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DEPUTY DIRECTOR FOR RESEARCH STRATEGY, Program Management Unit Competitiveness (PMUC)

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Dr Chaleeda Borompichaichartkul is an Associate Professor at the Department of Food Technology, Faculty of Science, Chulalongkorn University, she is an active member of Food Research Group at Chulalongkorn University as well as Research University Network of Thailand (RUN). As her another role in finding the research strategy to support translational research to commercialisation, she works very closely to create collaboration between university and industry. Her research interests are functional biomaterials for food, beverage, packaging, and feed. Drying technology, microencapsulation of bioactive compounds, food functional properties and development. Dr Chaleeda has published her advanced study in area of food science and technology more than 40 papers. Her study is aimed to develop natural polymer that is safe, functional, and biodegradable, and it can be applied in food and feed industry for the well-being of the mankind.

CURRICULUM VITAE



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EDUCATION

Ph.D. University of New South Wales, Australia; March 1999 – March 2004

B.Sc. (Hons) University of New South Wales, Australia; March 1995 – March 1999

AWARDS

2009 Young Scientist Award for Excellence in Drying R&D in Asia – Pacific Region, 6th Asia-Pacific Drying Conference (ADC 2009), 19-21 October, 2009 Bangkok, Thailand

2006 Best Poster Presentation Award, 8th Agricultural Industry Symposium, 15-16 June 2006, Bangkok, Thailand
Title “Effects of fluidization and storage temperature on 2AP and milling quality of Khao Dawk Mali 105 *Oryza sativa* L”

2004 Best Presentation Award, Postgraduate Seminar University of New South Wales, Sydney, Australia

PROFESSIONAL EXPERIENCES

2015-present Deputy Director of Research University Network Office (RUN Office)

2015-present Assistant Dean (Research and Industry Service), Faculty of Science, Chulalongkorn University

2012-2014 Director of University-Industry Linkage Center of Faculty of Science, Chulalongkorn University

2004-present Lecturer, Department of Food Technology, Faculty of Science,
Chulalongkorn University, Bangkok, Thailand

RESEARCH INTERESTS

Drying technology, thermophysical properties of food materials, microencapsulation of bioactive compounds for higher quality foods, new technology for functional product development, functional films

PUBLICATIONS

1. Adamiec, J.; Borompichaichartkul, C.; Srzednicki, G.; Panket, W.; Piriya-punsakul, S.; Zhao, J. (2012) Microencapsulation of Kaffir Lime Oil and Its Functional Properties. *Drying Technology*, 30, 914 - 920.
2. Borompichaichartkul, C. and Hongkulasap, S. (2007) Spray Drying of Konjac (*Amorphophallus Oncophyllus*) Powder, The proceedings of the 5th Asia-Pacific drying conference Hong Kong 13-15 August 2007, World Scientific, 1444pp
3. Borompichaichartkul, C., Chinprahast, N., Devahastin, S., Wiset, L., Poomsa-Ad, N. and Ratchapo, T. (2013) Multistage heat pump drying of macadamia nut under modified atmosphere. *International Food Research Journal*. 20(5), 2199-2203.
4. Borompichaichartkul, C., Luengsode, K., Chinprahast, N., and Devahastin, S. (2009) Improving quality of macadamia nut (*Macadamia integrifolia*) through the use of hybrid drying process. *Journal of Food Engineering*, 93: 348 – 353.
5. Borompichaichartkul, C., Maneechot, P., Homkajon, P. and Tongplod, P. (2009) Storage Stability of Dried Macadamia Nuts in Different Packaging Materials. *ISHS Acta Horticulturae*, Vol 837. (Available online)
6. C. Borompichaichartkul, L. Wiset, V. Tulayatun, S. Tuntratean, T. Thetsup-amorn, R. Impaprasert and I. Waedalor (2007) Comparative study of effects of drying methods and storage conditions on aroma and quality attributes of Thai jasmine rice. *Drying Technology*: 25: 1185-1192
7. C., Borompichaichartkul, G., Moran, G., Srzednicki and R.H., Driscoll (2004) Studies of physical states of water in maize from NE China (cv. Huangmo 417) during drying at subzero temperatures, *Drying Technology* Vol 22(1&2) 295-305
8. C., Borompichaichartkul, G.S., Srzednicki and R.H., Driscoll (2003) Drying at sub-zero temperature: Case study on in-store drying of grains. *Drying Technology* Vol. 21, No. 4 pp735-753.
9. C., Borompichaichartkul, G.S., Srzednicki and W.S. Price (2004) Nuclear magnetic resonance (NMR) and magnetic resonance imaging (MRI) studies of corn at subzero temperatures. *Journal of Food Engineering*: 69(2), 199-205
10. Chantadol, V., Thianpassakorn, S., Bannakulpipat, S. and Borompichaichartkul, C. (2013) Production of high quality pineapple juice powder for using in instant jelly powder product. *Acta Horticulturae*. 1011, 95-100.
11. Hamad, A., Suriyarak, S., Devahastin, S., Borompichaichartkul, C. A novel approach to develop spray-dried encapsulated curcumin powder from oil-in-water emulsions

