

## Asst. Prof. Dr. Awassada Phongphiphat

ผศ.ดร. อวัสดา พงศ์พิพัฒน์

### EDUCATIONAL BACKGROUND

- Year A.D. 2008 Ph.D. (Chemical and Process Engineering), The University of Sheffield, U.K.
- Year A.D. 2004 M.Eng. (Environmental Engineering), Chiang Mai University, Thailand  
(วศ.ม. (วิศวกรรมสิ่งแวดล้อม), มหาวิทยาลัยเชียงใหม่, ประเทศไทย, 2547)
- Year A.D. 2000 B.Eng. (Environmental Engineering), Chiang Mai University, Thailand  
(วศ.บ. (วิศวกรรมสิ่งแวดล้อม), มหาวิทยาลัยเชียงใหม่, ประเทศไทย, 2543)

### RESEARCH INTEREST

Thermo-chemical processes of waste/biomass: CFD-Chemical modelling, High temperature corrosion, Formation of particulates and aerosols, Slagging and Fouling. GHG and Carbon intensity from high-energy intensity processes.

### WORK EXPERIENCE

- 1/5/2013 – Present Researcher  
The Joint Graduate School of Energy and Environment (JGSEE), King Mongkut's University of Technology Thonburi (KMUTT), 126 Pracha-uthit Rd., Tungkru, Bangkok, Thailand. Type of organization: 5
- 1/6/2012 – 30/5/2013 Invited lecturer  
Department of Environmental Engineering, Faculty of Engineering, KMUTT, 126 Pracha-uthit Rd., Tungkru, Bangkok, Thailand. Type of organization: 5
- 1/5/2009 – 30/4/2013 Postdoctoral research fellow  
The Joint Graduate School of Energy and Environment (JGSEE), KMUTT, 126 Pracha-uthit Rd., Tungkru, Bangkok, Thailand. Type of organization: 5

### PUBLICATIONS

#### International Journal

- Pudcha, T., Phongphiphat, A., Wangyao, K. and Towprayoon, S., (2023) Forecasting Municipal Solid Waste Generation in Thailand with Grey Modelling. *Environment and Natural Resources Journal*. 21(1): pp. 35-46. Jan-Feb 2023
- Pudcha, T., Phongphiphat, A. and Towprayoon, S. (2023) Greenhouse Gas Mitigation and Energy Production Potentials from Municipal Solid Waste Management in Thailand Through 2050. *Earth Systems and Environment*. 7(1): pp. 83-97. January 2023
- Kamsook, S., Phongphiphat, A., Towprayoon, S. and Vinitnantharat, S. (2023) Investigation of plastic waste management in Thailand using material flow analysis. *Waste Management & Research: The Journal for a Sustainable Circular Economy*. 41(4): pp. 924–935. April 2023
- Bhatsada, A., Patumsawad, S., Towprayoon, S., Chiemchaisri, C., Phongphiphat, A. and Wangyao, K. (2023) Modification of the Aeration-Supplied Configuration in the Biodrying Process for Refuse-Derived Fuel (RDF) Production. *Energies*. 16(7): 3235; <https://doi.org/10.3390/en16073235>. April 2023

- Bhatsada, A., Patumsawad, S., Itsarathorn, T., Towprayoon, S., Chiemchaisri, C., Phongphiphat, A. and Wangyao, K., (2023) Improvement of energy recovery potential of wet-refuse-derived fuel through bio-drying process. *Journal of Material Cycles and Waste Management*. 25(2): pp. 637-649. March 2023
- Wulyapash, W., Phongphiphat, A. and Towprayoon, S. (2022) Comparative study of hot air drying and microwave drying for dewatered sludge. *Clean Technologies and Environmental Policy*. 24(1): pp. 423-436. January 2022
- Chommontha, N., Phongphiphat, A., Wangyao, K., Patumsawad, S. and Towprayoon, S. (2022) Effects of operating parameters on co-gasification of coconut petioles and refuse-derived fuel. *Waste Management and Research*. 40(5): pp. 575-585. May 2022
- Unchaisri, T., Fukuda, S., Phongphiphat, A., Saetia, S. and Sajjakulnukit, B. (2019) Experimental Study on Combustion Characteristics in a CFB during Co-firing of Coal with Biomass Pellets in Thailand. *International Energy Journal*. 19(2): pp. 101-114. June 2019
- Phongphiphat, A., Ryu, C., Finney, K.N., Sharifi, V.N., and Swithenbank, J. (2011) Ash deposit characterisation in a large-scale municipal waste-to-energy incineration plant. *Journal of Hazardous Materials*. 186(1): pp. 218-226. February 2011
- Phongphiphat, A., Ryu, C., Yang, Y.B., Finney, K.N., Leyland, A., Sharifi, V.N. and Swithenbank, J. (2010) Investigation into high-temperature corrosion in a large-scale municipal waste-to-energy plant. *Corrosion Science*. 52(12): pp. 3861-3874. December 2010

#### **International Conference**

- Thiri, H., Phongphiphat, A., Towprayoon, S., and Vinitnantarat, S. (2020) Current Situation and Public Perception toward Municipal Solid Waste Management in Mandalay, Myanmar. In *The 4th Sustainable Process Integration Laboratory Scientific Conference Energy, Water, Emission & Waste in Industry and Cities*. Online. 18-20 November 2020.
- Phongphiphat, A., Cheewaphongphan, P. and Towprayoon, S. (2015). Forecasting MSW generation and energy potential from all municipalities in Thailand to 2030. In *The 2nd Symposium of International Waste Working Group Asian Regional Branch (IWWG-ARB)* Shanghai, China. 12-15 April 2015.
- Phongphiphat, A., Cheewaphongphan, P. and Towprayoon, S. (2015) Municipal Solid Waste Management Planning for Sustainable Waste-to-Energy Processes and GHG Mitigation: A case study of Chumphon Province. In *The 2nd Symposium of International Waste Working Group Asian Regional Branch (IWWG-ARB)* Shanghai, China. 12-15 April 2015.

#### **National Journal**

- Nantawong, N., Aman, N., Manomaiphiboon, K., Chankasem, P., Surapipith, V., and Phongphiphat, A., (2021) Assessment of Satellite Aerosol Optical Depth Over Greater Bangkok during 2003-2018. *Journal of Sustainable Energy & Environment*. 12: pp. 65-76.