

PATCHA POUNGSOMBAT

PERSONAL INFORMATION

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BRIEF INTRODUCTION

I am a bioinformatician with more than 3 years of experience in 16S rRNA gene amplicon based metagenomic data analysis (microbiome data analysis).

I graduated from King Mongkut's University of Technology Thonburi in 2018 with a Master's degree in bioinformatics and systems biology. Since January 2019, I have been working as a research assistant at the Metabolomics and Systems Biology (MSB) group which is a part of Siriraj Metabolomics and Phenomics Center (SiMPC), Faculty of Medicine Siriraj Hospital. Currently I am working on implemented Quantitative Insights Into Microbial Ecology 2 (QIIME 2), phyloseq, and Linear discriminant analysis Effect Size (LEfSe) for the analysis of human gut and skin microbiome.

Besides research responsibilities, I assist Dr. Sakda Khoomrung with metabolomics data analysis class and supervise several master students from the department of biochemistry and the division of bioinformatics and data management for research, Faculty of Medicine Siriraj Hospital, Mahidol University.

CURRENT POSITION

2019-present: **Research assistant** at the Metabolomics and Systems Biology (MSB) group, Siriraj Metabolomics and Phenomics Center (SiMPC), Faculty of Medicine Siriraj Hospital, Mahidol University.

Supervisor: Dr. Sakda Khoomrung

Responsibilities:

- MS- and NMR-based metabolomics data processing and analysis
- Microbiome (16S rRNA) data analysis
- Integrative data analysis of metabolomics and metagenomic
- Website administrator at <http://metsysbio.com/index.html>

EDUCATION

2014-2018 **King Mongkut's University of Technology Thonburi, Bangkok, Thailand**
Bioinformatics and Systems Biology
Master of Science, GPA 3.69
Research thesis: Computational prediction of non-cytotoxic membrane penetrating peptides.

2010-2014 **King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand**
Department of Biotechnology
Bachelor of Science, GPA 3.57

SKILLS

- Expert in complex data management and analysis
- Versed in machine learning and modeling
- Familiar with UNIX, Matlab, and R programming
- Website administrator

PUBLICATIONS

- 1) Indrati, N., Sumpavapol, P., Samakradhamrongthai, R.S., Phonsatta, N., **Poungsombat, P.**, Khoomrung, S., Panya, A. (2022) *Volatile and non-volatile compound profiles of commercial sweet pickled mango and its correlation with consumer preference*. International journal of Food Science and Technology.
- 2) Anekthanakul, K., Manochewee, S., Chienwichai, K., **Poungsombat, P.**, Limjiasahapong, S., Wanichthanarak, K., Jariyasopit, N., Mathema, V.B., Kuhakarn, C., Reutrakul, V., Phetcharaburanin, J., Panya, A., Phonsatta, N., Visessanguan, W., Pomyen, Y., Sirivatanauksorn, Y., Worawichawong, S., Sathirapongsasuti, N., Kitiyakara, C., and Khoomrung, S. (2021) *Predicting Lupus Membranous Nephritis using Reduced Picolinic Acid to Tryptophan Ratio as a Urinary Biomarker*. iScience.
- 3) Pomyen Y, Wanichthanarak K, **Poungsombat P**, Fahrman J, Grapov D, Khoomrung S (2020). Deep Metabolome: Applications of deep learning in metabolomics and beyond. In press in Computational and structural Biotechnology journal (IF = 6.018)

Grants:

2019-2022 **Center of Excellent for Innovation in Chemistry (PERCH-CIC), 8.28 mTHB**
Co-application: Meabolomics and systembiology for the discovery of novel secondary metabolites from plants: A case study for *Ventilago harmandaina*

2020-2022 **Faculty of Medicine Siriraj Hospital, Mahidol University, 0.49 mTHB**
Co-application: Integrated Metabolomics and Transcriptomics of Lingzhi (*Ganoderma lucidum*)

2020-2021 **Center of Excellent for Innovation in Chemistry (PERCH-CIC), 2.7 mTHB**
Co-application: Development of comprehensive MS- and NMR-based metabolomics platform for biomarker discovery of disease: A case study for the diagnosis of various types of CKD

2020-2023 **Faculty of Medicine Siriraj Hospital, Mahidol University, 2.7 mTHB**
Co-applicant: The study of foot-skin microbiome and metabolomics of Thai naval cadets with pitted keratolysis

2022-2024 **Ministry of Higher Education, Science, Research and Innovation (MHESI), 2.4 mTHB**

Co-applicant: The study of foot-skin microbiome and metabolomics of Thai naval cadets with pitted keratolysis

REFERENCE Available upon request