



Asst. Prof. Dr. Wipawee Khamwichit






เบอร์โทรศัพท์ภายนอก: ๐-๗๕๖๗-๒๓๓๖, ๐-๗๕๖๗-๒๓๐๔-๕

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Academic Degree

B.Eng (Chemical Engineering)	Khonkaen University, Thailand
M.S. (Chemical Engineering)	Michigan Technological University, USA
Ph.D (Chemical Engineering)	University of Texas at Austin, USA

o Research Areas

-  Air Quality Modeling and Control
-  Renewable energy from biomass and plastic waste by gasification process
-  Wastewater Treatment
-  Solid and Infectious Waste Management
-  Environmental Management

○ Research Project

- ✚ Treatment of Benzene by Photo Catalytic Oxidation Process by Using TiO₂/Polyisoprene Film, National research council of Thailand (leading researcher)
- ✚ ๒๐๑๕: Study of effecting factors on gasification process from kernel shell and empty fruit bunch, senior project, Walailak University (leading researcher)
- ✚ Synthesized gas production from catalytic gasification of oil palm kernel and empty fruit bunch using downdraft gasifier and improvement of synthesis gas quality using NiO/CaO supported on ceramic ring, National research council of Thailand (leading researcher)
- ✚ Potential of Bio-oil Production of Oil Palm Mill Residues by Using Pyrolysis Process, Walailak university research funding (co-researcher)
- ✚ Removal of tar from catalytic gasification of oil palm residues in downdraft gasifier using NiO₂/CaO supported on ceramic ring, High education community: national research universities (leading researcher)
- ✚ Volatile organic compounds (VOCs) removal via photo catalytic oxidation using TiO₂ coated bioplastic from banana molasses, Walailak University research funding (leading researcher)

- ✚ Synthesis of silk fibroin filter to be used in air cleaner, National research council of Thailand (leading researcher)
- ✚ ๒๐๑๑-๒๐๑๒: Quantity of remaining formaldehyde and its emission from pressed wood products, National research council of Thailand (leading researcher)

- ✚ โครงการจัดทำระบบฐานข้อมูลพลังงานเพื่อการวิเคราะห์และวางแผนยุทธศาสตร์พลังงานของประเทศ (การสำรวจและเก็บข้อมูลพลังงาน สำนักงานพลังงานภูมิภาคที่ ๑๑), Ministry of energy (co-researcher)
- ✚ Environmental impact from infectious waste incinerator of Walailak University, Walailak University research funding (leading researcher)
- ✚ Quantity and Compositions of Infectious Waste and Concentrations of Air Pollutants Generated from Infectious Waste Incinerator, Ubonratchathani University research funding (co-researcher)
- ✚ Study of environmental impacts before and after using the organic-chemical fertilizer in rice paddy fields, Clinic technology (co-researcher)

o Publications

๑. S. Khami, W. Khamwichit, R. Rungkupan, and K. Suwannahong, “kinetic and linear equation of adsorption by TiO₂ nanofilm coating in photocatalytic reactor”, Journal of Teknologi, special edition, ๑-๖, ๒๐๑๖
๒. T. Punpruk, W. Khamwichit, and A. Khamwichit, “The estimate of energy generation potential of biomass residue from oil palm industries”, IPN conference, Chaing Mai, ๑๙-๒๐ October, ๒๐๑๖
๓. T. Punpruk, W. Khamwichit, and A. Khamwichit, “Study of biomass potential in southern Thailand to be used in downdraft gasifier” ๒๔th TiChE conference, December ๑๘-๑๙, ๒๐๑๕
๔. Triped, J., Sanongraj, W., and Khamwichit, W., “Photocatalytic oxidation of gaseous formaldehyde using the TiO₂ coated SF filter” International Journal of Chemical, Nuclear, Metallurgical and Materials Engineering Vol. ๘ No. ๕, ๒๐๑๔
๕. Makvilay, S., Sanongraj, W., Khamwichit, W., “Turbidity removal using silk sericin and silk sericin power as coagulant aids”, Advanced Materials Research Vols. ๙๓๑-๙๓๒ (๒๐๑๔), ๙๙ ๒๗๖-๒๘๐
๖. Khami S., Khamwichit, W., and Suwannahong, K., “Characteristics of bacterial cellulose production from agricultural wastes”, Advanced Materials Research Vols. ๙๓๑-๙๓๒ (๒๐๑๔), pp ๖๙๓-๖๙๓
๗. Wdachasit, P., Khamwichit, W., Sanongraj, W., “The synthesis of air filters from silk cocoons coated TiO₂ for use in air purifier”, Advanced Materials Research Vols. ๙๓๑-๙๓๒ (๒๐๑๔), pp ๒๘๑-๒๘๕
๘. Khamwichit, W. and Sanongraj, W., “Quantity of Formaldehyde in Particleboards”, Advanced Materials Research Vols. ๙๓๑-๙๓๒ (๒๐๑๔), pp ๖๖๕-๖๗๐
๙. Makvilay, S., Sanongraj, W., Khamwichit, W., “Preparation and Characterization of the TiO₂ coated silk fibroin filters”, Applied Mechanics and Materials Vol. ๕๓๕ (๒๐๑๔), pp ๘๐๒-๘๐๖
๑๐. Khamwichit, W. Reungkaew, K., Sangkumlee, W., and Khami, S., “Adsorption Efficiency of Heavy Metal from Wastewater Using Packing Column Made from Oil Palm and Coconut Fibers” Proceeding of the ๑๓rd National Environmental Conference, ๒๗-๒๙ March ๒๐๑๓, Pullman Raja Orchid hotel, Khonkaen, Thailand
๑๑. Makvilay, S., Hlongsamant, T., Jaiman, W., Sanongraj, W., and Khamwichit, W. “Utilization of Silk Sericin and Powder Silk Sericin as Coagulant Aid for Turbidity Removal,” GMSARN International Conference on Social-Energy-Environmental

