. **Kittiphattanabawon, P.**, & Benjakul, S. (2023). Antioxidant activity of tilapia (*Oreochromis nioticus*) skin gelatin hydrolysate digested by papaya latex enzymes as influenced by degree of hydrolysis. In: The 25th Food Innovation Asia Conference 2023 (FIAC 2023): The Future Food for Sustainability, Health and Well-being (pp. 45-52). BITEC BANGNA, Bangkok, Thailand.

#### **Industrial advisory experience**

- **LAE LAY Mountain Seafood**, 89 Moo 3 Klongkang Rd, Aonang, Muang, Krabi, 81000, Thailand, in term of quality control and prolong shelf life of the raw material since 2018.

#### **Training experiences:**

1. Co-operative Training Course 6<sup>th</sup> Generation, January 20-22, 2016
2. Workshop in Teaching and Learning by Digital Media, March 11, 2016
3. Workshop in Research for Teaching and Learning, June 8, 2016
4. Workshop in Teaching and Learning by Problem Based Learning (PBL), July 28, 2016
5. Workshop in FSPCA Preventive Controls for Human Food, November, 2-4, 2016.
6. Workshop in FSPCA Preventive Controls for Human Food, November 2-4, 2016.
7. Training Course in Human Development Served to Talent Mobility: Food Industry, June 18-22 and 25-27, 2018.
8. Workshop in Lean Canvas. Thailand Food Innovation Regional Boot Camps 2018, September 7-8, 2018.