



Curriculum Vitae

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Name Ratchanee Kongkachuichai
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Current position : Associate Professor and Director

Education

1997 Ph. D. (Food Science and Technology), Kyoto University, Kyoto, Japan
1986 M. Sc. (Nutrition), Mahidol University, Bangkok, Thailand
1980 B. Sc. (Nutrition), Faculty of Public Health, Mahidol University, Bangkok, Thailand
1997 Ph. D. (Food Science and Technology), Kyoto University, Kyoto, Japan

Research Interest

1. Analysis antioxidant content and their nutritional property for health (in vitro and in vivo)
2. Nutritional composition and their functional property of vegetable and fruit, especially indigenous vegetables
3. Nutritional composition and their functional property of Thai rice, especially in antioxidant content, property and glycemic index using in vitro-in vivo model
4. Bioavailability of nutrient in food using cell-culture model
5. Food analysis

Research Experiences

1. Analysis antioxidant content and functional property of indigenous vegetable and fruit for health (in vitro and in vivo)
2. Nutritional composition in vegetable and fruit, especially indigenous vegetables
3. Nutritional composition and their functional property of Thai rice, especially in antioxidant content, functional property and glycemic index using in vitro technique
4. Bioavailability of nutrient in food using Caco-2 cell model
5. Nutrient composition and their functional properties in Thai rice and vegetable and Thai fruit study
6. Food chemical analysis
7. Effect of Functional properties of Thai rice and Thai rice products study in in vivo and in vitro model.

Training

2004 Training course on in vitro/ Caco-2 cells at USDA/Dr.Raymond Glahn Cornell University, Ithaca, NewYork, USA
2000 Regional training course on In vitro digestion technique at Food and Nutrition Research Institute, Department of Science and Technology, Philippines
1999 Regional training course on isotopic techniques applications in human nutrition with emphasis on Micro-nutrient intervention program, Thailand



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Publications

National

1. Sojirat Rattalengsak, **Ratchanee Kongkachuichai**, Rin Charoensiri and Aurawan Kettawan. Organic and inorganic of 10 varieties vegetables and fruits commonly consumed in Thailand: Comparison of mineral, polyphenol content and antioxidant activity. Proceeding The 20th Food Innovation Asia Conference. 2018, 14-16 June, 1-11.
2. Amornrat Meekhruearod, **Ratchanee Kongkachuichai**, Boonticha Chomchuen, Uruwan Yamborisut, Rin Charoensiri, Aurawan Kettawan. Effect of different processing operation on total phenolic compounds of landrace rice varieties. Proceeding The 18th Food Innovation Asia Conference. 2016,16-18 June 2016,308-316.
3. Kamonwan Chinchananuopap, **Ratchanee Kongkachuichai**, Rin Charoensiri, Aurawan Kettawan and Pornrat Sinchaipanit. Noodle fortification with Gac-powder : Sensory evaluation and effect of boiling and stirred-frying on Beta-carotene content. Proceeding The 18th Food Innovation Asia Conference. 2016,16-18 June 2016,593-600.
4. Jureeporn Nounmusig, **Ratchanee Kongkachuichai**, Prapaisri Sirichakwal, Chantira Wongwichain, and Warasri Saengkrajang. Glycemic index, Glycemic Load and serum insulin response of alternative rice noodles from mixed Sago palm flour (*Metroxylon* spp) and Chiang rice flour. Burapha Science Journal. 2018, 23(2), 839-851.
5. Sunee Sahaspot, Rin Charoensiri and **Ratchanee Kongkachuichai**. Glycemic index of glutinous and non-glutinous landrace rice varieties using "in vitro rapidly available glucose" Burapha science Journal, 2015, 20(2), 1-13.
6. **Ratchanee Kongkachuichai***, Rin Charoensiri. Antioxidant content and activity of landrace rice in land reform area of Amphur Kudchum, Yasothon province. Journal of Nutrition Association of Thailand,2011; 45(2); July - December:14-32.
7. **Ratchanee Kongkachuichai** and Rin Charoensiri. Nutritional values of land-race rice in the land reform area of Ampur Kudchum, Yasothon Province. Journal of Nutrition Association of Thailand,2010; 46(1); January - June:24-42.
8. ผศ.ดร.รัชณี คงดาญฉาย และ รัญญ เจริญศิริ อาหารไทย-อาหารทิพย์ การประชุมวิชาการนักกำหนดอาหารประจำปี 2552 เรื่องการกำหนดอาหารกับโลกที่เปลี่ยนแปลง ณ.ห้องบางกอกคอนเวนชันเซ็นเตอร์ ชั้น 5 โรงแรมโซฟิเทล เซ็นทาราแกรนด์ กรุงเทพฯ 27-29 พฤษภาคม 2552
9. ผศ.ดร.รัชณี คงดาญฉาย และ รัญญ เจริญศิริ ผลไม้กับสุขภาพ การประชุมวิชาการนักกำหนดอาหารประจำปี 2552 เรื่องการกำหนดอาหารกับโลกที่เปลี่ยนแปลง ณ.ห้องบางกอกคอนเวนชันเซ็นเตอร์ ชั้น 5 โรงแรมโซฟิเทล เซ็นทาราแกรนด์ กรุงเทพฯ 27-29 พฤษภาคม 2552
10. **Ratchanee Kongkachuichai** * Rin Charoensiri and Aurawan Kringkasemsri. Iron , zinc, copper, vitamin A, and beta-carotene in various land-race rice varieties. Journal of the National Research Council of Thailand 2008, 40(2), 13-31.
11. **Ratchanee Kongkachuichai***, Rin Charoensiri, Jarumon Jumrassiripak, Sasapin Disnil and Rungrat Chamchan. Antioxidant activities and sensory evaluation of cookies prepared from brown rice berry flour (purple pigmented rice flour). Journal of the National Research Council of Thailand. 2008, 40(2), 115-126.
12. Rin Charoensiri, **Ratchanee Kongkachuichai** and Narumol Ratanakonpun. Screening of glycemic index of various rice varieties from breeding evaluated by in vitro rapidly available glucose. Journal of Nutrition Association of Thailand. 2008, 40(2), 16-27.
13. Rin Charoensiri, Ratchanee Kongkachuichai* and Chaninneat. Torsahakul . Macro-minerals, Polyphenol, Tannin and Phytate in Thai Fruits J Nutr Assoct Thailand, 2008, 43(4), 17-27.
14. **Ratchanee Kongkachuichai**, Rin Charoensiri, Sayam Kanjanasita, Tadashi Okamoto and Visith Chavasit. Iron bioavailability of cooked porcine blood curd recipes evaluated by anemic rats. Journal of the Nutrition Association of Thailand 2005;40 (2): 27-43.
15. **Ratchanee Kongkachuichai** and , Sakorn Dhanamitta. High iron dense rice. Journal of the Nutrition Association of Thailand 2003; 38 (2) 96-102