stabilized by combined surfactants and chitosan *Journal of Food Science*, November 2020, 85(11), pp. 3874–3884

12. Impaprasert, R., Borompichaichartkul, C. and Srzednicki, G. (2013) Effects of anti-swelling agents on physicochemical properties of glucomannan from konjac corm (*Amorphophallus muelleri*). *Acta Horticulturae*. 989: 331-338.
13. Impaprasert, R., Srzednicki, G., Borompichaichartkul, C., Zhao, J. and Yu, L. 2013. Improving production of purified konjac glucomannan from *Amorphophallus muelleri* by multistage drying. *Acta Horticulturae*. 1011, 155-162.
14. Impaprasert, R.,*Piyarat, S., Sophontanakij, N., Sakulnate, N., Paengkanya, S., Borompichaichartkul, C. and Srzednicki, S. (2017) Rehydration and Textural Properties of Dried Konjac Noodles: Effect of Alkaline and Some Gelling Agents, *Horticulturae*, 3, 20; doi:10.3390/horticulturae3010020.
15. Imprasert, R., Borompichaichartkul, C.* and Srzednicki, G. (2014) A new drying approach to enhance quality of konjac glucomannan extracted from *Amorphophallus muelleri*, *Drying Technology*, 32(7), 851-860.
16. Korsrilabut, J., Borompichaichartkul, C., Duangmal, K. (2010) Effect of invert sugar on the drying kinetics and water mobility of osmosed-air dried cantaloupe. *International Journal of Food Science and Technology*, 45(7), 1524-1531.
17. Leuangsukrer, M., Phupoksakul, T., Tananuwong, K., Borompichaichartkul, C. and Janjarassku, T* (2014) Properties of konjac glucomannanewhey protein isolate blend films, *LWT- Food Science and Technology*, 59, 94-100.
18. Lotpetcharat, K., Kulapichitr, F., Suppavorasatit, I., Chodjarusawad, T., Phatthara-aneksin, A., Pratontep, S. and Borompichaichartkul, C.* (2016) Relationship between Overall Difference Decision and Electronic Tongue: Discrimination of Civet Coffee, *Journal of Food Engineering*, 180, 60-68.
19. Mekkerdchoo, O., Borompichaichartkul, C *, Perrigo L.,A., Srzednicki, G., Prakitchaiwattana, C. and Antonelli, A. (2016) Tracing the Evolution and Economic Potential of Konjac Glucomannan in *Amorphophallus species (Araceae)* using Molecular Phylogeny and RAPD Markers, *Phytotaxa*, 282 (2), 081–106.
20. Mekkerdchoo, O., Holford, P., Srzednicki, G., Prakitchaiwattana, C., Borompichaichartkul, C. and Wattananon, S. (2013) Genetic variation among *Amorphophallus* sp. from Northern Thailand and their glucomannan content. *Acta Horticulturae*. 989: 323-330.
21. Peanparkdee, M., Borompichaichartkul, C.* and Duangmal, K. (2015) Effects of pH and concentration of coating materials on antioxidant activity of mulberry leaf extract microcapsules, *Acta Horticulturae*, 1088, 531-536.
22. Peanparkdee, M., Iwamoto, S., Borompichaichartkul, C*, Duangmal, K. and Yamauchi, R. (2016) Microencapsulation of bioactive compounds from mulberry (*Morus alba* L.) leaf extracts by protein–polysaccharide interactions, *International Journal of Food Science and Technology*, 51, 649-655.
23. Phatanayindee, S.; Borompichaichartkul, C.; Srzednicki, G.; Craske, J.; Wootton, M. (2012) Changes Of Chemical And Physical Quality Attributes Of Macadamia Nuts During Hybrid Drying And Processing. *Drying Technology*, 30, 1870-1880.
24. Rumroythum, P., Borompichaichartkul, C. and Kongpensook, V. (2014) Effect of drying involving fluidisation in superheated steam on physicochemical and antioxidant properties of Thai native rice cultivars. *Journal of Food Engineering*, Vol 123; 143-147.

