

**CURRICULUM VITAE**  
**NARUMOL JARIYASOPIT, Ph.D.**

Metabolomics and Phenomics Center, Faculty of Medicine Siriraj Hospital  
2 Wanglang Road, Siriraj, Bangkok-noi, Bangkok, Thailand, 10700  
**VOICE:** (+66)099-414-6495, (+1)541-224-8146   **E-mail:** [narumoljariyasopit@gmail.com](mailto:narumoljariyasopit@gmail.com)

---

**EDUCATION**

- Ph.D. in Analytical Chemistry** **2008-2013**  
Oregon State University, Corvallis, Oregon, U.S.A.  
Dissertation: *The Atmospheric Chemistry of Particulate-bound Polycyclic Aromatic Hydrocarbons: Concentration, Prediction, Laboratory Studies, and Mutagenicity*
- B.Sc. in Chemistry, *summa cum laude*** **2005-2007**  
Oregon State University, Corvallis, Oregon, U.S.A.
- B.B.A. in Accounting, *graduated with honors*** **1997-2001**  
Minor in Management Information System  
Thammasat University, Bangkok, Thailand

**EMPLOYMENT HISTORY**

- Researcher** **2018-Present**  
*Siriraj Metabolomics and Phenomics Center (SiMPC)*  
*Faculty of Medicine, Siriraj Hospital Mahidol University, Thailand*
- Research Scientist** **2018**  
*Expert Centre of Innovative Clean Energy and Environment,*  
*Thailand Institute of Scientific and Technological Research, Nonthaburi,*  
*Thailand*
- Postdoctoral Research Scientist** **2013-2017**  
*Air Quality Research Division, Science and Technology Branch,*  
*Environment and Climate Change Canada, Toronto, Canada*
- Graduate Research Assistant and Graduate Teaching Assistant** **2008-2013**  
*Chemistry Department, Oregon State University, Corvallis, Oregon. U.S.A.*
- Undergraduate Research Assistant** **2007-2008**  
*Chemistry Department, Oregon State University, Corvallis, Oregon, U.S.A.*
- Undergraduate Student Intern** **2006-2007**  
*Oregon State University's International Cultural Service Program*  
*and for Crossroads International, Oregon, U.S.A.*

**Senior Assistant Auditor** 2001-2004  
*Deloitte Touche Tohmatsu Jaiyos, Bangkok, Thailand*

**Undergraduate Student Intern** 2000  
*Audit and Business Advisory Services Department  
PricewaterhouseCoopers Company Limited, Bangkok, Thailand*

### **FUNDING SECURED**

**Office of the Ministry of Higher Education, Science, Research and Innovation** Jun 2022  
(2.4 M THB/1 year) Co-investigator

**National Research Council of Thailand and Mahidol University** Mar 2022  
(1.5 M THB/3 years) Principal Investigator

**National Research Council of Thailand and Mahidol University** Sep 2020  
(600k THB/2 years) Principal Investigator

**Faculty of Medicine Siriraj Hospital** May 2020  
(490k THB/2 years) Co-investigator

**Faculty of Medicine Siriraj Hospital** Aug 2020  
(2.7 million THB/2 years) Co-investigator

**Mahidol University** Sep 2019 – Aug 2022  
(3.34 million THB/year) Co-investigator

### **AWARDS AND SCHOLARSHIP**

**Graduate Student Award** 2012  
Environmental Chemistry Division of the American Chemical Society

**Oregon Lottery Graduate Scholarship** 2011-2012

**Best Student Poster Presentation Award** 2011  
International Symposium on Polycyclic Aromatic Compounds (ISPAC) 23<sup>rd</sup>,  
Munster, Germany

## **TEACHING AND MENTORING EXPERIENCE**

### **Course Lectures**

Faculty of Medicine, Siriraj Hospital, Mahidol University **2019 - Present**

- Molecular Biology Techniques in Biomedical Science (guest lecturer)
- Biochemistry Laboratory (guest lecturer)

