




Kronnaphat KHUMVONGSA

Postdoctoral Researcher

Nationality: Thai Birthday: 03/02/1986

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 466-0834 Aichi, Nagoya, Showa-ku

EDUCATION

- Kasetsart University
Bachelor of Environmental Engineering
Completed in April 2008
- University of Queensland
Master of Environmental Management
Completed in June 2014
- Nagoya University
Master of Global Environmental Leaders Program
Completed in March 2021
- Nagoya University
Doctor of Engineering
Completed in March 2026

CONFERENCES

- 14th ISIE-SEM 2022 conference, Vienna, Australia (Poster Presentation)
- 2024 Joint ISIE SEM and Asia-Pacific Conference, Beijing, China (Oral Presentation)

AWARDS

May 2007 | Industrial Estate Authority of Thailand

Certificate of Appreciation for Cleaner Technology Program

February 2014 | Dean's Commendation for High Achievement

Top 6.7 percent of students in the faculty

RESEARCH THEME

Spatiotemporal analysis of material stock efficiency associated with resource consumption and waste generation in response to climate and socioeconomic change: how to optimize circular economy and pollution reduction potential within the limited social capability, policy, and natural resource?

WORK EXPERIENCE

Axis Engineering Consultants Co., Ltd. | Environmental Engineer
June 2008 – February 2011

Water and wastewater treatment design and supervisor during operation, including Biogas System.

EN-Technology Consultants Co., Ltd. | Environmental Engineer
October 2014 – February 2017

Solid waste treatment design, transport, and disposal [cooperation with the Department of Industrial Works, Ministry of Industry].

QUALIFICATIONS

Registration Certificate of Wastewater/Solid Waste Treatment System Supervisor (Thailand)

2008 – Present

License for Professional Practice in the Field of Associate Environmental Engineer (Thailand)

2010 – Present

AFFILIATED ACADEMIC SOCIETIES

International Society for Industrial Ecology:
Socioeconomic Metabolism (ISIE-SEM)
2022 – Present

SKILLS

- ArcGIS
- HDM-4
- Stella
- Vensim
- RStudio
- Canva
- AutoCAD
- Acrobat / Photoshop
- Microsoft Office

REFERENCES

Prof. Hiroki TANIKAWA

Nagoya University, Graduate School of Environmental Studies / Dean

052-789-3840

tanikawa.hiroki.z7@f.mail.nagoya-u.ac.jp

Assoc. Prof. Hiroaki SHIRAKWA

Nagoya University, Environmental System Analysis Planning Laboratory

052-789-3840

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PUBLISHED PAPERS

- 1) Uncovering urban transportation infrastructure expansion and sustainability challenge in Bangkok: Insights from a material stock perspective, *Journal of Industrial Ecology* 27(2) (2023), 476-490, Authors: **Kronnaphat Khumvongsa**, Jing Guo, Suthida Theeparaksapan, Hiroaki Shirakawa, Hiroki Tanikawa
- 2) How did traffic and climate situations worsen material consumption and waste from road infrastructure in Bangkok?, *Journal of Resources, Conservation and Recycling* 222 (2025), 108462, Authors: **Kronnaphat Khumvongsa**, Jing Guo, Suthida Theeparaksapan, Varameth Vichiensan, Masatoshi Hasegawa, Hiroaki Shirakawa, Hiroki Tanikawa
- 3) How Can Material Stock Studies Assist the Implementation of the Circular Economy in Cities?, *Journal of Environmental Science & Technology* 56(24) (2022), 17523-17530, Authors: Wendy Wuyts, Alessio Miatto, **Kronnaphat Khumvongsa**, Jing Guo, Pasi Aalto, Lizhen Huang
- 4) Assessment and driving factor of housing vacancies in Shandong Peninsula urban agglomeration based on multi-source remote sensing data, *Journal of Heliyon* 9(6) (2023) e16837, Authors: Dong Yang, Bing Xiao, Xinjie Lu, Xuexiu Jia, Xin Lia, Feng Han, Lingwen Sun, Feng Shi, **Kronnaphat Khumvongsa**, Jinping Li, Xianyin Duan
- 5) Generation estimation and critical metals quantity assessment of retired mobile phones in Japan, *Journal of Cleaner Production* 450 (2024), 142037, Authors: Ang Li, Bo Li, Ge Yang, **Kronnaphat Khumvongsa**, Jingjin Pan, Xiaolong Song, Xuyang Lei, Suxia Hou, Dong Yang, Bin Lu

BOOKS

Machine and Equipment for the Wastewater Treatment System, *Water Pollution Treatment System Textbook 2nd Edition Chapter 6, Page 6-1 – 6-24*, Published by Department of Industrial Works (2014), ISBN 978-616-265-009-3 (Thai Language)
Authors: Mongkol Damrongsri, **Kronnaphat Khumvongsa**

OTHERS

Member of the Council of Engineers Thailand
2010 - Present

SCHOLARSHIP & GRANTS

Scholarship: 2022 Mitsubishi Corporation International Scholarship [令和4年度三菱商事留学生奨学金]
Period: April 2022 - March 2024

Grants: The research conducted during Ph.D. study, Environmental System Analysis Planning Laboratory, was supported by the Environment Research and Technology Development Fund (PMEERF20S11816, JPMEERF20223C02, JPMEERF20231005). This research was also supported by JSPS KAKENHI Grant Numbers JP23K250595, JP20H00648, JP23H00531, and JP24K03140, as well as Cross-ministerial Strategic Innovation Promotion Program (SIP) "Building a Resilient and Nourishing Food Chain for a Sustainable Future" (funding agency: Bio-oriented Technology Research Advancement Institution) (Grant Number JPJ012287), MEXT KAKENHI Grant Number JPJ010039, and JST Grant Number JPMJPF2204. Also, this research is also a part of the results of Tokyo University CSIS joint research (No.1036).

TEACHING EXPERIENCE

- 1) Teaching Assistant for the Environmental System Analysis Planning Course, Graduate School of Environmental Studies, Nagoya University, Spring Semester (April - July)
2023 - 2025
- 2) Teaching Assistant for the Sustainability and Environmental Studies Course, Graduate School of Environmental Studies, Nagoya University, Fall Semester (October - January)
2023

COMMITTEE MEMBERSHIPS

Steering Committee for Pollution Control System Operator Certification Exam, Department of Industrial Works, Ministry of Industry Thailand
[2009 - 2010]

SOCIAL CONTRIBUTION

Capacity building project for personnel involved in industrial pollution sampling throughout 4 regions of Thailand by Department of Industrial Works, Ministry of Industry Thailand [August - September 2010]

Role: Project Organizer and Coordinator