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Education

Degree	Field of study	University or institute (country)	Graduation year
Ph.D.	Agro-Industrial Product Development	Kasetsart University, Thailand	2008
M. Sc.	(Food Technology)	Chulalongkorn University, Thailand	1998
B. Sc.	(Food Science)	University of the Thai Chamber of Commerce, Thailand	1994

Research expertise

- Research and development of health food products and medical food
- Food safety and quality control testing. According to the standard system
- Standards, laws and regulations related to food and food production

Research interests

1. Research and development of health food products, nutrition, medical food, sport food and special purpose foods
2. Food safety, chemistry, analytical and quality control
3. Standards, laws and regulations relating to genetically modified crops, food and food products
4. Sensory evaluation of descriptive analysis

Research projects

1. on-going

- **Head of research project** on: Development of organic rice powder for industrial food ingredients and organic rice milk tablet. Research funding from the Agricultural Research Development Agency (Public Organization) (2021-2022).
- **Head of research project** on: Development of rice-based medical food for patients with diabetes mellitus as an alternative to imported products. Research funding from the Agricultural Research Development Agency (Public Organization) (2020-2021).
- **Head of research project** on: Development of nutritious milk tablet product from milk and lactose-free milk. Research funding from: TRF. In conjunction with industry together with the Dairy Farming Promotion Organization of Thailand. (2019 - 2021).
- **Head of research project** on: Development of rice-based medical food for patients with diabetes mellitus as an alternative to imported products. Research funding from the Agricultural Research Development Agency (Public Organization) (2018-2020).
- **Head of research project** on: Development of a health and wellness drink from fructo-oligosaccharides and the evaluation of its effectiveness for relieving chronic constipation. Research funding from: TRF. In conjunction with industry together with the Ichitan Group Public Company Limited (2018-2020).
- **Head of research project** on: Development of a premium energy products from palatine for consumers concerned with physical activity, sports and fitness. Research funding from: TRF. In conjunction with industry together with the Rajburi Sugar Co., Ltd. Limited (2018-2020).
- **Head of research project** on: Formulation of whole grain whole-in-one beverage powders for obese, prediabetic and diabetic consumers. Research funding from: TRF. In conjunction with industry together with the Medifoods (Thailand) Co.,Ltd. (2018-2020).

2. completed

- **Research project participants** on: Formulation and stability of emulsion for health from Virgin rice bran Oil. Research funding from: TRF. In conjunction with industry together with the Medifoods (Thailand) Co.,Ltd. (2016).
- **Research project participants** on: Development of low glycemic index cake mix product. Research funding from: TRF. In conjunction with industry together with the Medifoods (Thailand) Co.,Ltd. (2016).
- **Head of research project** on: Development of complementary food containing flour, protein hydrolysate and oil from rice. Research funding from: TRF. In conjunction with industry together with the Medifoods (Thailand) Co.,Ltd. (2017).
- **Head of research project** on: Effect of enzymatic modification on the physico-chemical properties and digestibility of rice flour. Research funding from: TRF. In conjunction with industry together with the Medifoods (Thailand) Co., Ltd. (2017).
- **Head of research project** on: Rice beverage product development project for disaster victims. In conjunction with industry together with the JAIMATADEE CO., LTD. (2014).
- **Head of research project** on: Project of food safety with happy hearts, chemical food safety audit and microorganisms and operator training. (2014).
- **Head of research project** on: Study of the effect of drying conditions on the physicochemical properties and antioxidant capacity of brown, red and black brown rice flour. Research funding from the National Research Council of Thailand. (2013).
- **Head of research project** on: Imitation Sinlek Brown Rice Milk. From: The Thailand Research Fund and BEEF PRO CO., LTD. (2012).
- **Head of research project** on: Effects of pre-gelatinization on physicochemical properties of germinated brown rice flour. Research funding from the National Research Council of Thailand. (2011).
- **Head of research project** on: Study the effect of the ratio between Hom Nil and Glutinous Rice Flour on the chemical, physical and sensory properties of Daifuku products. (2011).