Development: SEED towards Sustainability, March ๒๘-๓๐, ๒๐๑๑, Grand Paradise Nongkhai, Nongkhai, Thailand.

๑๒. Pahasupanan, T., Sanongraj, W., and Khamwichit, W. "Emission of Formaldehyde from Particleboards," GMSARN International Conference on Social-Energy-Environmental Development: SEED towards Sustainability, March ๒๘-๓๐, ๒๐๑๑, Grand Paradise Nongkhai, Nongkhai, Thailand.
๑๓. Khamwichit W. and Jareansuk T., "Environmental Impact from Waste Incinerator of Walailak University" Proceedings of the ๔th National Environmental Conference, March ๒๔-๒๗, ๒๐๑๐, Sunee Grand Hotel & Convention Center, Ubonratchathani, Thailand.
๑๔. Khamwichit, W. and Khamwichit, A. "Purification process of glycerin from biodiesel production", The Proceedings of National Environmental Conference ๗th, ๒๕-๒๗ March, ๒๐๐๘, Nakornratchasima, Thailand.
๑๕. Khamwichit W., Jareonsuk T., and Khamwichit A., "Environmental and Health Impacts from Chemical and Infectious Waste Incinerator", UBU Engineering Journal, ๒๐๐๘, Vol. ๒. No. ๒
๑๖. Sanongraj, W., Khamwichit, W., Yangderm, W., Chaowchan, P., and Sansana, P. "Extraction of Dye Pigment from Dragon Fruit Peel," UBU Engineering Journal, January-June ๒๐๐๘. Vol. ๒, No. ๑.
๑๗. Wongcharee, S., Sanongraj, S., Sanongraj, W., and Khamwichit, W. "Copper Solution Removal Using Activated Carbons Produced from Cow Dung by Chemical Activation," The Proceedings of ๗th National Environmental Conference, ๒๒-๒๔ March ๒๐๐๘, Chulabhorn Research Institute, Bangkok
๑๘. Khamwichit W. and Khamwichit A., "Purification of Glycerin as a By-Product from Biodiesel Production using Used Vegetable Oils", UBU Engineering Journal, ๒๐๐๘, Vol. ๑. No. ๑
๑๙. Sanongraj, W., Khamwichit, W., Sanongraj, S., and Kanwan, Y. "Estimation of Total Suspended Particle Dispersion from Infectious Waste Incinerator of Sappasitthiprasong Hospital using AERMOD," The Proceedings of ๗th National Environmental Conference, ๒๒-๒๔ March ๒๐๐๘, Chulabhorn Research Institute, Bangkok
๒๐. Weerasak, T., Suwannahong, K, Sanongraj, W., Sanongraj, S., and Khamwichit, W., "Indoor Air Quality at Fort Sappasit-tiprasong Hospital, Ubonratchathani," The Proceedings of National Environmental Conference ๖th, ๗-๙ March, ๒๐๐๗, Ammarin Lagoon Hotel, Pitsanulok, Thailand.

