

# Sompoke Kingkaew

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## EDUCATION

### **PhD Candidate in Environmental Engineering and Management**

2015-Pesent Asian Institute of Technology (AIT), Thailand. A Special Study: "Development of Near Real-Time Emission Estimation for Northern Thailand". PhD Dissertation: "Estimation of Biomass Open Burning Emissions for Air Quality Forecast during Haze Pollution in Northern Thailand".

### **M.Sc. in Environmental Engineering and Management**

2011-2013 Asian Institute of Technology (AIT), Thailand. Master Thesis: "Application of Photochemical Smog Modeling System for Ozone Air Quality Management in Bangkok Metropolitan Region (BMR) under Transport Fuel Scenarios".

### **B.Sc. (Honors) Public Health (Environmental Health Science)**

2007-2011 Faculty of Public Health, Mahidol University, Bangkok, Thailand. Senior Project: "Application of the AAMA Community Noise Modeling on Traffic Noise Level Estimation in Different Residential Areas of Bangkok Vicinity".

## PROFESSIONAL EXPERIENCE

Oct 2015 - Present	Full-time Lecturer, Thammasat University (Rangsit Center)
Jun 2013 - Mar 2015	Research Associate, Asian Institute of Technology (AIT)
Mar-May 2010	Intern, TEAM Consulting, Bangkok, Thailand

## TEACHING

- Air Pollution Management and Control
- Environmental Health Engineering
- Modeling for Environmental and Occupational Health
- GIS and Database Applications in Environmental Health Information System

## RESEARCH AREAS

- Air quality and climate modeling (e.g., WRF-Chem, WRF-CAMx)
- Emission inventory of air pollutants and climate forcers
- GIS and remote sensing for environmental management
- Ambient air quality monitoring focusing on fine particulate matter

## RESEARCH INTEREST

- Near real-time air quality modelling and management
- Atmospheric remote sensing and its applications
- Short-lived climate pollutant mitigations and climate adaptation
- Deposition of atmospheric pollutants and effects of marine environment

## PAST AND CURRENT PROJECTS

Jul 21-Sep 22 [PI]:	Development of PM2.5 assimilative capacity forecasting system for effectively reducing PM2.5 emission from open burning activities at local administrative levels in Thailand (Funding: National Research Council of Thailand)
May 21-Sep 22 [Co-PI]:	Contribution of Inside and Outside-city Air Pollution Sources to the PM2.5 Concentration of the Mitigation Measures of the Transport Sector in Bangkok (Funding: National Research Council of Thailand)
2021-2024 [Co-PI]:	e-Asia Project: Health Impacts of Climate Change in Thailand: Current Impacts and Its Implication (Funding: National Research Council of Thailand)
Jul-Sep 20 [PI]:	Compilation of Emission Factors for Crop Residue Open Burning (Funding: Pollution Control Department)
Jul-Aug 20 [PI]:	Automated WRF Processing (Funding: Pollution Control Department of Thailand)
May-Aug 20 [PI]:	The Study of Infectious Waste Management in Thailand and Recommendations on Framework of Management Policy (Funding: Department of Health, Ministry of Public Health)
Jan-Aug 20 [PI]:	Development of Emission Inventory for Transport Sector in Thailand under Scenarios of Alternative National PM2.5 Management Policy (Funding: TDRI)

2019-2020 [Co-PI]:	Development of Air Quality Data Management System for Bangkok Metropolitan Administration (Funding: Sithiporn Associates Co., Ltd.)
2018 [Co-PI]:	Reducing Mercury Emission from Coal Combustion in the Energy Sector in Thailand (Funding: UN Environment)
2012-2014 [RA]:	Study of Ground-level Ozone in Bangkok Metropolitan Region by Advanced Mathematical Modeling for Air Quality Management. Emission reduction scenarios is developed and simulated to identify the most appropriate measures to reduce ozone concentration over the domain. (Funding: PTT Public Co., Ltd.)