- **Head of research project** on: Optimal condition for hydrolysis of sea lettuce (*Ulva rigida*) with microwave-assisted acid hydrolysis. (2011).
- **Head of research project** on: Product development of dietary fiber supplement powder And vitamin C from reserve powder for health. (2011).
- **Head of research project** on: Project: Healthy Canteen, Faculty of Public Health, Mahodol University. From: Thai Health Promotion Foundation (Thai Health) (2010).
- **Research project participants** on: Project to survey the consumption of sodium chloride of the Thai population and the sodium chloride content in Thai seasonings 2009. Ministry of Public Health. (2009).
- **Research project participants** on: Survey of sodium chloride consumption Health Center 1, Bangkok Capital name: Department of Health, Ministry of Public Health. (2009).
- **Research project participants** on: Situation of iodine deficiency among Thai people living in responsible areas Health Center 1, Bangkok. Ministry of Public Health. (2009).
- **Research project participants** on: Evaluation and Use of Hygiene Test Kit 36 for Determination of iodine in Salt. Ministry of Public Health. (2009).

Publications

1. National

2020	● Chaiyakul S. Sugar: health risks and policy actions for healthier consumption. J Nutri. Associat. Thailand. 2020; 55(1): 95-110.
2016	● Suwannakornrat P, Chaiyakul S , Thakhiew W, Judprasong K. Effect of blanching in NaCl solution and drying temperature on the physiochemical of ivy-gourd powders. Agricultural Sci J 2016; 47(2):181-184.
2011	● Chaiyakul S , Maleevong K. Evaluation of efficacy and usage of h36 test kit for determination of iodine level in salt. J Pub Health. 2011; Special issue: 29-37.
	● Khohornchaikul P, Chaiyakul S . Consumption behavior and satisfaction in the canteen: a case study of the faculty of public health, Mahidol University. J Pub Health. 2011; Special issue: 21-28.

2008	● Chaiyakul S, Jangchud K, Jangchud A, Wuttijumnong P, Winger R. Effect of protein content and extrusion process on sensory and physical properties of extruded high-protein, glutinous rice-base snack. Kasetsart Journal 2008; 42(5): 182-90.
2002	● Janworachaikul S, NgamJindasakul N. Production and shelf life of spirulina biscuits. J Nutri. Associat. Thailand. 2545; 36(3): 42-50.
	● Janworachaikul S, Durongdej S, KuiyaKanon Best B. Study and explore the selection of food flavoring agents in fresh food products of Thailand. J Nutri. Associat. Thailand. 2545; 36(4): 37-45.
	● Kerdchoechuen O, Laohakunjit N, Sanporkah P, Janworachaikul S. Production of imitation milk from cereal. Food. 2545; 32(3): 200-12.
2001	● Janworachaikul S, Watcharaphanchai C, Tapatom N. Study and test about lead and sodium in snack products of kindergartens - primary schools in Bangkok.. J Pub. Health. 2544; 31: 111-20.
	● Kerdchoechuen O, Laohakunjit N, Sanporkah P, Janworachaikul S. Preliminary study of using 5 cereal flour for imitation milk production. 2544; 31(3); 187-200.

2. International

2016	● Pongpaiboon W, Srichamnong W, Chaiyakul S. Physical properties and resistant starch content of rice flour residues hydrolyzed by α-amylase. Inter J Bio Biomol Agri Food Biotech Eng 2016; 10(11): 692-97.
	● Chaiyakul S, Sukkasem D, Natthapanpaisith P. "Effect of flour concentration and retrogradation treatment on physical properties of instant sinlek brown rice". Inter J Bio Biomol Agri Food Biotech Eng 2016; 10(12): 724-32.
2015	● Nuprapa J, Tantisawangwong N, Sompornserm P, Chaiyakul S. Development of iron complementary food for 9-11 months infant. Agricultural Sci J 2015; 46(3): 193-6.
	● Pongpaiboon W, Chaiyakul S. Effect of enzyme concentration and hydrolysis time on chemical properties and viscosity of hydrolyzed high-amylose Thai rice flour. Agricultural Sci J 2015; 46(3): 481-4.
2013	● Saardsriweradej R, Chaiyakul S, Hudthagosol C. Effect of soaking on physico-chemical properties of sinlek brown rice. Agricultural Sci J 2013; 44(2): 9-12.

