



Curriculum Vitae

Institute of Nutrition, Mahidol University (INMU)

999 Phutthamonthon 4 Rd., Salaya, Phutthamonthon

Name (Thai): วิมลพรรณ นัทรหิรัญย์
Name (Eng): Wimonphan Chathiran
E-mail address: wimonphan.cha@mahidol.ac.th
Current position: นักปฏิบัติการวิจัย (Researcher)

Education:

- B.Sc. (Microbiology), Silpakorn University, Thailand (2016)
- M.Sc. (Food Science for Nutrition), Mahidol University, Thailand (2020)

Research Interest and Expertise:

- Qualitative and Quantitative Analysis of Bioactive Compound in Plants and Food Samples
- Develop Analytical Method on Chromatographic Techniques (HPLC, LC, GC) with DAD, FID, and Mass Spectrophotometry
- In vitro Glycemic index
- Fat and Oil extraction and analysis
- Microbiological and Molecular Analysis (Bacteria, Lactic Acid Bacteria /Yeast/Mold Culture and Isolation)

Research Experiences:

Physical and Chemical Analysis in Food and Some of Biological Sample

- Qualitative and Quantitative Analysis of Bioactive Compound Including Metabolomics Analysis, Targeted Phenolic, Flavonoids, in Foods and Biological Samples
- Quantitative Analysis of Cannabinoids in Cannabis Plant Using LC-MS/MS
- Qualitative and Quantitative Analysis of Anthocyanidins Using LC-MS/MS and LC-MS-QTOF
- Develop Analytical Method on Chromatographic Techniques Using LC with UV-DAD and Mass Spectrophotometry, Total Volatile Compound Using HS-GC-MS (Headspace-SPME)
- In vitro Glycemic index
- Fat and Oil extraction and analysis (e.g. Soxhlet, Chemicals and Cold Press Extraction, Peroxide Value, TBARS, Acid Value)
- UV-VIS Spectrophotometry and Colorimetry Technique (e.g. Antioxidant Assay)
- Surface Analysis using SEM

Food Product development

- Formulate and Develop Product Prototype for Both New Food Product and Product Improvement (Participated in the Development of Salad Dressing, High MCT Oil, Fermented Tea, Kombucha, High CLA Fermented Milk, Food for Elderly)
- Organize and Perform Sensory Evaluation



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Microbiological and Molecular Analysis

- Bacteria/Yeast/Mold culture and Isolation
- Lactic Acid Bacteria Identification, Molecular Characterization, and Functionalization (e.g. DNA Extraction, PCR Amplification, Nanodrop and Gel Electrophoresis)
- Screening of Probiotic/Prebiotics Properties in Bacteria
- Screening the Use of Probiotic/Prebiotic/Synbiotic as Piglet Feed

Document Preparation

- Laboratory Report Writing and Conduct Literature Search
- Scientific Manuscript Writing for Publication
- Research Patent preparation under MU-iNT

Training

- Laboratory Trainee (Lactic Acid Bacteria Identification, Molecular Characterization, and Functionalization), *Food & Feed innovation Laboratory, National Science and Technology Development Agency (NSTDA), Thailand (2015)*
- Rapid Detection of Adulteration and Fraud in Foods by FTIR and NMR Techniques, *Chulalongkorn University, Thailand (2018)*
- Capacity Building Workshop "Analysis of Gut Microbiota", *Institute of Nutrition, Mahidol University, Thailand (2019)*
- The General Requirement of ISO/IEC 17025:2017, *Department of Science -Service, Thailand (2020)*
- Chemical laboratory design for safety, *Department of Science Service, Thailand (2021)*
- Analytical Method Validation for Gas Chromatography – Mass Spectrophotometry, *Department of Science Service, Thailand (2021)*
- Sample Preparation by Solid Phase Extraction (SPE), *Department of Science Service, Thailand (2021)*
- Cannabis Series (1-4) Webinar, *Agilent Technologies, Thailand (2021)*
- The suitability of GC Column for selective analysis, *Agilent Technologies, Thailand (2021)*
- Basic Nuclear Magnetic Resonance (NMR) Training Course, *Mahidol University Frontier Research Facility (MU-FRF), Thailand (2022)*
- Principle of FTIR Microscope for Materials Science (On-site training), *Mahidol University Frontier Research Facility (MU-FRF), Thailand (2022)*
- Proteomics Workshop, *Central Instrument Facility (CIF), Mahidol University, Thailand (2022)*
- Brilliant Lipidomics Solutions: Sample Preparation, Discovery and Targeted Approaches (OMIC webinar), *Agilent Technologies, Thailand (2022)*
- Sparkling Sample Preparation Automation Solutions for OMICS Analysis, *Agilent Technologies, Thailand (2022)*
- In-Depth Talk in Look Good & Feel Great by Foodomics *World Tech Enterprise, Thailand (2022)*



