



ศูนย์เทคโนโลยีโลหะและวัสดุแห่งชาติ
สำนักงานพัฒนาวิทยาศาสตร์และเทคโนโลยีแห่งชาติ
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EDUCATION:

- 2005 PhD in Mechanical Engineering, Imperial College London, UK
2000 MEng in Mechanical Engineering, Imperial College London, UK

PROFESSIONAL EXPERIENCES:

- 2022-present Editorial board, Journal of Texture Studies, Wiley.
2021-present Editorial board, Applied Food Research journal, Elsevier.
2020-present Principal researcher, Food Materials Research Team, National Metal and Materials Technology Center (MTEC), Thailand
2013-2019 Senior researcher, Food Materials Research Team, National Metal and Materials Technology Center (MTEC), Thailand
2018-2020 Committee Member of the Rheology Committee of The Institute of Materials, Malaysia (IMM)
2014-2016 Visiting scientist, Benjamin Levich Institute, City College of New York, New York
2008-2012 Researcher, Polymer Physics Laboratory, National Metal and Materials Technology Center (MTEC), Thailand
2005-2008 Research associate (under ICI, SRF scheme), Department of Mechanical Engineering, Imperial College London, UK

RESEARCH INTERESTS:

- Structure, properties and processing relationship of complex systems
- Food technology/food rheology
- Food Biopolymers/hydrocolloids
- 3D food printing

SELECTED REFEREED JOURNALS (2016 onward):

- Kongjaroen, A., Methacanon, P., Seetapan, N., Fuongfuchat, A., Gamonpilas, C., & Nishinari, K. (2022). Effects of dispersing media on the shear and extensional rheology of xanthan gum and guar gum-based thickeners used for dysphagia management. *Food Hydrocolloids*, 107857.
Gamonpilas, C., Benyajati, C. na, Sritham, W., Soparat, J., Limprayoon, N., Seetapan, N., & Fuongfuchat, A. (2022). Roles of viscosity, applied load and surface

- wettability on the lubrication behaviour of model liquid/semi-solid foods: Measurements with a bespoke tribo-cell fixture and rotational rheometer. *Current Research in Food Science*, 5, 57–64.
- Kongjaroen, A., Methacanon, P., & Gamonpilas, C. (2021). On the assessment of shear and extensional rheology of thickened liquids from commercial gum-based thickeners used in dysphagia management. *Journal of Food Engineering*, 316, 110820.
- Methacanon, P., Gamonpilas, C., Kongjaroen, A., & Buathongjan, C. (2021). Food polysaccharides and roles of rheology and tribology in rational design of thickened liquids for oropharyngeal dysphagia: A review. *Comprehensive Reviews in Food Science and Food Safety*, 20, 4101-4119.
- Gamonpilas, C., Buathongjan, C., Kirdsawasd, T., Rattanaprasert, M., Klomtun, M., Phonsatta, N., & Methacanon, P. (2021). Pomelo pectin and fiber: Some perspectives and applications in food industry. *Food Hydrocolloids*, 120, 106981.
- Gamonpilas, C., Buathongjan, C., Sangwan, W., Rattanaprasert, M., Weizman, K.C., Klomtun, M., Phonsatta, N., & Methacanon, P., (2021). Production of low molecular weight pectins via electron beam irradiation and their potential prebiotic functionality, *Food Hydrocolloids*, 113, 106551.
- Ahuja, A., & Gamonpilas, C., (2021). Rheology of thermo-gelling capillary suspensions, *Colloid and Polymer Science*, 299, 165–176.
- Buathongjan, C., Israkarn, K., Sangwan, W., Outrequin, T., Gamonpilas, C. & Methacanon, P., (2020). Studies on chemical composition, rheological and antioxidant properties of pectin isolated from Riang (*Parkia timoriana* (DC.) Merr.) pod, *International Journal of Biological Macromolecules*, 164, 4575-4582.
- Nuampakdee, N., Sinchai, S., & Gamonpilas, C., (2019). Effect of alumina addition on the rheological behavior of shear thickening fluids, *Key Engineering Materials*, 798, 331-336
- Ahuja, A., Peifer, T., Yang, C.C., Ahmad, O. & Gamonpilas, C., (2018). Wall slip and multi-tier yielding in capillary suspensions, *Rheological Acta*, 56, 801-810.
- Gamonpilas, C., Morris, J.M., & Denn, M.M., (2018). Erratum: Shear and normal stress measurements in non-Brownian monodisperse and bidisperse suspensions [J. Rheol. 60(2), 289–296 (2016)], *Journal of Rheology*, 62, 665-667.
- Ahuja, A., & Gamonpilas, C. (2017). Dual yielding in capillary suspensions, *Rheological Acta*, 56, 801-810.
- U-chupaj, J., Malila, Y., Gamonpilas, C., Kijroongrojana, K., Petracci, M., Benjakul, S., & Visessanguan, W. (2017). Differences in textural properties of cooked caponized and broiler chicken breast meat, *Poultry Science*, 96(7), 2491-2500.
- Poonsrisawat, A., Wanlapatit, S., Wansuksri, R., Piyachomkwan, K., Paemane, A., Gamonpilas, C., Eurwilaichitr, L., & Champreda, V., (2016). Synergistic effects of cell wall degrading enzymes on rheology of cassava root mash, *Process Biochemistry*, 51, 2104–2111.
- Gamonpilas, C., Morris, J.M., & Denn, M.M., (2016). Shear and normal stress measurements in non-Brownian monodisperse and bidisperse suspensions, *Journal of Rheology*, 60, 289-296.
- Seetapan, N., Limpanyoon, N., Fuongfuchat, A., Gamonpilas, C., & Methacanon, P., (2016). Effect of freezing rate and starch granular morphology on ice formation and non-freezable water content of flour and starch gels, *International Journal of Food Properties*, 19, 1616-1630.

