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Work Experience

- 2012- Now: Lecturer at Department of Environmental Health Sciences, Faculty of Public Health, Mahidol University

Education

- **2006 – 2012** Ph.D. (Environmental Technology)
- **2002 – 2012** B.Sc. (Public Health) First Class Honors
Majoring in Environmental Health Sciences

Teaching works

- **M.Sc. (Environmental Health)**
 - Environmental and Health Impact Assessment
 - Technologies and Eco-innovation towards Sustainability
 - Applied Research Methodology in Environmental Health
 - Thesis
- **B.Sc. (Environmental Health)**
 - Principle of Environmental Impact and Health Risk Assessment
 - Research Methods in Environmental Health
 - Clean Technology (Topic: Carbon Footprint)
 - Nuisance Management
 - Principles of Environmental and Occupational Health
- **B.Sc. (Public Health)**
 - Environmental Health Sciences

Research Interests

- Environmental and Health Impact Assessment
- Carbon Footprint Assessment
- Phosphorus Flow Analysis and Phosphorus recovery

Awards

- Public Health's Teaching Excellence Award, January 15, 2026
- Mahidol University Professional Framework: MUPSF Level 2 (Level 2 of the teaching quality assessment); January 9, 2026
- Dean Sarawut Award: Colleague of the year 2025
- Highest Number of Q1 Research Publications Award, 2022, Faculty of Public Health.

Training

- 1) Verification on Carbon Footprint Assessment of Organizational (CFO), Organized by TGO Climate Action Academy, 11-12 September 2025.
- 2) In-Depth Workshop on Carbon Footprint Assessment of Organizational (CFO), Organized by TGO Climate Action Academy, 15-16 January 2025.
- 3) Professional Research Empowerment Program (PREF Batch 6, 2023), organized by Mahidol University
- 4) In-Depth Workshop on Carbon Footprint Assessment of Organizational, Organized by TGO Climate Action Academy, 14 September 2022.
- 5) Regional HIA Curriculum Development Workshop, Organized by Asian Development Bank (ADB). Bangkok Thailand, 7-8 March 2017.
- 6) University Stakeholders Meeting, Organized by Asian Development Bank (ADB), Hanoi, Vietnam, 6-7 July 2017.
- 7) Regional Training of Trainers (ToT) on Health Impact Assessment (HIA), Organized by Asian Development Bank (ADB), Ho Chi Minh City, Vietnam. 10-16 September 2017.

Selected Journal Articles

- 1) Noodaeng S, Petchmedyai P, Janthasen A, Neamhom T, **Patthanaissaranukool W**. Comparative carbon footprint analysis of semi-digital and fully digital implant-supported prosthesis fabrication processes. *Environmental Challenges*, 2025, 20, 101294.
- 2) Mokjatturas S, Polprasert S, **Patthanaissaranukool W**, Dereli RK, Chinwetkitvanich S. Environmental and financial assessment of phosphorus loss from food waste in the academic institutions. *Global Journal of Environmental Science and Management*, 2025, 11(4), pp. 1655–1670.
- 3) Khempunjakul T, Phosri A, Sangkharat K, Kanchanasuta S, **Patthanaissaranukool W**. Mortality and economic burden of PM_{2.5} and NO₂ in Thailand using satellite remote sensing and Random Forest algorithms. *Environmental Challenges*, 2025, 21, 101366.
- 4) Khaita, C, **Patthanaissaranukool W**, Polprasert S, Chinwetkitvanich S. Effect of Pre-treatment Methods on Phosphorus Recovery from Anaerobic Co-digestion of Food Waste with Digested Sludge. *Environmental Science and Engineering*, 2025, 142–153.
- 5) Khaita C, Chinwetkitvanich S, Polprasert S, Polprasert C, **Patthanaissaranukool W**. Phosphorus and bioenergy recovery from anaerobic co-digestion of food waste and corn residues with digested sludge: effect of HRT and pre-treatment methods. *Clean Technologies and Environmental Policy* 2025 27(5); 2007–2027, 112027.
- 6) Mokjatturas S, Chinwetkitvanich S, **Patthanaissaranukool W**, Polprasert, C. Polprasert S. Phosphorus mass flows and economic benefits of food waste management: the case study of selected retail and wholesale fresh markets in Thailand. *Clean Technologies and Environmental Policy* 2025; 27(1): 219–233.
- 7) Moungsree S., Neamhom T., Polprasert S., Suwannahong K., Polprasert C., **Patthanaissaranukool W**. Greenhouse gas emissions and carbon footprint of maize-based feed products for animal farming in Thailand. *Environmental Science and Pollution Research* 2024; 31(2): 2657-2670. <https://doi.org/10.1007/s11356-023-31408-5>