๒๑. Suwanno, S., Sanongraj, W., Sanongraj, S., and Khamwichit, W., “Health Impact Assessment from Particulate Matter and Noise on Rice Mill Workers in Ubonratchathani,” The Proceedings of National Environmental Conference ๖th, ๗-๘ March, ๒๐๐๗, Ammarin Lagoon Hotel, Pitsanulok, Thailand.
๒๒. Sanongraj, W., Khamwichit, W., Sanongraj, S., and Kulwong, S., “Quantity and Compositions of Infectious Waste and Concentrations of Air Pollutants Generated from Infectious Waste Incinerator,” The Proceedings of National Environmental Conference ๖th, ๗-๘ March, ๒๐๐๗, Ammarin Lagoon Hotel, Pitsanulok, Thailand.
๒๓. Khamwichit W and Yangderm W. “Color pigment extraction and drying from dragon fruit and heavy metal in the extracted pigment analysis using AAS” The ๑๗th Thailand Chemical Engineering and Applied Chemistry Conference October, ๒๐๐๕
๒๔. Khamwichit, W.; Sanongraj, W.; Sanongraj, S. “Study of Environmental Impacts Before and After Using the Organic-Chemical Fertilizer in Rice Paddy Fields” Walailak J Sci & Tech ๒๐๐๖; ๓(๑): ๕๑-๖๘
๒๕. Sanongraj, W.; Khamwichit, W.; Sanongraj, S.; Kullawong, S.; Khomwun, Y. “Quantity and Compositions of Infectious Waste and Concentrations of Air Pollutants Generated from Infectious Waste Incinerator” ๑st Conference of Ubonratchathani University, July ๒๘-๒๙, ๒๐๐๖, Ubonratchathani, Thailand
๒๖. Wipada Sanongraj and Wipawee Khamwichit, “Indoor Air Pollutants Adverse Health Effects and Prevention,” Thai Environmental Engineering Magazine, November-December, ๒๐๐๔, Vol. ๑, No. ๖, p. ๓๓-๓๖.
๒๗. Wipawee Khamwichit and Wipada Sanongraj, “Indoor Air Particulate Adverse Health Effects and Prevention,” Thai Environmental Engineering Magazine, January-February, ๒๐๐๕, Vol. ๒ No. ๑, p. ๒๙-๓๔.
๒๘. W. Dechapanya, M. Russell, and D.T. Allen “Estimates of Anthropogenic Secondary Organic Aerosol Formation in Houston, Texas”, Aero Sci. & Tech., ๒๐๐๔, ๓๘, ๑๕๖-๑๖๖
๒๙. W. Khamwichit, D.T. Allen “Estimates of Anthropogenic Secondary Organic Aerosol Formation in Houston, Texas”, Annual Conference. ๓๐-๓๑ October, ๒๐๐๓. Royal Hills Resort and Golf Course Nakornnayok, Thailand

୩୦. W. Dechapanya, A. Eusebi, Y. Kimura, and D.T. Allen “Secondary Organic Aerosol Formation from Aromatic Precursors Part II: Mechanisms for Lumped Aromatic Hydrocarbons”, Environ. Sci. & Techno., ୨୦୦୩, ୩୭, ୩୬୩୧-୩୬୩୯.

୩୧. W. Dechapanya, A. Eusebi, Y. Kimura, and D.T. Allen “Secondary Organic Aerosol Formation from Aromatic Precursors Part I: Mechanisms for Individual Hydrocarbons”, Environ. Sci. & Techno., ୨୦୦୩, ୩୭, ୩୬୧୨-୩୬୧୯

୩୨. W. Dechapanya, D.T. Allen “Mechanistic Models of Secondary Organic Aerosol Formation and Their Application to Houston Conditions”, TexAQS Conference ୨୦୦୨, Austin, Texas USA

୩୩. W. Dechapanya, D.T. Allen “Modeling Secondary Organic Aerosol Formation in Houston, Texas”, American Association for Aerosol Conference Research ୨୦th Annual Conference ୨୦୦୧, Oregon USA

୩୪. D.R. Shonnard, T.N. Rogers, D.A. Cowl, P.P. Radecki, J.R. Baker, B.A. Barna, R.S. Butner, W. Dechapanya, D.W. Hertz, D. Hiew, M. Hoza, A.A. Kline, P. Parikh, and C. Sangwichien, “Methods for Integrating Environmental Considerations into Chemical Process Design Decisions,” US EPA document EPA/୬୦୦/R-୦୧/୦୦୨, January ୨୦୦୧

୩୫. W. Dechapanya, Y. Kimura, and D.T. Allen “Mechanistic Models of Secondary Organic Aerosol Formation and Their Application to Houston Conditions”, AIChE Spring conference ୨୦୦୦, Houston, Texas USA

୩୬. W. Dechapanya, T.N. Rogers, J.R. Baker, and P.P. Radecki “Application of the Analytic Hierarchy Process for Integrating Environmental Considerations into Process Design Decisions”, S.K. Sikdar and U. Diwekar (eds.), Tools and Methods for Pollution Prevention, ୩୬୩-୩୬୩, ୧୯୯୯

୩୭. W. Dechapanya, T.N. Rogers “Multi-Criteria Analysis of Solvent Recovery Technologies with Respect to Their Environmental, Safety, and Economic Attributes”, CenCITT Conference ୧୯୯୯, Twin Campus Minnesota USA

o Teaching Courses

 Bioprocess Engineering

