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1. Educational Background

Year A.D. 2012	Ph. D. (Energy Technology), King Mongkut's University of Technology Thonburi, Thailand (ปร.ด. (เทคโนโลยีพลังงาน), มหาวิทยาลัยเทคโนโลยีพระจอมเกล้าธนบุรี, ประเทศไทย, 2555)
Year A.D. 2003	M. Sc. (Analytical Chemistry), Chulalongkorn University, Thailand (วท.ม. (เคมีวิเคราะห์), จุฬาลงกรณ์มหาวิทยาลัย, ประเทศไทย, 2546)
Year A.D. 2000	B.Sc. (Chemistry), Srinakharinwirot University, Thailand (วท.บ. (เคมี), มหาวิทยาลัยศรีนครินทรวิโรฒ, ประเทศไทย, 2543)

FIELDS OF INTEREST

Catalytic conversion of biomass to biochemicals and biofuels; Conversion of lignin to aromatic-based chemicals; Hydrogen production; Catalyst

WORK EXPERIENCES

2004–2007	Lecturer The Department of Chemistry, Faculty of Science and Technology, Ubon Ratchathani Rajabhat University
Sep 2013 to present	Researcher The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi in Advance Fuel Processing Laboratory (AFPL)

PUBLICATION

International Journal

- Totong, S., Laosiripojana, W., Laosiripojana, N., and Daorattanachai, P. (2022) Nickel and Rhenium Mixed Oxides-Doped Graphene Oxide (MOs/GO) Catalyst for the Oxidative Depolymerization of Fractionated Bagasse Lignin. *Industrial and Engineering Chemistry Research*. 61(1): pp. 215-223. January 2022
- Sangsiri, P., Laosiripojana, N., and Daorattanachai, P. (2022) Synthesis of sulfonated carbon-based catalysts from organosolv lignin and methanesulfonic acid: Its activity toward esterification of stearic acid. *Renewable Energy*. 193: pp. 113-127.June 2022
- Sangsiri, P., Laosiripojana, N., Laosiripojana, W., and Daorattanachai, P. (2022) Activity of a Sulfonated Carbon-Based Catalyst Derived from Organosolv Lignin toward Esterification of Stearic Acid under Near-Critical Alcohol Conditions. *ACS Omega*. 7(44): pp. 40025-40033.Nov 2022
- In-noi, O., Daorattanachai, P., Rungnim, C., Prasitnok, K., Rungtaweevoranit, B., Faungnawakij, K., and Khemthong, P. (2021) Insight into Fructose Dehydration over Lewis Acid alpha-Cu2P2O7 Catalyst. *Chemnanomat*. 7(3): pp . 292-298.Mar

- Totong, S., Daorattanachai, P., Laosiripojana, N. and Idem, R. (2020) Catalytic depolymerization of alkaline lignin to value-added phenolic-based compounds over Ni/CeO2-ZrO2 catalyst synthesized with a one-step chemical reduction of Ni species using NaBH4 as the reducing agent. *Fuel Processing Technology*. 198: pp. 106248. February 2020
- Totong, S., Daorattanachai, P., Quitain, A.T., Kida, T. and Laosiripojana, N. (2019) Catalytic Depolymerization of Alkaline Lignin into Phenolic-Based Compounds over Metal-Free Carbon-Based Catalysts. *Industrial & Engineering Chemistry Research*. 58(29): pp. 13041-13052. Jul 2019
- Thongkumkoon, S., Kiatkittipong, W., Hartley, U.W., Laosiripojana, N. and Daorattanachai, P. (2019) Catalytic activity of trimetallic sulfided Re-Ni-Mo/gamma-Al2O3 toward deoxygenation of palm feedstocks. *Renewable Energy*. 140: pp. 111-123. Sep 2019
- Asawaworarit, P., Daorattanachai, P., Laosiripojana, W., Sakdaronnarong, C., Shotipruk, A. and Laosiripojana, N. (2019) Catalytic depolymerization of organosolv lignin from bagasse by carbonaceous solid acids derived from hydrothermal of lignocellulosic compounds. *Chemical Engineering Journal*. 356: pp. 461-471. Jan 2019
- Wanmolee, W., Laosiripojana, N., Daorattanachai, P., Moghaddam, L., Rencoret, J., del Rio, J.C. and Doherty, W.O.S. (2018) Catalytic Conversion of Organosolv Lignins to Phenolic Monomers in Different Organic Solvents and Effect of Operating Conditions on Yield with Methyl Isobutyl Ketone. *Acs Sustainable Chemistry & Engineering*. 6(3): pp. 3010-3018.
- Daorattanachai, P., Laosiripojana, W., Laobuthee, A. and Laosiripojana, N. (2018) Type of contribution: Research article catalytic activity of sewage sludge char supported Re-Ni bimetallic catalyst toward cracking/reforming of biomass tar. *Renewable Energy*. 121: pp. 644-651.
- Cheephat, C., Daorattanachai, P., Devahastin, S. and Laosiripojana, N. (2018) Partial oxidation of methane over monometallic and bimetallic Ni-, Rh-, Re-based catalysts: Effects of Re addition, co-fed reactants and catalyst support. *Applied Catalysis a-General*. 563: pp. 1-8.
- Daorattanachai, P., Khemthong, P., Viriya-empikul, N., Laosiripojana, N. and Faungnawakij, K. (2015) Effect of calcination temperature on catalytic performance of alkaline earth phosphates in hydrolysis/dehydration of glucose and cellulose. *Chemical Engineering Journal*. 278: pp. 92-98. Oct 2015
- Daorattanachai, P., Viriya-empikul, N., Laosiripojana, N. and Faungnawakij, K. (2013) Effects of Kraft lignin on hydrolysis/dehydration of sugars, cellulosic and lignocellulosic biomass under hot compressed water. *Bioresource Technology*. 144(0): pp. 504-512.September 2013
- Khemthong, P., Daorattanachai, P., Laosiripojana, N. and Faungnawakij, K. (2012) Copper phosphate nanostructures catalyze dehydration of fructose to 5-hydroxymethylfufural. *Catalysis Communications*. 29: pp. 96-100.December 2012
- Daorattanachai, P., Namuangruk, S., Viriya-empikul, N., Laosiripojana, N. and Faungnawakij, K. (2012) 5-Hydroxymethylfurfural production from sugars and cellulose in acid- and base-catalyzed conditions under hot compressed water. *Journal of Industrial and Engineering Chemistry*. 18(6): pp. 1893–1901. November 2012