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- Introduction to laser microdissection and proteomics & metabolomics applications by mass spectrometry technique, *Mahidol University Frontier Research Facility (MU-FRF) (2023)*
- LC-MS technique and its application in OMICs research, *Faculty of Science, Chulalongkorn University (2023)*
- Assure NMR Metabolic Course, *Mahidol University Frontier Research Facility (MU-FRF) (2023)*
- How to navigate demands in Metabolomics core services, *UC Davis West Coast Metabolomics Center (2023)*
- PTFI Toolbox Training: Plan for Transferring PTFI Tools, *Periodic Table of Food Initiative, American Heart Association, USA (2023)*
- International Training Course on 'Production, Management, and Use of Food Composition Data in Nutrition, *ICMR-National Institute of Nutrition, Hyderabad, Telangana, India (2024)*
- The 2nd Thailand Metabolomics Society (TMS) Conference, *VISTEC, Thailand (2024)*
- Expanding PTFI activities: In -person training metabolomics analysis, *Institute of Nutrition, Mahidol University, Thailand (2024)*
- Multi-omics Interrogation of Fermented Food Microbiomes: How Environment and Cultural Practices Interact to Shape Microbial, *Institute of Nutrition, Mahidol University, Thailand (2024)*
- From Lab to Nutrition: Analytical Approaches to Resistant starch, *Institute of Nutrition, Mahidol University, Thailand (2025)*
- Food EDU courses – Foodomics and Society and The Periodic Table of Food Initiative Science Trainings (2025)
- *Nanopore Workshop Genome Bioinformatics Series 2026, Faculty of Medicine Siriraj Hospital, Mahidol University (2026)*

Publications

National

- The Effect of Bamboo Charcoal on Acrylamide Reduction and Lipid Degradation in Palm Oil During Frying (Proceeding of Academic Science and Technology Conference 2021) Valaya Alongkorn Rajabhat University under the Royal Patronage
- Development of jelly ball for rehydrating the elderly (Poster presentation of International Conference on Biodiversity, Science and Technology, BioSat2024)
- Development of novel protein foam to increase protein intake for elderly (Proceeding of The 10th National Food Engineering Conference: FENETT2024)
- Antimicrobial resistance *Staphylococcus aureus* prevalence in raw milk from Thai organic farms (Proceeding of The 10th National Food Engineering Conference: FENETT2024)