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16. Kunchit Judpasong, **Ratchanee Kongkachuchai**, Somsri Charoenkiatkul, Pongtorn Sungpuag. Nutrient compositions in milk and milk products. Journal of the Nutrition Association of Thailand. 2001;36(1) : 17-27.
17. **Ratchanee Kongkachuchai** and Rin Charoensiri Vitamin C contents in Thai Vegetables and fruits." Journal of the Nutrition Association of Thailand. 1999; 34(1):36 - 44
18. **Ratchanee Kongkachuchai** and Rin Charoensiri. Evaluation of Iron dialyzability in various genotypes of rice by in vitro digestion technique. Food Journal,2004 ;34 (4):327-335
19. Chureeporn Chitchumroonchokchai , **Ratchanee Kongkachuchai**, Praprisri Sirichakwal, Prapasri Puwastein. Macro element intake of Thai adult subject : Chemical Analyses of diet using the duplicate portion sampling technique." Rama. Med. J. 1993; 16:168-173.
20. Prapasri Puwastien, **Ratchanee Kongkachuchai**, Uruwon Valaipatchara. Total dietary fiber in Thai foods." J. Nutr. Assoc. Thailand. 1990;24:43-53.
21. Nitaya Promvanit, **Ratchanee Kongkachuchai**, Songsak Srianujata. Comparison of some minerals and trace elements in Fruit juices, soft drink, coffee, tea and mineral water. Journal of the nutrition Association of Thailand. 1989; 23:36-47.
22. Prapaisri Sirichakwal, **Ratchanee Kongkachuchai**, Prapasri Puwastien. Macro and trace elements in Thai Foods. Journal of the nutrition Association of Thailand. 1989; 23:21-34.
23. Prapaisri Sirichakwal , **Ratchanee Kongkachuchai** , Prapasri Puwastein. Acid digestion versus dry ashing for mineral analysis of food. Journal of the nutrition Association of Thailand. 1988; 22:279-96.
24. Chureeporn Chitchumroonchokchai, **Ratchanee Kongkachuchai**, Prapaisri Sirichakwal and Prapasri Puwastein. Vitamin B 12 status in Thai adult vegetarians. Journal of the nutrition Association of Thailand. 1988; 22:107-114.
25. Pongtron Sungpuag, **Ratchanee Kongkachuchai**. Sodium content of some Thai foods. Journal of the nutrition Association of Thailand. 1985;19(2):75-83.
26. Pongtron Sungpuag, Prapasri Puwastien, Somsri Charoenkiatkul, **Ratchanee Kongkachuchai**. Nutritive values of foods in the Northeast of Thailand. Journal of the nutrition Association of Thailand. 1984;18(3):163-176.
27. Pongtron Sungpuag, Prapasri Puwastien, Somsri Charoenkiatkul, **Ratchanee Kongkachuchai**. Composition of Thai foods : 1. Foods from Cafeteria. Journal of the nutrition Association of Thailand. 1984;18 (4):266-273.
28. Pongtron Sungpuag, **Ratchanee Kongkachuchai**. "Sodium content of some Thai foods." Journal of the nutrition Association of Thailand. 1985;19(2):75-83.

