

# Khwanta Kaewnarin, PhD

10/04/2020

The Metabolomics and Systems Biology (MSB)  
The Department of Biochemistry, Siriraj Metabolomics and Phenomics Center (SiMPC)  
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## Personal information

Place of birth: Uttaradit, Thailand  
Citizenship: Thai

## Educations & trainings

- 2008 - 2014:** Doctoral degree (Ph.D.) in Biotechnology (majoring Biochemistry & Biochemical Technology), Faculty of Science, Chiang Mai University, Thailand
- 2006 - 2008:** M. Sc. in Biotechnology, Faculty of Science, Chiang Mai University, Thailand
- 2001 - 2005:** B.Sc. in Biochemistry & Biochemical Technology (Chemistry), Faculty of Science, Chiang Mai University, Thailand

## Positions & Employments

- 2019-present:** *Project Leader of LC-MS-based;* MSB group, Department of Biochemistry, and SiMPC, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand
- 2019-present:** *Project coordinator:* Metabolomics and microbiome in human affected by Asiatic juice and fiber added Asiatic juice
- 2016- 2018:** *R & D Scientist;* Life Science and Chemical Technology, Ngee Ann Polytechnic, Singapore.
- 2015 - 2016:** *Post Doc,* Department of Biology, Faculty of Science, Chiang Mai University, Thailand
- 2005- 2014:** *Part-time analyst,* Science & Technology Service Center, Chiang Mai University, Thailand
- 2014-2015: *Research assistant;* Development of Lanna Purple Rice to an Industrial Level: Bioactive Compounds Extraction and Separation Process Development from Lanna Purple Rice For Industrial Uses, Department of Chemistry, Chiang Mai University, Chiang Mai, Thailand
- 2004- 2012: *Research assistant;* Department of Chemistry, Chiang Mai University, Chiang Mai, Thailand

## SKILLS AND EXPERIENCE

For more than 10 years of extensive research experience in functional foods, natural products, bioactive compounds of plants and mushrooms. Significant research project in characterization and identification of bioactive compounds, biological activities of functional foods, microbiology and fermentation technology. Proven ability to manage challenging schedules while working in complex and highly-demanding environments and organizational capabilities.

### Key Grants

**2018–2020** Biosynthesis of novel mushroom secondary metabolites as anti-aging consumer care ingredients  
Co-PI for A\*Star project grant, Agency for Science, Technology & Research, Singapore

### Industrial collaborators

Lanna Products Co., Ltd.,  
Thailand, Royal Project Foundation, Thailand

### Position of Trust

**2019- Member** of Thailand Metabolomics Society, Thailand

### Other

- **Hands-on experience with instruments:**

High resolution mass spectrometry: LC-qTof-MS, LC-IM-qTof-MS:> 1 year

LC-MS/MS (single and triple quadruple): **3 years**

HPLC (UV): >10 **years**(validation method for quantitative analyses in food ingredients, water quality pharmaceutical materials and agricultural products)

- **Software:**

Masslynx, Progenesis QI, Driftscope, Agilent Chemstation, Shimadzu mass spectrometry LC-MS 8030

### Publication/ conference presentations

1. **Kaewnarin K**, Suwannarach N, Kumla J, Choonpicharn, S and Lumyong S (2020). Characterization of polysaccharides from wild edible mushrooms from Thailand and Their antioxidant, antidiabetic and antihypertensive activities. *International Journal of Medicinal Mushrooms*, 22 (3):221-233.
2. **Kaewnarin K**, Suwannarach N, Kumla J, Lumyong S, Phenolic Profile of Various Wild Edible Mushroom Extracts from Thailand and Their Antioxidant Properties, Tyrosinase and Hyperglycemic Inhibitory Activities. *Journal of Functional Foods*. 2016, 27, 352-364
3. Tanruean K, **Kaewnarin K**, Suwannarach N, Kumla J, Lumyong S, Comparative Evaluation of Phytochemicals, and Antidiabetic and Antioxidant Activities of *Cuscuta reflexa* Grown on Different Hosts in Northern Thailand, *Natural Products communication*, 2017, 12(1), 51-54.
4. **Kaewnarin K**, Rakariyatham N, Inhibitory Effects of Phenolic compounds in *Ocimum sanctum* extract on the  $\alpha$ -glucosidase activity and the formation of advanced glycation end-products. *Chiang Mai Journal of Science*, 2015, 51, 1-13.
5. **Kaewnarin K**, Niamsup H, Shank L, Rakariyatham N, Antioxidant and Antiglycation Activities of Some Edible and Medicinal Plants, *Chiang Mai Journal of Science*, 2014, 41 (1), 1-14.
6. Tanruean K, **Kaewnarin K**, Rakariyatham N, Antibacterial and antioxidant activities of *Anethum graveolens* L. dried fruit extracts, *Chiang Mai Journal of Science*, 2014, 41(3), 649-660.
7. **Kaewnarin K**, Niamsup H, Shank L, Rakariyatham N, Inhibitory Effects of Lamiaceae Plants on the Formation of Advanced Glycation Endproducts (AGEs) in Model Proteins, *Journal of Medical and Bioengineering*, 2013, 2(4), 224-227.