- 8) Moungsree S, Neamhom T, Polprasert S, **Patthanaissaranukool W**. Carbon footprint and life cycle costing of maize production in Thailand with temporal and geographical resolutions. *Int J Life Cycle Assess* 2023, 28(7): 891–906. DOI: <https://doi.org/10.1007/s11367-022-02021-4>
- 9) Pimpeach W., Polprasert C., Panyapinyopol B., Polprasert S., Mahasandana S., **Patthanaissaranukool P**. Enhancing anaerobic co-digestion of primary settled-nightsoil sludge and food waste for phosphorus extraction and biogas production: effect of operating parameters and determining phosphorus transformation. *Environmental Science and Pollution Research* 2023, 30(9), pp. 23173–23183. DOI: <https://doi.org/10.1007/s11356-022-23853-5>
- 10) **Patthanaissaranukool W.**, Polprasert S., Neamhom, T. Carbon smart agriculture: lower carbon emissions and higher economic benefits of maize production in Thailand. *International Journal of Environmental Science and Technology* 2023, 20(6), pp. 6003–6014. DOI: <https://doi.org/10.1007/s13762-022-04355-w>
- 11) Pimpeach W., **Patthanaissaranukool W.**, Polprasert, C., Polprasert S., Mahasandana S., Panyapinyopol B. Optimization and Kinetic Study of Phosphorus Dissolution from Primary Settled-Nightsoil Sludge. *Environment and Natural Resources Journal* 2023, 21(12): 102 – 112.
- 12) Siwapathomchai N., Aimyong N., **Patthanaissaranukool W.**, Sihabut T. Factors Affecting Traffic Noise and Annoyance from Different Types of Roads: A Case Study in Nakorn Pathom Province, Thailand. *Environment and Natural Resources Journal*, 2023, 21(4), pp. 290–298
- 13) Buayoungyuen S, Panyapinyopol B, Fongsatitkul P, **Patthanaissaranukool W**, Warodomrungsimun C. Simultaneous Removal of Nitrogen, Phosphorus, and Organic Matter from Slaughterhouse Wastewater Using AnA2/O2 SBR and Its Economic Benefits. *EnvironmentAsia* 2022, 15(1): 33-46.
- 14) Khaing KT, Polprasert C, Mahasandana S, Pimpeach W, **Patthanaissaranukool W**. Polprasert S. Phosphorus Recovery and Bioavailability from Chemical Extraction of Municipal Wastewater Treatment's Waste Activated Sludge: A Case of Bangkok Metropolis, Thailand. *Environ. Nat. Resour. J.* 2022, 20(4):369-378.
- 15) Yongsri A, Neamhom T, Polprasert S, Singhakant C, **Patthanaissaranukool W**. Phosphorus flow analysis in maize cultivation: a case study in Thailand. *Environ Sci Pollut Res* 2022, 29:59835–59845. DOI: <https://doi.org/10.1007/s11356-022-20145-w>
- 16) Thongmai S, Neamhom T, **Patthanaissaranukool W**, Polprasert S. Energy use and consumption patterns of maize cultivation - a case study in Thailand. *Environ Nat Resour* 2021; 19(6): 435-448. DOI: 10.32526/ennrj/19/202100086
- 17) Hirunrueng T, **Patthanaissarnukool W**, Sihabut T. Odor intolerance and proposed offsite limit under the Thailand public health provision. *Journal of Health Research*. Emerald Publishing Limited ISSN: 2586-940X. DOI 10.1108/JHR-01-2020-0018
- 18) Thareejit M, Sihabut T, and **Patthanaissaranukool W**. The association between road traffic noise and annoyance levels in residential and sensitive areas of Ayutthaya, Thailand. *Asia-Pacific Journal of Science and Technology* 2020; 25(3): 1-13.
- 19) **Patthanaissaranukool W**, Fongsatitkul P, and Warodomrungsimun C. Environmental Health Professional in Developed Countries. *EnvironmentAsia* 2020; 13(1): 112-123.
- 20) **Patthanaissaranukool W**, Bunnakrid K, Sihabut T. Applying mathematical modeling to predict road traffic noise in Phuket Province, Thailand. *International Journal of GEOMATE* 2019; 62: 133-139.