International

1. Nounmusig, J., **Kongkachuchai, R***, Sirichakwal, P.P., Yamborisut, U., Charoensiri, R. and Vanavichit, A. The effect of low and high glycemic index based rice varieties in test meals on postprandial blood glucose, insulin and incretin hormones response in prediabetic subjects. International Food Research Journal 2018, 25(2),835-841.
2. Rueangsri, N, Pachottikarn, C., Taechangam, S., **Kongkachuchai, R.**, Sungpuag, P., Shikanai, S., Yamamoto, S. Development of a sugar composition database from selected commercial snacks. Journal of the Medical Association of Thailand, 2018,101(5):569-74
3. **Ratchanee Kongkachuchai**, Rin Charoensiri, Kameelah Yakoh, Aurawan Kringkasemsee and Poonsub Insung. Nutrients value and antioxidant content of indigenous vegetables from Southern Thailand. Food Chemistry. 2015, 173; 838-846.



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4. **Kongkachuichai, R.**, Prangthip, P., Surasiang, R., Posuwan, J., Charoensiri, R., Kettawan, A. and Vanavichit, A. Effect of Riceberry oil (deep purple oil; *Oryza sativa Indica*) supplementation on hyperglycemia and change in lipid profile in Streptozotocin (STZ)-induced diabetic rats fed a high fat diet. *International Food Research Journal* 2013;20(2): 873-882
5. Pattaneeya Prangthipa, Reuthaithip Surasianga, Rin Charoensiria, Vijitra Leardkamolkarnb, Surat Komindr, Uruwan Yamborisuta, Apichart Vanavichitd, **Ratchanee Kongkachuichai**. Amelioration of hyperglycemia, hyperlipidemia, oxidative stress and inflammation in streptozotocin-induced diabetic rats fed a high fat diet by riceberry supplement *Journal of functional Foods*. 2013;5:195-203
6. Juthathip Posuwan, Pattaneeya Prangthip, Vijitra Leardkamolkarn, Uruwan Yamborisut, Ruethaithip Surasiang, Rin Charoensiri, **Ratchanee Kongkachuichai**. Long-term supplementation of high pigmented rice bran oil (*Oryza sativa* L.) on amelioration of oxidative stress and histological changes in streptozotocin-induced diabetic rats fed a high fat diet; Riceberry bran oil. *Food Chemistry*. 2013;138: 501-508
7. Chunhabundit R, **Kongkachuichai R**, Narasing J and Visetpanich Y. Total phenolic content cellular antioxidant activity and potential hepatoprotective effect of fruit extracts. *Thai Journal of Toxicology*. 2012;27(2), 10-13
8. Kumar Karn S, Chavasit V, **Kongkachuichai R** and Tangsuphoom N. Shelf stability, sensory qualities and bioavailability of iron-fortified Nepalese curry powder. *Food Nutr Bull*. 2011;32 (1):13-21.
9. Leardkamolkarn V, Thongthep W, Suttiarporn P, **Kongkachuichai R**, Wongpornchai S, Vanavijitr A, Chemopreventive properties of the bran extracted from a newly-developed Thai rice; the Riceberry. *Food Chem* 2011;125:978-85
10. Chunhabundit R, Srianujata S, Bunyaratvej A, **Kongkachuichai R**, Satayavivad J, Kaojarern S. Cadmium bioavailability from vegetable and animal based foods assessed with in vitro digestion/Caco-2 cell model. *J Med Assoc Thai*. 2011, 94(2): 164-171.
11. **Kongkachuichai R**, Charoensiri R, Sungpuag P. Carotenoid, flavonoid profiles and dietary fiber contents in fruits commonly consumed in Thailand. *Inter Food Sci and Nutr*, 2010, 61(5), 536-48.
12. Charoensiri R, **Kongkachuichai R**, Suknicom Siriwan and Pongtron Sungpung. Vitamin E Beta-carotene and lycopene content in selected of fresh Thai fruit. *Food Chem*. 2009,113, 202-207.
13. Charoensiri R and **Kongkachuichai R***. Sucrose Profiles, and Insoluble and Soluble Dietary Fiber Content in Selected of Thai Fruits. *Inter Food Sci and Nutr*, 2009, 1, 1-14.
14. Supanart Srisala, Rodjana Chunhabundit, **Ratchanee Kongkachuichai**, Bunyada Jittorntrum and Yupin Visetpanit. Effect of bran extracts from Thai molecular breeding rices on growth and apoptosis in human promyelocytic leukemia cells. *Thai Journal of Toxicology*. 2009;24(2), 81-91.
15. Bunyada Jittorntrum, , Rodjana Chunhabundit, **Ratchanee Kongkachuichai**, Supanart Srisala and Yupin Visetpanit. Cytoprotective and cytotoxic effect of rice bran extracts on H₂O₂- induced oxidative damage in human intertinal Caco-2 cells. *Thai Journal of Toxicology*. 2009; 24(2), 92-100.
16. Weenanon Somsu, **Ratchanee Kongkachuichai**, Pongtorn Sungpuag and Rin Charoensiri. Effects of three conventional cooking methods on vitamin C, tannin and myo-inositol phosphates contents in selected Thai vegetables *Journal of Food Composition and Analysis*, 2008, 21, 187-197.
17. **Kongkachuichai R**, Kounhawej A, Chavasit V and Charoensiri. Effect of various iron fortificants on sensory acceptability and shelf-life stability of instant noodles. *Food*