SELECTED CONFERENCE PRESENTATIONS/POSTERS/ABSTARCTS:

- Buathongjan, C., Sangwan, W., Kirdsawasd, T., Rattanaprasert, M., Weizman, K.C., Klomtun, M., & Methacanon, P., & Gamonpilas, C., (2020). Pomelo pectin and fiber: From texture modifier to a prebiotic potential. 2020 Pacific Rim Conference on Food Hydrocolloid (2020prcfh), China.
- Gamonpilas, C., Buathongjan, C., Sangwan, W., Rattanaprasert, M., Weizman, K.C., Klomtun, M., & Methacanon, P. (2020). Modified pomelo pectin via electron beam and its potential application as a prebiotic, 15th International Hydrocolloids Conference, Melbourne, Australia
- Gamonpilas, C., Teeklee, R., Limprayoon, N, Seetapan, N., Fuongfuchat, A. (2019). Large deformation, fracture and lubrication properties of emulsion-filled gellan gum gels, The 8th International Symposium on Food Rheology and Structure 2019 (ISFRS 2019), Zurich, Switzerland.
- Gamonpilas, C., Benyajati, C., Sritham, W., Soparat, J., Limprayoon, N., Seetapan, N., Fuongfuchat, A. (2019). Rheo-tribology and texture perception of liquid and semi-solid foods, The 2nd Materials Research Society of Thailand International Conference, Pattaya, Thailand
- Buathongjan, C., Methacanon, P., & Gamonpilas, C. (2019). Physicochemical and rheological properties of pectin extracted from young pomelo (*Citrus Maxima*) peels, The Pure and Applied Chemistry International Conference 2019 (PACCON 2019), Bangkok, Thailand.
- Gamonpilas, C., Benyajati, C., Sritham, W., Soparat, J., Limprayoon, N., & Fuongfuchat, A. (2018). Understanding food oral processing through rheo-tribological measurements using an in-house designed tribological cell with a rotational rheometer, The 5th International Conference on Food Oral Processing 2018 (FOP 2018), Nottingham, UK.
- Gamonpilas, C., Morris, J.M., & Denn, M.M., (2017). Viscometric functions of monodisperse and bidisperse non-colloidal suspensions, *The 11th Annual European Rheology Conference (AERC 2017)*, Copenhagen, Denmark.

INTELLECTUAL PROPERTY:

- Thailand Petty Patent application no. 2103002652 (September, 2021) Formulation of reduced-sugar spread and preparation method thereof.
- Thailand Petty Patent application no. 2103002587 (September, 2021) IDDSI fork pressure tester.
- Thailand Petty Patent application no. 2103002588 (September, 2021) IDDSI flow tester
- Thailand Petty Patent application no. 2003001936 (August, 2020) “Method for modification of pomelo pectin by pectin methylesterase”.
- Thailand Petty Patent application no. 2003001937 (August, 2020) “Method for modification of pomelo pectin using synergistic enzyme system for production of low molecular weight and low methoxy pectin”.
- Thailand Petty Patent application no. 2003002380 (September, 2020) “Process for preparing pectic oligosaccharide from pomelo”.

Thailand Petty Patent application no. 2003002428 (September, 2020) “Composition of high nutritious plant protein gel beverage”.

Thailand Patent Application 1801005899 (2018) “Process for making heat and shear resistant modified starch by dry heat treatment with organic acids using semi-dry mixing method” .

Thailand Petty Patent Application 1603001635 (2016) “Synergistic mixture formulation of cell wall degrading enzymes for modifying rheology of cassava root mash in very high gravity fermentation” .

Thailand Patent Application 1401004557 (2014) “Process for preparing pectin-associated cellulose gel from pomelo albedo” .

INDUSTRY PROTOTYPES:

Low-fat pork frankfurter (2016)

RECOGNISED AWARDS AND ACHIEVEMENTS:

2018	Outstanding Contribution in Reviewing in Carbohydrate Polymers
2016	Research Award (Silver award) in Agriculture and Biology, National Research Council of Thailand (NRCT)
2016	Outstanding Contribution in Reviewing in Food Hydrocolloids
2010	Outstanding presentation, the 2nd WMRIF Young Materials Scientist Workshop, BAM, Berlin, Germany
2005	Postdoctoral fellowship under SRF scheme (ICI), Imperial College London
1995	Royal Thai government scholarship

AD-HOC JOURNAL REVIEWERS:

Food Hydrocolloids, Carbohydrate Polymers, Journal of Food Engineering, Food Research International, Food Chemistry, Rheological Acta, Langmuir, Journal of Food Science, Nature Communications, International Journal of Biological Macromolecules, Cereal Chemistry, Journal of Cereal Science, Food & Function, Applied Food Research