- 21) Warodomrungsimun C, **Patthanaissaranukool W**, Buayoungyuen S, Fongsatitkul P. Performance and Kinetics of the Treating Slaughterhouses Wastewater Using Sequencing Batch Reactor. Naresuan University Journal: Science and Technology 2019; 27(1): 87-97.

Selected Proceeding Papers

- 1) Pasavanung A., Polprasert S., **Patthanaissaranukool W**., Neamhom T, Carbon Footprint for Organization: Case Study of Printing and Packaging Factory in Thailand in the 14th International Conference on Environmental Engineering, Science and Management on 20-21 May, 2025., Bangsaen Heritage Hotel, Chon Buri, Thailand
- 2) Jaikla K, Neamhom T, Jaikanlaya C, **Patthanaissaranukool W**. Health risk assessment of nickel and chromium containing particles in arc welding factory. In: Proceedings of the 17th annual conference on highlighting environmental health issues: Research towards solution; 2025 September 20; Bangkok; Chulabhorn Research Institute; 2025. p. 84-88.
- 3) Chalarak S, Singhakant C, Jaikanlaya C, Neamhom T, Polprasert S, **Patthanaissaranukool W**. Greenhouse gas emissions from municipal solid waste treatment in Rayong Province. In: Proceedings of the Conference on trends in environmental health; 2023 November 25 ; Bangkok; Chulabhorn Research Institute; 2023. p. 22-28.
- 4) Bathbumrung C, Neamhom T, **Patthanaissaranukool W**, Polprasert S, Warodomrungsimun C. Phosphate pellets formation from mobile toilet wastewater struvite and sugarcane industrial wastes. In: Proceedings of the Conference on trends in environmental health; 2023 November 25; Bangkok; Chulabhorn Research Institute; 2023. p. 84-89.
- 5) Yakam P, Neamhom T, Polprasert S, **Patthanaissaranukool W**, Warodomrungsimun C. A pilot-process for struvite phosphate recovery From mobile toilet wastewater by a single recipitation process. In: Proceedings of the Conference on trends in environmental health; 2023 November 25 ; Bangkok; Chulabhorn Research Institute; 2023. p. 107-111.
- 6) Fakhum S, Warodomrungsimun1 C, **Patthanaissaranukool W**, Singhakant C, Polprasert S. Impact assessment of slaughterhouse wastewater and sludge treatment using ana2/o2 SBR and anaerobic sludge digester system: a pilot-scale study. In: Proceedings of the Conference on trends in environmental health; 2023 November 25 ; Bangkok; Chulabhorn Research Institute; 2023. p. 132-137.
- 7) Boonmee R, Singhakant C, Warodomrungsimuna C, Aimyong N, Siangyai A, **Patthanaissaranukool W**. Assessment of dust and noise from construction and demolition activities in hospital areas with applied pre-construction risk assessment guidelines. In: Proceedings of the Conference on trends in environmental health; 2023 November 25 ; Bangkok; Chulabhorn Research Institute; 2023. p. 5-9.
- 8) Worralakkulwong M, Prechthai T, **Patthanaissaranukoola P**, Warodomrungsimun C. Bio-fertilizer production from the spent mushroom substrate with waste-activated sludge. In: Proceedings of the Conference on the role and challenge of environmental health in national development; 2022 October 8; Bangkok; Chulabhorn Research Institute; 2022. p. 89-95.