25. Saeheng, P., Eamsakulrat, P. , Mekkerdchoo, O. and Borompichaichartkul, C. (2017) Production of Konjac Glucomannan Antimicrobial Film for Extending Shelf Life of Fresh-Cut Vegetables, *Horticulturae*, 3, 17; doi:10.3390/horticulturae3010017.
26. Srinang, J., Chatasuwankul, N., Borompichaichartkul, C.* (2015) Effect of drying methods on chemical and physical properties of osmotically dehydrated jackfruit, *Acta Horticulturae*, 1088, 579-582.
27. Tripetch, P., Borompichaichartkul, C. and Srzednicki, G. (2013) Promoting radish and carrot seed germination using 5-aminolevulinic acid extract from *Rhodobacter spp.* *Acta Horticulturae*. 989: 339-342.
28. Tripetch, P., Borompichaichartkul, C. and Srzednicki, G. (2013) Separation process of 5-aminolevulinic acid from *Rhodobacter Spaeroides* for increasing value of agricultural product by Ionexchange chromatography. *Acta Horticulturae*. 1011, 265-272.
29. Tripetch, P., Borompichaichartkul, C.*, Duangmal, K. and Srzednicki, G. (2016) Entrapment of 5-aminolevulinic acid under edible composite film of konjac glucomannan and chitosan, *Engineering for Life Sciences*, 16, 386-395
30. Wattanaprasert, S., Borompichaichartkul, C.*, Vaithanomsat, P. and Srzednicki, G. (2017) Konjac glucomannan hydrolysate: A potential natural coating material for bioactive compounds in spray drying encapsulation , *Engineering for Life Sciences*, 17 (2), 145-152.
31. Wattanaprasert, S., Srzednicki, G., Borompichaichartkul, C. and Vaithanomsat, P. (2013) Process modification of potential thai economical tuber crop to be used in microencapsulation for nutraceutical products. *Acta Horticulturae*. 1011, 163-168.
32. Wiset, L., Laoprasert, P., Borompichaichartkul, C., Poomsa-ad, N., Tulyathan, V. (2011) Effects of in-bin aeration storage on physicochemical properties and quality of glutinous rice cultivar RD 6. *Australian Journal of Crop Science*, 5(6), 635-640.
33. Wongnimitkul, N., Auiha, B., Rurkruthairat, P., Borompichaichartkul, C. (2010) Production of konjac glucomannan antimicrobial film for extending shelf life of fresh cut tomato. *ISHS Acta Horticulturae*, Vol 875. (Available online)
34. Z. Jianrong, Z. Donghua, G. Srzednicki, S. Kanlayanarat and C. Borompichaichartkul (2009) A simplified method of purification of konjac glucomannan. *ACTA Horticulturae*, 837. (Available online)
35. Z. Jianrong, Z. Donghua, G. Srzednicki, S. Kanlayanarat and C. Borompichaichartkul (2009) Asexual reproduction of *Amorphophallus bulbifer* by low-cost artificial-induction technique. *ACTA Horticulturae*, 837. (Available online)
36. Zhao, J., Zhang, D., Srzednicki, G., Kanlayanarat, S., Borompichaichartkul, C. (2010) Development of a low-cost two-stage technique for production of low-sulphur puried konjac flour. *International Food Research Journal*, 17(4), 1113-1124.
37. Zhao, J., Zhang, D., Srzednicki, G., Kanlayanarat, S., Jianping, Z., Borompichaichartkul, C. (2010) Morphological and growth characteristics of *Amorphophallus muelleri* blume – A commercially important konjac species. *ISHS Acta Horticulturae*, Vol 875. (Available online)
38. Pruksarajanakul, P., Prakitchaiwattana, C., Settachaimongkon, S., Borompichaichartkul, C. Synbiotic edible film from konjac glucomannan composed of *Lactobacillus casei*-01® and Orafti®GR, and its application as coating on bread buns *Journal of the Science of Food and Agriculture*, 1 April 2020, 100(6), pp. 2610–2617

