

Assoc. Prof. Dr. Nakorn Worasuwanarak

รศ. ดร. นคร วรสุวรรณ์รักษ์

EDUCATIONAL BACKGROUND

Year A.D. 2003 D.Eng. (Chemical Engineering), Kyoto University, Japan
Year A.D. 1999 M.Eng. (Chemical Engineering), Kyoto University, Japan
Year A.D. 2003 B.Eng. (Chemical Engineering), Chulalongkorn University, Thailand
(วศ.บ. (วิศวกรรมเคมี), มหาวิทยาลัยจุฬาลงกรณ์, ประเทศไทย, 2539)

WORKING EXPERIENCE:

- April 2003 – May 2006, Lecturer at the Division of Energy, The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi
- June 2006 – March 2008, Post Doc at Miura Lab, Department of Chemical Engineering, Kyoto University, Japan
- April 2008 – 2014, Assistant Professor at the Division of Energy, The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi
- 2014 – present, Associate Professor at the Division of Energy, The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi

RESEARCH INTEREST

Solid fuels characterization for effective energy conversion, Pyrolysis and gasification of solid fuels, Coal science and technology, Chemical reaction engineering

PUBLICATIONS

International Journal

- Chunti, C. and Worasuwanarak, N. (2023) Pressurized torrefaction of leucaena wood and its effect on bio-oils production. *Biomass Conversion and Biorefinery*. <https://doi.org/10.1007/s13399-023-04307-5>. May 2023
- Kato, T., Uaciquete, D.L.E., Onodera, G., Okawa, H., Sugawara, K., and Worasuwanarak, N. (2022) Changes in the sulfur forms of subbituminous coals during oxidation with hydrogen peroxide and peracetic acid. *Fuel*. 330, 125544, <https://doi.org/10.1016/j.fuel.2022.125544>. December 2022
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- Tong, S., Sun, Y., Li, X., Hu, Z., Worasuwanarak, N., Liu, H., Hu, H., Luo, G., and Yao, H. (2021) Gas-pressurized torrefaction of biomass wastes: Co-gasification of gas-pressurized torrefied biomass with coal. *Bioresource Technology*. 321. Feb
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- Zhang, P., Hu, H., Tang, H., Yang, Y., Liu, H., Lu, Q., Li, X., Worasuwanarak, N. and Yao, H. (2019) In-depth experimental study of pyrolysis characteristics of raw and cooking treated shrimp shell samples. *Renewable Energy*. 139: pp. 730-738. Aug 2019
- Sugawara, K., Kato, T., Okawa, H. and Worasuwanarak, N. (2019) Distribution of sulfur during solvent extraction of coals and desulfurization of extracted product. *Journal of Chemical Engineering of Japan*. 52(7): pp. 610-615. Jul 2019
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- Wannapeera, J. and Worasuwanarak, N. (2012) Upgrading of woody biomass by torrefaction under pressure. *Journal of Analytical and Applied Pyrolysis*. 96(0): pp. 173-180. July 2012
- Wannapeera, J., Li, X., Worasuwanarak, N., Ashida, R. and Miura, K. (2012) Production of high-grade carbonaceous materials and fuel having similar chemical and physical properties from various types of biomass by degradative solvent extraction. *Energy & Fuel*. 26(7): pp. 4521–4531. July 2012
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International Conference

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- Arthit Phopiyanukror and Nakorn Worasuwannarak (2014) Effects of oxygen concentration on the torrefaction of woody biomass at temperatures below 300°C. in 5th

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- Xian Li, Janewit Wannapeera, Nakorn Worasuwannarak, Ryuichi Ashida, and Kouichi Miura. (2012) Upgrading of Low Grade Carbonaceous Resources through Degradative Solvent Extraction at Temperature below 350°C. in 4th International Conference on Sustainable Energy & Environment (SEE 2011): A Paradigm Shift to Low Carbon Society. 27-29 February 2012. Bangkok, Thailand.
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- Janewit Wannapeera, Xian Li, Nakorn Worasuwannarak, R Ashida, and K Miura. (2011) Upgrading of biomass by degradative thermal extraction at mild condition. in The 18th Regional Symposium on Chemical Engineering (RSCE2011). 27-28 October 2011. Ho Chi Minh City, Vietnam.

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- T. Sonobe and N. Worasuwannarak. (2004) Pyrolysis Characteristics of Blends of Agricultural Residues with Lignite. in The Third Regional Conference on Energy Technology towards a Clean Environment "Sustainable Energy and Environment (SEE)". December 1-3, 2004. Hilton Hua Hin Resort & Spa, Hua Hin, Thailand.

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National Journal

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- Tandhapongse, A.W., Nakorn and Laosiripojana, N., (2018) Carbon Fiber Synthesis from Isolated Lignin from Organosolv Fractionation of Bagasses and Eucalyptus. *Journal of Sustainable Energy & Environment*. 9: pp. 25-29.
- Rajruthong, C. and Worasuwannarak, N., (2018) Upgrading of Woody Biomass by Solvent Treatment at Temperature Below 350 °C. *Journal of Sustainable Energy & Environment*. 9: pp.59-64.
- Fugtuan, R., Janewit, W., Miura, K., and Worasuwannarak, N., (Accepted) Preparation of Carbon Fiber from Low-Molecular-Weight Compounds Obtained from Biomass by Solvent Extraction. *Journal of Sustainable Energy & Environment*. 9: pp.73-77.
- Khumsak, W Wattananoi, and N. Worasuwannarak. (2011) Effect of Torrefaction Conditions on Bio-oil Properties from *Leucaena leucocephala*. *KMUTT Research and Development Journal*. 34(4): pp. 341-355. Oct - Dec 2012
- Janewit Wannapeera, Nakorn Worasuwannarak, and Suneerat Pipatmanomai. (2008) Product Yields and Characteristics of Rice Husk, Rice Straw and Corncob during Fast Pyrolysis in a Drop Tube/Fixed Bed Reactor. *Songklanakarin J. Sci. Technol*. 30(3): pp. 393-404. May-Jun 2008
- Worasuwannarak, N., Potisri, P. and Tanthapanichakoon, W. (2006) Upgrading of biomass by carbonization in hot compressed water. *Songklanakarin Journal of Science and Technology*. 28(5): pp. 1049-1057. Sep.-Oct., 2006

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- Worasuwannarak, N. (2008) Effects of lignin content on the pyrolysis behaviors of biomass. In การประชุมวิชาการทางวิศวกรรมเคมีและเคมีประยุกต์แห่งประเทศไทย ครั้งที่ 18. 20-21 October 2008. โรงแรมจอมเทียนปาล์มบีช จ.ชลบุรี.
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