2012	• Ritruengdech K, Kerdchoechuen O, Laohakunjit N, Chaiyakul S. Effects of extrusion on thermal and rheological properties of pregelatinized germinated brown rice flour. <i>Agricultural Sci J</i> 2012; 43(2): 321-4.
2011	• Ritruengdech K, Kerdchoechuen O, Laohakunjit N, Chaiyakul S. Effects of pregelatinization on physico-chemical properties of flour of germinated brown rice cv. KDML 105. <i>Agricultural Sci J</i> 2011; 42(2): 117-120.
	• Ritruengdech K, Kerdchoechuen O, Laohakunjit N, Chaiyakul S. Effects of pregelatinization on physico-chemical properties of flour of germinated brown rice cv. Chainat 1. <i>Agricultural Sci. J</i> 2011; 42(2): 425-428.
2009	• Chaiyakul S, Jangchud K, Jangchud A, Wuttijumnong P, Winger R. Effect of extrusion conditions on the physical and chemical properties of high protein glutinous rice-based snack. <i>Lebensm. Wiss. U-Technol-Food Science and Technology</i> 2009; 42(3): 781-7.

Academic conferences

1. National

2018	• Chaiyakul S, Saardsriweradej R. Development of UHT high protein brown rice drink. The 5th National Rice Conference "Research Thai Rice to Thailand 4.0" 23-24 May 2018, Centra Hotel Government Center and Convention Center, Bangkok.
	• Chaiyakul S, Pongpaiboon W, Srichamnong W. Effect of modification by alpha amylase on physical properties of rice starch. 5th National Rice Conference "Research Thai Rice to Thailand 4.0" 23-24 May 2018, Centra Hotel, Government Center and Convention Center, Bangkok.
2012	• Sanga N, Chaiyakul S, Suwannalert P. Effect of Drying Conditions on Antioxidant Activity and Total Phenolic Content of Pregelatinized Rice Flour. International Conference on Food and Applied Bioscience. The 2nd Joint Symposium between Faculty of Agro-Industry, Chiang Mai University and Gangneung-Wonju National University. 6-7 February 2012 Kntary Hill Hotel, Chiang Mai, Thailand.

2. International

2016	● Chaiyakul S, Sukkasem D, Natthapanpaisith P. Effect of flour concentration and retrogradation treatment on physical properties of instant sinlek brown rice. ICFSN 2016: 18th International conference on food security and nutrition. November 10-11, 2016 Kyoto, Japan.
	● Pongpaiboon W, Srichamnong W, Chaiyakul S. Physical properties and resistant starch content of rice flour residues hydrolyzed by α-amylase. ICFSN 2016: 18th International conference on food security and nutrition. November 10-11, 2016 Kyoto, Japan.
	● Omprasong N, Saomuangmeesuk T, Sompornserm P, Chaiyakul S, Kaewtathip T. Optimal condition for hydrolysis of sea lettuce (<i>Ulva rigida</i>) with microwave-assisted acid hydrolysis. THE 17th Food Innovation Asia Conference 2016 "Food Research and Innovation for Sustainable Global Prosperity" 16-18 June 2016, BITEC, Bangkok.
2012	● Ritruengdech K, Chaiyakul S. Effects of pregelatinization on physico-chemical properties of germinated brown rice flour. International conference on food science and nutrition 2012. 2-4 April 2012 Kota Kinabalu, Sabah, Malaysia.

Patents and petty patents

- **Requesting a petty patent:** Method for preparing modified unpolished rice powder with resistant starch, low glycemic index and nutritional value from paddy to produce medical food. Names of inventors **Supat Chaiyakul**.
- **Requesting a petty patent:** Method for preparing unpolished and polished modified rice with high resistant starch and low glycemic index to produce medical food. Names of inventors **Supat Chaiyakul**.
- Patent number 10992, Imitation drink from rice milk and production process. Names of inventors **Supat Chaiyakul** and Mr. Panit Trirote. Date of issue of certification 8-Jan-2016 Place of registration Thailand