- 9) Buayoungyuena S, Panyapinyopol B, Fongsatitkul P, **Patthanaissaranukool P**, Warodomrungsimun C. Effect of solids retention time (SRT) on the nutrient release efficiency in the treatment of waste activated sludge using ASD processes. In: Proceedings of the Conference on the role and challenge of environmental health in national development; 2022 October 8; Bangkok; Chulabhorn Research Institute; 2022. p. 101-106.
- 10) Panthong S, Phosri A, Singhakant C, **Patthanaissaranukool W**. Quantitative microbial risk assessment of specific food menu from restaurants in Bangkok, Thailand. In: Proceedings of the Conference on the role and challenge of environmental health in national development; 2022 October 8; Bangkok; Chulabhorn Research Institute; 2022. p. 123-126.
- 11) Soonthornsaratoona A, Aimyong N, **Patthanaissaranukool W**, Sihabut T. Influence of odor hedonic tone on annoyance and complaint intention of residents in Bangkok Metropolitan area. In: Proceedings of the Conference on the role and challenge of environmental health in national development; 2022 October 8; Bangkok; Chulabhorn Research Institute; 2022. p. 138-141.
- 12) Phuangchong S, Jaikanlaya C, **Patthanaissaranukool W**, Neamhom T. Levels and risk assessment for indoor air quality among workers in card production department: a case study of printing industry. In: Proceedings of the Conference on the role and challenge of environmental health in national development; 2022 October 8; Bangkok; Chulabhorn Research Institute; 2022. p. 142-148.
- 13) Chareonwimonruk N., **Patthanaissaranukool W**., Neamhom T., Polprasert S. (2021). Carbon Footprint in the Faculty of Public Health, Mahidol University During Lockdown and Non-Lockdown Periods. Proceedings of the 4th Environment and Natural Resource International Conference (ENRIC 2021) Challenges, Innovations and Transformations for Environmental Sustainability Virtual Conference, December 16th, 2021, Thailand.
- 14) Boonphikhan N., Singhakant C., Kanchanasuta K., **Patthanaissaranukool W**., Prechthai T. Indoor Air Quality in Public Health Centers: A Case study of Public Health Centers Located on Main and Secondary Roadside, Bangkok. Proceedings of the 4th Environment and Natural Resource International Conference (ENRIC 2021) Challenges, Innovations and Transformations for Environmental Sustainability Virtual Conference, December 16th, 2021, Thailand. 137-143
- 15) Thongmai S, Neamhom T, **Patthanaissaranukool W**, Polprasert S, Jaikanlaya C. Energy and cost analysis in different maize cultivation practices in Thailand. Proceedings of the 7th Thai-Nichi Institute of Technology Academic (TNIAC 2021). 20-21 May 2021; Thai-Nachi Institute of Technology, Bangkok; 2021.
- 16) Phenpa K., Inthorn D., **Patthanaissaranukool W**., Polprasert S. Enhancement of coolant oil wastewater treatment efficiency using Fenton's reaction. Proceedings of the 7th Thai-Nichi Institute of Technology Academic (TNIAC 2021). 20-21 May 2021; Thai-Nachi Institute of Technology, Bangkok; 2021.
- 17) Ronkna W, **Patthanaissaranukool W**, Prechthai, Warodomrungsimun C. Struvite production from anaerobic sludge digester. Proceedings of the Conference on Strategic Planning for Innovation in Environmental Health; 2019 November 2; Chulabhorn Research Institute, Bangkok, Thailand; 2019.
- 18) Buayoungyuena S, Panyapinyopol B, Fongsatitkul P, **Patthanaissaranukool W**, Warodomrungsimun C. The Performance of the Treating Slaughterhouse Wastewater Using AnA2/O2 SBR in a pilot scale. Proceedings of the Conference on Strategic

