

CURRICULUM VITAE

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Area of expertise: Environmental biotechnology/microbiology



EDUCATION

- **Ph.D. (Environmental Management)** International program, 2009
Chulalongkorn University, Thailand
Dissertation: Trichloroethylene (TCE) cometabolic degradation by *Rhodococcus* sp. L4 induced with plant essential oils and their components
- **M.Sc. (Environmental Management)** International program, 2004
Chulalongkorn University, Thailand
Thesis: Biodegradation of trichloroethylene (TCE) using plant terpenes as inducer
- **B.Sc.(Major: Agricultural Technology, minor: Biotechnology)** Second class honors, 2001
Thammasat University, Thailand

ACADEMIC HONORS & AWARDS

- **FEMS Non-European Young Scientist Congress Grant** (The 3rd Congress of European Microbiologists, Federation of European Microbiological Societies (FEMS) 2009), Gothenburg, Sweden, June 28 –July 2, 2009.
- **IUMS 2008 student travel grant** (The XII International Congress of Bacteriology and Applied Microbiology, the Meetings of the Three Divisions of the International Union of Microbiological Societies (IUMS 2008), Istanbul, Turkey, August 5 –15, 2008.
- **IUMS 2005 student travel grant** (The XI International Congress of Bacteriology and Applied Microbiology, the Meetings of the Three Divisions of the International Union of Microbiological Societies (IUMS 2005), San Francisco, California, USA. July 23-28, 2005.
- **Outstanding Master's Thesis Award** (2004), Ratchadaphiseksomphot Endowment Fund, Chulalongkorn University, Thailand

ACADEMIC EXPERIENCE

- **Collaborative researcher:** Renewable Energy Researchers Invitation Program 2012, Kyoto University, Japan
Research title: Ethanol Production from Nipa Palm by Acetic Acid Fermentation
Month/year: Dec 1, 2012- Feb 27, 2013
Fellowship/grant from: New Energy Foundation (NEF), Japan
- **Participant:** Advanced Promotion of Young Researcher's Collaboration Network for Environmental Preservation and Health Improvement in Southeast Asian Countries, Kanazawa University, Japan
Month/year: Sep 20-Oct 19, 2011
Fellowship/grant from: The Japan Society for the Promotion of Science (JSPS), Japan
- **Participant:** Workshop on Carbon Footprint of Products, NSTDA Academy in collaboration with TGO, Bangkok, Thailand
Month/year: Nov 12-13, 2010
- **Visiting Ph.D. student:** Enzymatic studies, Technical University of Hamburg-Harburg (TUHH), Hamburg, Germany
Month/year: Oct 2, 2006- Mar 30, 2007
Fellowship/grant from: Partially supported by Excellence Center for Hazardous Substance Management, Chulalongkorn University, Thailand
- **Participant:** Workshop on Biodegradation of Chlorinated Solvents: Theory and Practice, International Conference: Hazardous Waste Management for a Sustainable Future, Bangkok, Thailand
Month/year: Jan 10-12, 2006
- **Exchange student:** Training program in agriculture and biotechnology, Tokyo University of Agriculture and Tsukuba University, Japan
Month/year: Oct 1, 2000 – Nov 1, 2000
Fellowship/grant from: Thammasat University
- **Teaching assistant:** Headspace-Gas Chromatography (HS-GC), National Center of Excellence for Environmental and Hazardous Waste Management (NCE-EHWM), Chulalongkorn University,
Month/year: June 13, 2008.
- **Teaching assistant:** Practical Course, Environmental Microbiology, Institute of Technical Biocatalysis, Technical University Hamburg-Harburg, Germany
Month/year: Feb 26-27, 2007
- **Teaching assistant:** Self-Access Learning Lab, Language Institute, Chulalongkorn University
Month/year: Oct 2005- Feb 2006.
- **Teaching assistant:** Workshop on Monitoring Microbial Community Using Denaturing Gradient Gel Electrophoresis (DGGE): Department of Microbiology, Faculty of Science, Chulalongkorn University,
Month/year: Apr 18-20, 2005.