- Daorattanachai, P., Khemthong, P.., Viriya-Empikul, N., Laosiripojana, N. and Faungnawakij, K. (2012) Conversion of fructose, glucose, and cellulose to 5-hydroxymethylfurfural by alkaline earth phosphate catalysts in hot compressed water. *Carbohydrate Research*. 363: pp. 58-61. December 2012

International Conference

- Sangsiri, P., Laosiripojana, N., and Daorattanachai, P. (2022) Synthesis of biobased graphene by catalytic pyrolysis of organosolv lignin. In *The 8th International Conference on Sustainable Energy and Environment*. Bangkok, Thailand. 7-9 November 2022.
- Totong, S., Asawapisit, S., Daorattanachai, P. and Laosiripojana, N. (2019) Catalytic depolymerization of bagasse-derived lignin over sulfided ReNiMo catalysts. In *The 8th Asia Pacific Congress on Catalysis (APCAT-8)*. Bangkok, Thailand. August 4-7, 2019
- Totong, S., Daorattanachai, P. and Laosiripojana, N. (2018) Phenolic-based chemical production from catalytic depolymerization of alkaline lignin over fumed silica catalyst. In *International Conference on Sustainable and Renewable Energy Engineering (ICSREE2018)*. Montreal, Canada. May 24-25, 2018
- Wanmolee, W., Daorattanachai, P. and Laosiripojana, N. (2016) Depolymerization of organosolv lignin to valuable chemicals over homogeneous and heterogeneous acid catalysts. In *3rd International Conference on Power and Energy Systems Engineering (CPESE)*. Fukuoka, JAPAN. September 8-10, 2016
- Daorattanachai, P., Viriya-empikul, N., Laosiripojana, N. and Faungnawakij, K. (2012) Effect of Lignin on the Hydrolysis/Dehydration of Lignocellulosic Biomass in Hot Compressed Water. In *4th International Conference on Sustainable Energy & Environment (SEE 2011): A Paradigm Shift to Low Carbon Society*. Bangkok, Thailand. 27-29 February 2012
- Daorattanachai, P., Khemthong, P., Viriya-empikul, N., Laosiripojana, N., and Faungnawakij, K. (2011) The effect of catalyst types and starting materials on furan production in hot compressed water. *Energy Procedia*. 9(0): p. 515-521. November 2011

National Journal

- Lawanwong, R., Daorattanachai, P. and Laosiripojana, N. (2022) Effects of solvents and catalysts to furfural production from xylose dehydration reaction. *Journal of Sustainable Energy & Environment*. 13(1): pp. 9-12. Jan.-Mar. 2022
- Akkarajitsakul, J., Weerasai, K., Daorattanachai, P., and Laosiripojana, N. (2022) Conversion of industrial waste coconut fatty acids to methyl ester sulfonated-based detergents. *Journal of Sustainable Energy & Environment*. 13(1): pp. 13-18. Jan.-Mar. 2022
- Srisanong, P., Daorattanachai, P., and Laosiripojana, N. (2021) Biolubricant synthesis by esterification of palm fatty acid. *Journal of Sustainable Energy & Environment*. 12: pp. 35-44.
- Sangsiri, P., Daorattanachai, P. and Laosiripojana, N. (2019) Mild temperature fractionation of bagasse with ionic liquid for later conversion to sugars. *Journal of Sustainable Energy & Environmen*t. 10(2): pp. 45-50. Arp.-Jun. 2019
- Reangchim, P., Daorattanachai, P. and Laosiripojana, N. (2019) Conversion of glycerol waste from biodiesel plant to high-value product. *Journal of Sustainable Energy & Environment*. 10(2): pp. 41-44. Arp.-Jun. 2019

- Rungsri, P., Daorattanachai, P., Laosiripojana, N., and Hartley, U.W., (2018) Catalytic Activities of Ni and Cu Supported over Gd-CeO2 toward Partial Oxidation of Methane. *Journal of Sustainable Energy & Environment*. 9: pp. 47-50.
- Assawaworarit, P., Daorattanachai, P., and Laosiripojana, N., (Accepted) Lignin Depolymerization to High-Value Phenolic Products over NiMoReS2. *Journal of Sustainable Energy & Environment*. 9: pp. 17-20.