#### **SELECTED CONFERENCE PRESENTATIONS:**

- Diwatthanaphong S., Seesoddee T., Suwanrerak S., Pajjityotee K., and Kingkaew S. (2019). Roadside Fine Particulate Matter and Its Bounded Heavy Metals in Bangkok and Pathumthani, Thailand. In National Conference on Air Quality in Thailand: PM 2.5, Bangkok.
- Kingkaew S., Pajjityotee K. and Eaktasang N. (2019). Development of a next-day prediction for spatial PM2.5 distribution in Bangkok Metropolitan Region, Thailand. In TU-KU-MU-NAVY Conference 2019, Thammasat University, Pathumthani.
- Pajjityotee K., Rachachan S., and Kingkaew S. (2019). Fine particulate matter concentrations and size distributions during the post monsoon in northern Bangkok Metropolitan Region, Thailand. In the 2nd National Environmental Conference, Mahasarakham.
- Chommanee K., Pajjityotee K., and Kingkaew S. (2019). Health risk assessment of particulate matter exposure from different means of public transport in Bangkok, Thailand. In the 2<sup>nd</sup> National Environmental Conference, Mahasarakham.
- Kingkaew, S. & Eaktasang, N. (2018). Contribution of Transboundary Emissions of Biomass Open Burning to Haze Pollution in Bangkok Metropolitan Region, Thailand. In The 10th Better Air Quality Conference 2018, Kuching, Malaysia.
- Pajjityotee K., Sithprasert C., Wootisen W., and Kingkaew S. (2018). Thunderstorm Risk Mapping in Thailand. National Environmental Conference on Environment, Energy, and Health 2018, 76-77.

- Kingkaew, S. (2017). Variations of PM<sub>2.5</sub>-to-PM<sub>10</sub> ratios in Bangkok Metropolitan Region, Thailand [Poster]. In The Third Workshop on Atmospheric Composition and Asian Monsoon, Guangzhou, China.
- Permadi D.A., Kim Oanh, N.T., Kingkaew, S. & Chatchupong, T. (2016). Photochemical smog modeling for ozone air quality management in Bangkok Metropolitan Region [Poster]. In The International Global Atmospheric Chemistry (IGAC) Project 2016 Science Conference, CO, USA.
- Kingkaew, S., Kim Oanh, N. T. & Permadi, D. A. (2015). Development of a high spatial resolution emission inventory and application of ozone air quality simulation in Bangkok Metropolitan Region, Thailand [Poster]. In The Second Workshop on Atmospheric Composition and the Asian Summer Monsoon (ACAM), Bangkok, Thailand.
- Chatchupong, T., Kingkaew, S., Permadi, D.A. & Oanh, N.T. (2014) Ozone air quality management in Bangkok Metropolitan Region, Thailand: PTT scientifically perspective strategies and plan. In The Air and Waste Management Association's Annual Conference and Exhibition, AWMA, CA, USA. 2, pp. 1345-1349.

**BOOK CHAPTER:**

- Kim Oanh, N.T., Pongkiatkul, P., Kingkaew, S. & Surapipith, V. (2015). Chapter 2: Air quality management in Bangkok Metropolitan Region, Thailand. In Kim Oanh, N.T. (Eds.), Air pollution research network for improving air quality in Asian developing countries: Compilation of findings. NARENCA, ISBN: 978-604-904-410-6, pp. 19-40.

**STUDENT SENIOR PROJECTS:**

- Diwatthanaphong S., Seesoddee T., and Suwanrerk S. (2019). Roadside Fine Particulate Matter and Its Bounded Heavy Metals in Bangkok and Pathumthani, Thailand.
- Kantachai Pajjityotee and Satita Rachachan (2019). Fine particulate matter concentrations and size distributions during the post monsoon in northern Bangkok Metropolitan Region, Thailand
- Kanittha Chommanee and Kantachai Pajjityotee (2019). Health risk assessment of particulate matter exposure from different means of public transport in Bangkok, Thailand (Poster presentation in the 2<sup>nd</sup> National Environmental Conference)

- Kantachai Paijityotee, Chanpen Sitprasert and Wissuta Woothisen (2018). Thunderstorm Risk Mapping in Thailand (Received the best poster presentation award in the 1<sup>st</sup> National Environmental Conference in climate change section)
- Racha Samermirt and Rachaya Intarawichai (2017). Health effects of biomass open burning emission on residing students in a university campus of Thailand

### **AWARDS AND HONORS**

- Sep 2019 Received the “First Runner-up” in Entrepreneurship Poster Competition, AIT
- May 2013 Received “The Robert B. Banks Prize” represented the most outstanding student in Environmental Engineering and Management, AIT.
- Jul 2011 The most outstanding student of Faculty of Public Health, Mahidol University.
- Nov 2009 The most outstanding student prize” in Public Health from Prof.Tab Neelaniti’s Foundation, Bangkok, Thailand.

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