### **Mentor/Supervisor**

Faculty of Medicine, Siriraj Hospital, Mahidol University **2019 - Present**

- 1 Postdoctoral fellow (Co-supervisor)
- 2 Ph.D. student (Co-supervisor)
- 3 Master's students (Co-supervisor)

Environment and Climate Change Canada

**2013-2017**

- 7 Undergraduate student interns (Co-supervisor)
- 5 Master's student interns (Co-supervisor)

### **Graduate Teaching Assistant**

**2008-2012**

Oregon State University

- General Chemistry
- Chemistry for Engineering Majors

## **LICENSURE & PROFESSIONAL AFFILIATIONS**

2004 - Present     - Certified Public Accountant, Thailand  
                             - Member of Thai Federation of Accounting Professions

## PUBLICATIONS

---

29. Kurilung A, Limjiasahapong S, Kaewnarin K, Wisanpitayakorn P, **Jariyasopit N**, Wanichthanarak K, Sartyoungkul S, Wong SC, Sathirapongsasuti N, Kitiyakara C, Sirivatanauksorn Y. Measurement of very low-molecular weight metabolites by traveling wave ion mobility and its use in human urine samples. *Journal of Pharmaceutical Analysis*. 2023 Dec 16.
28. Kurilung A, Limjiasahapong S, Kaewnarin K, Wisanpitayakorn P, **Jariyasopit N**, Wanichthanarak K, Sartyoungkul S, Wong SC, Sathirapongsasuti N, Kitiyakara C, Sirivatanauksorn Y. Measurement of very low-molecular weight metabolites by traveling wave ion mobility and its use in human urine samples. *Journal of Pharmaceutical Analysis*. 2023 Dec 16.
27. Thongkongkaew T, **Jariyasopit N**, Khoomrung S, Siritutsoontorn S, Jitrapakdee S, Kittakoop P, Ruchirawat S. Anti-Xanthine Oxidase 5'-Hydroxyhericenones A–D from the Edible Mushroom *Hericium erinaceus* and Structure Revision of 3-[2, 3-Dihydroxy-4-(hydroxymethyl) tetrahydrofuran-1-yl]-pyridine-4, 5-diol. *ACS omega*. 2023 Nov 21.
26. **Jariyasopit N**, Khoomrung S. Mass spectrometry-based analysis of gut microbial metabolites of aromatic amino acids. *Computational and Structural Biotechnology Journal*. 2023 Sep 26.
25. **Jariyasopit N**, Limjiasahapong S, Kurilung A, Sartyoungkul S, Wisanpitayakorn P, Nuntasaen N, Kuhakarn C, Reutrakul V, Kittakoop P, Sirivatanauksorn Y, Khoomrung S. Travelling wave ion mobility-derived collision cross section database for plant specialized metabolites : An application to *Ventilago harmandiana* Pierre. *Journal of Proteome Research*. 2022 Sep 25.
24. Duangkumpha K, **Jariyasopit N**, Wanichthanarak K, Dhakal E, Wisanpitayakorn P, Thotsiri S, Sirivatanauksorn Y, Kitiyakara C, Sathirapongsasuti N, Khoomrung S. GC× GC-TOFMS Metabolomics Analysis Identifies Elevated Levels of Plasma Sugars and Sugar Alcohols in Diabetic Mellitus Patients with Kidney Failure. *Journal of Biological Chemistry*. 2022 Aug 31:102445.
23. Mathema VB, Duangkumpha K, Wanichthanarak K, **Jariyasopit N**, Dhakal E, Sathirapongsasuti N, Kitiyakara C, Sirivatanauksorn Y, Khoomrung S. CRISP: a deep learning architecture for GC× GC-TOFMS contour ROI identification, simulation and analysis in imaging metabolomics. *Briefings in Bioinformatics*. 2022 Jan 11.
22. Anekthanakul K, Manochewa S, Chienwichai K, Pounsombat P, Limjiasahapong S, Wanichthanarak K, **Jariyasopit N**, Mathema VB, Kuhakarn C, Reutrakul V, Phetcharaburanin J. Predicting lupus membranous nephritis using reduced picolinic acid to tryptophan ratio as a urinary biomarker. *Iscience*. 2021 Nov 19;24(11):103355.
21. Halappanavar S, Wu D, Boyadzhiev A, Solorio-Rodriguez A, Williams A, **Jariyasopit N**, Saini A, Harner T. Toxicity screening of air extracts representing different source sectors in the Greater Toronto and Hamilton areas: In vitro oxidative stress, pro-inflammatory response, and toxicogenomic analysis. *Mutation Research/Genetic Toxicology and Environmental Mutagenesis*. 2021 Dec 1;872:503415.
20. Kaewnarin K, Limjiasahapong S, **Jariyasopit N**, Anekthanakul K, Kurilung A, Wong SC, Sirivatanauksorn Y, Visessanguan W, Khoomrung S. High-Resolution QTOF-MRM for Highly Accurate Identification and Quantification of Trace Levels of Triterpenoids in Ganoderma