- Planning for Innovation in Environmental Health; 2019 November 2; Chulabhorn Research Institute, Bangkok, Thailand; 2019.
- 19) Neamhom T, Polprasert S, **Patthanaissaranukool W**, Polprasert C. How rice industry can reduce carbon emission; A case study in Thailand. Proceedings of the Conference on Strategic Planning for Innovation in Environmental Health; 2019 November 2; Chulabhorn Research Institute, Bangkok, Thailand; 2019.
 - 20) Pinvattanachai S, **Patthanaissaranukool W**, Warodomrungsimun C. The Effect of The Solid Retention Time on Simultaneous COD, TKN, And TP Removal from Slaughterhouse Wastewater Using Sequencing Batch Reactor. Proceeding on the EnvironmentalAsia International Conference, 13-15 June 2019, The Empress hotel, Chiang Mai, Thailand.
 - 21) Pinvattanachai S, **Patthanaissaranukool W**, Warodomrungsimun C. Effect of SRT on the Nutrient Removal and Phosphorus Accumulation in Sludge using AnA2/O2 SBR Treating Slaughterhouse Wastewater. Proceedings of the Conference on Two Faces of Chemical; 2018 November 17; Chulabhorn Research Institute, Bangkok, Thailand; 2018.
 - 22) Prabkhasen T, Jaikanlaya C, Jaikanla C, **Patthanaissaranukool W**, Warodomrungsimun C. Concentrations of Formaldehyde and Acetaldehyde in a Community Hospital. Proceedings of the Conference on Two Faces of Chemical; 2018 November 17; Chulabhorn Research Institute, Bangkok, Thailand; 2018.
 - 23) Bunnakrid K, **Patthanaissaranukool W**, Sihabut T. The Comparison of Road traffic Noise Levels from Prediction Model and Actual Noise Measurement in Phuket, Thailand. Proceedings of the Conference on Two Faces of Chemical; 2018 November 17; Chulabhorn Research Institute, Bangkok, Thailand; 2018.
 - 24) Nubsang H, Sihabut T, Prethai T, and **Patthanaissaranukool W**. Heavy metals in safety vegetables in supermarkets in Bangkok. Burapa University International Conference 2014: Global Warming and Its Impacts; July 3-4, 2014; Dusit Tani hotel. Pattaya, Thailand; 2014.
 - 25) **Patthanaissaranukool W**, and Polprasert C. Carbon Emission from Marine Capture Fisheries in Thailand Based on a Carbon-Balanced Model. Proceedings of GMSARN Int. Conf. on Green Growth in GMS: Energy, Environment and Social Issues; 18-20 December 2013; Mandalay, Myanmar; 2013.

Academic Research Projects and Responsibilities

Principal investigator:

- 1) **Project Title:** Reducing greenhouse gas emissions in durian plantation of Thailand
Funding Agency: Agricultural Research Development Agency (Public Organization), Fiscal Year 2024
- 2) **Project Title:** Phosphorus Recovery from Food Waste and Agricultural Residue Using Anaerobic co-digestion and Chemical Precipitation Process
Funding Agency: Fundamental Fund, Mahidol University, Fiscal Year 2022
- 3) **Project Title:** Reducing carbon emissions and phosphorus loss in maize production for feed industries in Thailand
Funding Agency: Agricultural Research Development Agency (Public Organization), Fiscal Year 2020

- 4) **Project Title:** Evaluation of Carbon Emissions and Carbon Sequestration from the Cultivation of Herbal Plants: *Terminalia bellirica*, *Terminalia chebula*, *Phyllanthus emblica*, and *Corchorus olitorius*
Funding Agency: LION Corporation (Thailand) Limited
 - 5) **Project Title:** The study of carbon transfer in soybean plantations and milling in Thailand based on a carbon-balanced model
Funding Agency: Mahidol University Fiscal Year 2014
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