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18. Watanapaisantrakul R, Chavasit V, **Kongkachuichai R**. Fortification of soy sauce using various iron sources: Sensory acceptability and shelf stability. Food Nutr Bull. 2006; 27(1):19-25.
19. Sirichakwal P P; Puwastien P; Polngam J; and **Kongkachuichai R**. Selenium content of Thai Foods. J Food Compos Anal.2005; 18: 47-59.
20. Chitpan M, Chavasit V, **Kongkachuichai R**. Development of fortified dried broken rice as a complementary food. Food Nutr Bull. 2005; 2: 384-86.
21. Kamchan A.; Puwastien P.; Sirichakwal PP.; and **Kongkachuichai R**. In vitro calcium bioavailability of vegetables, legumes and seeds. J Food Compos Anal. 2004, 17, 311-320.
22. **Kongkachuichai R**; Pirapatdit S; Chavasit V; and Charoensiri R. Bioavailability of various forms of iron fortificants in fresh wheat noodles using in vitro digestion technique. The Journal of Trace Elements in Experimental Medicine.2004; 17 (4): 188.
23. Chavasit V, Nopburabutr P, **Kongkachuichai R**. Combatting iodine and iron deficiencies through the double fortification of fish sauce, mixed fish sauce and salt brine. Food Nutr Bull. 2003; 24(2):200-207.
24. **Kongkachuichai R**. Heme and nonheme iron content of animal products commonly consumed in Thailand. J Food Compos Analy. 2002;15: 389-398.
25. **Kongkachuichai R**, Yasumoto K. Effects of amino acids and dipeptides on the uptake and transport of Caco - 2 cells cultured in serum free medium. Food Sci Technol Int. 1997;3:279-284.
26. **Kongkachuichai R**, Tani F., Yasumoto K. Effects of sugars and aspartame on the uptake and transport of iron by Caco-2 cells cultured in serum free medium Food Sci Technol Int. 1997;3: 127 - 129.
27. **Kongkachuichai R**, Yasumoto K. Hemoglobin repletion and the haematological response of anemic rats to hemosiderin and ferrous sulfate. Food Sci Technol Int. 1997;3:116-121.

Research Experiences

1. Analysis antioxidant content and functional property of indigenous vegetable and fruit for health (in vitro and in vivo)
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3. Nutritional composition and their functional property of Thai rice, especially in antioxidant content, functional property and glycemic index using in vitro technique
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