lucidum Mycelium. *Journal of the American Society for Mass Spectrometry*. 2021 Aug 20;32(9):2451-62.

19. Vasiljevic T, **Jariyasopit N**, Schuster JK, Harner T. Insights into sources and occurrence of oxy- and nitro-PAHs in the alberta oil sands region using a network of passive air samplers. *Environmental Pollution*. 2021 Jun 6:117513.
18. **Jariyasopit N**, Harner T, Shin C, Park R. The effects of plume episodes on PAC profiles in the athabasca oil sands region. *Environmental Pollution*. 2021 Mar 24:117014.
17. **Jariyasopit N**, Khamsaeng S, Panya A, Vinaisuratarn P, Metem P, Asawalertpanich W, Visessanguan W, Sirivatanauksorn V, Khoomrung S. Quantitative analysis of nutrient metabolite compositions of retail cow's milk and milk alternatives in Thailand using GC-MS. *Journal of Food Composition and Analysis*. 2021 Apr 1;97:103785.
16. Limjiasahapong S, Kaewnarin K, **Jariyasopit N**, Hongthong S, Nuntasaeen N, Robinson JL, Nookaew I, Sirivatanauksorn Y, Kuhakarn C, Reutrakul V, Khoomrung S. UPLC-ESI-MRM/MS for Absolute Quantification and MS/MS Structural Elucidation of Six Specialized Pyranonaphthoquinone Metabolites From Ventilago harmandiana. *Frontiers in plant science*. 2021 Jan 11;11:2038.
15. Saini A, Harner T, Chinnadhurai S, Schuster JK, Yates A, Sweetman A, Aristizabal-Zuluaga BH, Jiménez B, Manzano CA, Gaga EO, Stevenson G, Falandysz J, Ma J, Miglioranza KSB, Kannan K, Tominaga M, **Jariyasopit N**, Rojas NY, Amador-Muñoz O, Sinha R, Alani R, Suresh R, Nishino T, Shoeib T. GAPS-Megacities: A new global platform for investigating persistent organic pollutants and chemicals of emerging concern in urban air. *Environmental Pollution*. 2020 Dec 1;267:115416.
14. Gaga EO, Harner T, Dabek-Zlotorzynska E, Celo V, Evans G, Jeong CH, Halappanavar S, **Jariyasopit N**, Su Y. Polyurethane Foam (PUF) disk samplers for measuring trace metals in ambient air. *Environmental Science & Technology Letters*. 2019 Aug 15;6(9):545-50.
13. **Jariyasopit N**, Tung P, Su K, Halappanavar S, Evans GJ, Su Y, Khoomrung S, Harner T. Polycyclic aromatic compounds in urban air and associated inhalation cancer risks: A case study targeting distinct source sectors. *Environmental pollution*. 2019 Sep 1;252:1882-91.
12. Saini A, Clarke J, **Jariyasopit N**, Rauert C, Schuster JK, Halappanavar S, Evans GJ, Su Y, Harner T. Flame retardants in urban air: a case study in Toronto targeting distinct source sectors. *Environmental pollution*. 2019 Apr 1;247:89-97.
11. Harner T, Rauert C, Muir D, Schuster JK, Hsu YM, Zhang L, Marson G, Watson JG, Ahad J, Cho S, **Jariyasopit N**, Kirk J, Korosi J, Landis MS, Martin JW, Zhang Y, Femie K, Wentworth GR, Wnorowski A, Dabek E, Charland JP, Pauli B, Wania F, Galarneau E, Cheng I, Makar P, Whaley C, Chow JC, Wang X. Air synthesis review: polycyclic aromatic compounds in the oil sands region. *Environmental Reviews*. 2018;26(4):430-68.
10. **Jariyasopit N**, Zhang Y, Martin JW, Harner T. Comparison of polycyclic aromatic compounds in air measured by conventional passive air samplers and passive dry deposition samplers and contributions from petcoke and oil sands ore. *Atmospheric Chemistry and Physics*. 2018 Jun 29;18(12):9161-71.
9. **Jariyasopit N**, Harner T, Wu D, Williams A, Halappanavar S, Su K. Mapping indicators of toxicity for polycyclic aromatic compounds in the atmosphere of the Athabasca oil sands region. *Environmental science & technology*. 2016 Oct 18;50(20):11282-91.
8. **Jariyasopit N**, Liu Y, Liggio J, Harner T. Stability of polycyclic aromatic compounds in