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International

- Climate change-related metabolomics study of raw milk from Thai cattle farms (Poster presentation of the 23rd Edition of International Congress of Nutrition 2025) The French Society of Nutrition and The French Federation of Nutrition, Paris
- Khuropakhonphong, R., Whanmek, K., Purttiponthanee, S., **Chathiran, W.**, Srichamnong, W., Santivarangkna, C., & Trachootham, D. (2021). Bulgarian yogurt relieved symptoms and distress and increased fecal short-chain fatty acids in healthy constipated women: A randomized, blinded crossover controlled trial. *NFS Journal*, 22, 20-31.
- Wispen, S., Somsong, P., Santivarangkna, C., Tiayon, P., **Chathiran, W.**, Matthews, K. R., & Srichamnong, W. (2022). Changes in bioactive compounds, antioxidant activities and chemical properties of pickled tea by-product fermentation: Promising waste management and value-added product. *Fermentation*, 8(10), 472.
- Hayat, M. T., Charoensiddhi, S., Tumpanuvat, T., Srichamnong, W., **Chathiran, W.**, & Jittanit, W. (2025). Comparative effects of milling method and thermal treatment on tamarind seed xyloglucan extraction and product characterisation. *International Journal of Food Science and Technology*, 60(2), vvaf194.
- Gao, J., Srichamnong, W., **Chathiran, W.**, & Matthews, K. R. (2023). Influences of photosensitizer curcumin on microbial survival and physicochemical properties of chicken during storage. *Poultry science*, 102(2), 102417.
- On-Nom, N., Suttisansanee, U., **Chathiran, W.**, Charoenkiatkul, S., Thiyajai, P., & Srichamnong, W. (2023). Nutritional security: Carbohydrate profile and folk remedies of rare edible mushrooms to diversify food and diet: Thailand case study. *Sustainability*, 15(18), 14034.
- Zakaria, N. H., Whanmek, K., Thangsiri, S., **Chathiran, W.**, Srichamnong, W., Suttisansanee, U., & Santivarangkna, C. (2023). Optimization of cold brew coffee using central composite design and its properties compared with hot brew coffee. *Foods*, 12(12), 2412.
- Thangsiri, S., Suttisansanee, U., Koirala, P., **Chathiran, W.**, Srichamnong, W., Li, L., & Nirmal, N. (2024). Phenolic content of Thai Bao mango peel and its in-vitro antioxidant, anti-cholinesterase, and antidiabetic activities. *Saudi Journal of Biological Sciences*, 31(8), 104033.
- **Chathiran, W.**, On-nom, N., Somsong, P., Tiayon, P., Nirarnjan, K., & Srichamnong, W. (2024). The efficacy and lipid degradation properties resulting from corncob biochar treatment for acrylamide reduction in reused palm oil. *Lwt*, 192, 115720.
- Hasbullah, U. H. A., Charoensiddhi, S., Tumpanuvat, T., Srichamnong, W., **Chathiran, W.**, & Jittanit, W. (2025). Comparative study of spray and drum drying technologies on functional properties of tamarind seed xyloglucan at pilot scale. *Drying Technology*, 43(15-16), 2283-2302.



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- Khuropakhonphong, R., Whanmek, K., Purttiponthanee, S., **Chathiran, W.**, Srichamnong, W., Santivarangkna, C., & Trachootham, D. (2025). Corrigendum to “Bulgarian yogurt relieved symptoms and distress and increased fecal short-chain fatty acids in healthy constipated women: A randomized, blinded crossover controlled trial”[NFS Journal, Volume 22, March 2021, Pages 20–31](NFS Journal (2021) 22 (20–31),(S2352364620300298),(10.1016/j. nfs. 2020.12. 005)). NFS Journal, 40, 100243.
 - **Chathiran, W.**, Varatojo, L., Chimasangkanan, J., Saiyasombat, W., & Srichamnong, W. (2025). Effect of Heat Processing on Major Psychoactive Compounds and Total Phenolic Content in Psychotropic Plants: Cannabis (Cannabis Sativa) and Kratom (Mitragyna Speciosa) Leaves. Cannabis and Cannabinoid Research.
 - Saiyasombat, W., Yimpetch, C., **Chathiran, W.**, Chimasangkanan, J., & Srichamnong, W. (2025). Effect of microencapsulation using β -cyclodextrin and β -glucan as coating agents on physicochemical properties and phytocannabinoids retention of cannabis flower oil extract. NFS Journal, 38, 100209.
 - Dhakal, M., Kemsawasd, V., Whanmek, K., **Chathiran, W.**, Intawong, S., Srichamnong, W., ... & Kittibunchakul, S. (2025). Physicochemical characteristics, volatile components and bioactivities of fermented seasoning sauce produced from cricket (*Acheta domesticus*) meal. Future Foods, 11, 100505.
 - Khemthong, C., Thangsiri, S., **Chathiran, W.**, Inthachat, W., Chupeerach, C., Temviriyankul, P., ... & Suttisansanee, U. (2025). The effect of pre-and post-harvesting techniques on phenolics, antioxidant activities and key enzyme inhibitions of commercially available ready-to-drink teas. Journal of Agriculture and Food Research, 21, 101853.