39. Tripetch, P. and Borompichaichartkul, C. Effect of packaging materials and storage time on changes of colour, phenolic content, chlorogenic acid and antioxidant activity in arabica green coffee beans (*Coffea arabica* L. cv. Catimor), *Journal of Stored Products Research*, 2019, Vol 84. 1-7.
40. Kulapichitr, F., Borompichaichartkul, C., Suppavorasatit, I. and Cadwallader, K.R. Impact of drying process on chemical composition and key aroma components of Arabica coffee, *Food Chemistry*, 2019, Vol. 291: 49-58.
41. Yanprapasiri, K., Lohsrithong, C., Setthachaimongkol, S., Mekkerdchoo, O., Borompichaichartkul, C. Probiotic encapsulation by spray drying using konjac glucomannan hydrolysate as wall material and its application in ice cream *Italian Journal of Food Science*, 2018, 30(5), pp. 36–40
42. Lopetcharat, K., Kulapichitr, F., Suppavorasatit, I., ...Pratontep, S., Borompichaichartkul, C. Relationship between overall difference decision and electronic tongue: Discrimination of civet coffee *Journal of Food Engineering*, 1 July 2016, 180, pp. 60–68.

Research and Academic Service to Food and Agro-Industry Sector

1. Nutrition Sc. (2009-2010) Effect of multistage drying to survival rate and activity of *Bacillus spp.*
2. Chaipattana Foundation (2010-2011) Product development of sea bass fish, tilapia fish and rice.
3. Blue Gold Coffee Co, Ltd. (2016-2017) Development of ready to drink Civet Coffee
4. S.P.A. International Food Group (2017) Tuna jerky
5. Nutrition Sc. (2016-2018) Development of natural preservatives from lime-vinegar mix.
6. Coffee Properties Plus Co., Ltd (2016-2018) Development of instant coffee tablet and syrup.
7. Coffee Properties Plus Co., Ltd. (2016-2018) Development of E-tongue to use for quality control of roasted coffee.
8. Supetch Company (2016) Low calories pumpkin based gel snack product
9. Nuvotech (2019) Development of efficiency, stability and shelf-life extension of flavoring agent for using in piglet feed.
10. Dumex Co., Ltd. (2018-2019) Thermal Properties of Lactose from Different Sources and Moisture Sorption Isotherms of Milk Powder.

Consultation Service

1. Department of Live Stock, Ministry of Agriculture and Cooperatives (2009) Milk Powder Factory Project.
2. Institute of SME Development (2015-2019) Food Product Development and Processing.