polyurethane foam-type passive air samplers upon O<sub>3</sub> exposure. *Atmospheric Environment*. 2015 Nov 1;120:200-4.

7. **Jariyasopit N**, Zimmermann K, Schrlau J, Arey J, Atkinson R, Yu TW, Dashwood RH, Tao S, Simonich SL. Heterogeneous reactions of particulate matter-bound PAHs and NPAHs with NO<sub>3</sub>/N<sub>2</sub>O<sub>5</sub>, OH radicals, and O<sub>3</sub> under simulated long-range atmospheric transport conditions: Reactivity and mutagenicity. *Environmental science & technology*. 2014 Sep 2;48(17):10155-64.
6. **Jariyasopit N**, McIntosh M, Zimmermann K, Arey J, Atkinson R, Cheong PH, Carter RG, Yu TW, Dashwood RH, Massey Simonich SL. Novel nitro-PAH formation from heterogeneous reactions of PAHs with NO<sub>2</sub>, NO<sub>3</sub>/N<sub>2</sub>O<sub>5</sub>, and OH radicals: prediction, laboratory studies, and mutagenicity. *Environmental science & technology*. 2014 Jan 7;48(1):412-9.
5. Zimmermann K, **Jariyasopit N**, Massey Simonich SL, Tao S, Atkinson R, Arey J. Formation of nitro-PAHs from the heterogeneous reaction of ambient particle-bound PAHs with N<sub>2</sub>O<sub>5</sub>/NO<sub>3</sub>/NO<sub>2</sub>. *Environmental science & technology*. 2013 Aug 6;47(15):8434-42.
4. **Jariyasopit N**, Wang W, Schrlau J, Jia Y, Tao S, Yu TW, Dashwood RH, Zhang W, Wang X, Simonich SL. Concentration and photochemistry of PAHs, NPAHs, and OPAHs and toxicity of PM<sub>2.5</sub> during the Beijing Olympic Games. *Environmental science & technology*. 2011 Aug 15;45(16):6887-95.
3. Simonich SL, Motorykin O, **Jariyasopit N**. PAH intermediates: Links between the atmosphere and biological systems. *Chemico-biological interactions*. 2011 Jun 30;192(1-2):26-9.
2. Kirkpatrick R, Masiello T, **Jariyasopit N**, Nibler JW, Maki A, Blake TA, Weber A. High-resolution rovibrational study of the Coriolis-coupled v<sub>12</sub> and v<sub>15</sub> modes of [1.1. 1] propellane. *Journal of Molecular Spectroscopy*. 2009 Jan 1;253(1):41-50.
1. Kirkpatrick R, Masiello T, **Jariyasopit N**, Weber A, Nibler JW, Maki A, Blake TA, Hubler T. High resolution infrared spectroscopy of [1.1. 1] propellane. *Journal of Molecular Spectroscopy*. 2008 Apr 1;248(2):153-60.