### Invited Lecture/Talk

Teaching assistant (TA) for Laboratory class, Department of Chemistry,  
Faculty of Science, Chiang Mai University

203115 Introduction to Chemistry for Science Students	May 2007
203108 Introduction to Chemistry for Science Students	October 2007
211317 Introduction to Biochemistry for Science Students	May 2008
211319 Introduction to Biochemistry for Non-Science Students	May 2009-2012

### Poster presentation/oral presentation

1. **Kaewnarin, K.** Geng, A. Phytochemicals of Culinary Plants in Thailand. BESS conference on sustainable production of molecules. 16-18 May 2018, National of University of Singapore, Singapore.
2. **Kaewnarin K,** Niamsup H, Shank L, Rakariyatham N, Inhibitory Effects of Lamiaceae Plants on the Formation of Advanced Glycation Endproducts (AGEs) in Model Proteins, The 2<sup>nd</sup> International Conference on Biotechnology and Food Engineering-ICBFE 2013, 24-25<sup>th</sup> August, 2013, Singapore.
3. **Kaewnarin K,** Rakariyatham N, Effects of Thai edible plants on lipofuscin and reactive oxygen species (ROS) formation in *Caenorhabditis elegans*, PERCH-CIC congress VII Chemistry Environment and Society (2011), 4-7<sup>th</sup> May 2011, Jotien Palmbeach Hotel and Resort, Pattaya, Chonburi, Thailand.
4. **Kaewnarin K,** Rakariyatham N, Screening for antioxidant and antiglycation properties of Thai indigenous plants, International Conference on Biotechnology for Health living: The 22<sup>nd</sup> Annual Meeting of The Thai society for Biotechnology (TSB2010), 20-22<sup>nd</sup> October 2010, Prince of Songkla University, Trang campus, Thailand.
5. **Kaewnarin K,** Rakariyatham N, Antioxidant and antiglycation properties of *Allium species* , The International Congress for Innovation in Chemistry (PERCH-CIC Congress VI), 3-6<sup>th</sup> May 2009, Jomtien Palmbeach Hotel and Resort, Chonburi, Thailand.
6. **Kaewnarin K,** Rakariyatham N, Effects of Microwave Heat Treatment on Enzymatic Browning Activities in Dried Longan Pulp, The 6<sup>th</sup> Asian Crop Science Association Conference and the 2<sup>nd</sup> International Conference on Rice for the Future within the Framework of BioAsia 2007, 5-9<sup>th</sup> Nov. 2007, The Queen Sirikit National Convention Center in Bangkok, Thailand.

### **Workshop (Attendance)**

**2017:** Cosmetic 360° innovations and solutions in Paris, France, 18-19 October 2017

**2015:** Staff, Diagnostics of Ascomycete Fungi: Bioinformatics and Reporting Workshop. Jointly sponsored by the Australina Government Department of Agriculture, and the ASEAN-Australia-New Zealand Free Trade Area Economic Cooperation Work Programme. 5-9 October 2015, Chiang Mai, Thailand.

**2015:** Staff, training of Application of mycorrhiza for sustainable agriculture. 24 July 2015. Department of Biology, Faculty of Science, Chiang Mai University, Chiang Mai, Thailand.

**2012:** Staff, Pure and Applied Chemistry International Conference (PACCON2012), The Empress Hotel & Convention Center, 11<sup>st</sup>-13<sup>rd</sup> January 2012

**2012:** Staff, short collaborative research for foreign students from California State University, Fullerton campus, California, USA, 2011 and 2012