PUBLICATION & CONFERENCE PROCEEDINGS

International journal

- Nguyen, XTK, Thayanukul, P., Pinyakong, O., Suttinun, O. (2017). Tiamulin removal by wood-rot fungi isolated from swine farms and role of ligninolytic enzymes. *International Biodeterioration & Biodegradation*.116: 147-154.
- Chantho, P., Musikavong, C., and Suttinun, O. (2016). Removal of phenolic compounds from palm oil mill effluent by thermophilic *Bacillus thermoleovorans* strain A2 and their effect on anaerobic digestion. *International Biodeterioration & Biodegradation*.115: 293-301.
- Na Phatthalung, W., Musikavong, C., and Suttinun, O. (2016). The presence of aliphatic and aromatic amines in reservoir and canal water as precursors to disinfection by-products. *Journal of Environmental Science and Health, Part A (Toxic/Hazardous Substance & Environmental Engineering)*, 51 (11): 900-913.
- Khongkhaem, P., Suttinun, O., Intasiri, A., Pinyakong, O., and Luepromchai, E. (2016). Degradation of phenolic compounds in palm oil mill effluent by silica-immobilized bacteria in internal loop airlift bioreactors. *Clean-Soil, Air, Water*. 44 (4): 383-392.
- Kietkwanboot, A., Tran, HTM., and Suttinun, O. (2015) Simultaneous dephenolization and decolorization of treated palm oil mill effluent by oil palm fiber-immobilized *Trametes hirsuta* strain AK 04. *Water, Air, & Soil Pollution*. 226 (345): 1-13.
- Tosu, P., Luepromchai, E., and Suttinun, O. (2015). Activation and immobilization of phenol-degrading bacteria on oil palm residues for enhancing phenols degradation in treated palm oil mill effluent. *Environmental Engineering Research*. 20 (2): 141-148.
- Suttinun, O, Luepomchai, E., and Muller, R. (2013).Cometabolism of trichloroethylene: concepts, limitations and available technologies for sustained biodegradation. *Reviews in Environmental Science and Biotechnology*. 12: 99- 114.
- Suttinun, O., Muller, R., and Luepromchai, E. (2010).Cometabolic degradation of trichloroethene by *Rhodococcus* sp. strain L4 immobilized on plant materials rich in essential oils. *Applied and Environmental Microbiology*. 76: 4684-4690.
- Suttinun, O., Müller, R. and Luepromchai, E. (2009) Trichloroethylene cometabolic degradation by *Rhodococcus* sp. L4 induced with plant essential oils. *Biodegradation*. 20: 281-291.
- Suttinun, O., Lederman, P. B., and Luepromchai, E. (2004). Application of terpene-induced cell for enhancing biodegradation of TCE contaminated soil. *Songklanakarin Journal of Science and Technology* 26 (Suppl. 1): 131-142.

National journal

- Kaewtip, W., Chuahom, S., Suttinun, O., Luepromchai, E., and Weschayanwivat P. (2009).Combined cloud point extraction and bioremediation techniques for clean-up trichloroethylene in various soil types. *Thai Environmental Engineering Journal*. 23:1-10.
- Luepromchai, E and Suttinun, O. (2005).Development of biological method for treatment of trichloroethylene contaminated-environment. *Journal of Environment*. Oct-Dec: 14-18 (in Thai).

Conference presentation & proceedings

- Taweekarn, T., Boonsawang, P., Intasiri, A., and Suttinun, O. (2016). "Utilization of nipa palm biomass for ethanol production by *Clostridium xylanolyticum*". International Conference on Agriculture and Environment (ICAE 2016), Kuala Lumpur, Malaysia, May 25-27, 2016.
- Taweekarn, T., Boonsawang, P., Intasiri, A., and Suttinun, O. (2015). "Ethanol production from nipa palm frond using immobilized *Clostridium xylanolyticum*". The 27th Annual Meeting of the Thai Society for Biotechnology and International Conference "Innovative Biotechnology", Bangkok, Thailand, November 17-20, 2015.
- Dasantat, J., Rongsayamanont, C., and Suttinun, O. (2015). Immobilization of Thermophilic *Bacillus thermoleovorans* Strain A2 on Rice Husk Ash Pellets for Removal of Phenolics from Palm Oil Mill Wastewater. The 14th National Environmental Conference, Chiangmai, Thailand, 27-29 May 2015. (In Thai)
- Na Phatthalung, W., Musikavong, C., Furumai, H., Suttinun, O. (2015). Removal of Aliphatic and Aromatic Amines from Raw Water by PACl Coagulation. Water and Environment Technology Conference (WET2015), Tokyo, Japan, 5-6, August, 2015.
- Jarujareet, P., Luepromchai, E., Nakkanong, K., and Suttinun, O. (2014). Removal of Color and Phenolics from Palm Oil Mill Effluent by Bioaugmentation of Bacteria in the Rhizosphere. The 13th National Environmental Conference, Bangkok, Thailand, 26-28 March 2014. (In Thai)
- Kaewchutima, N., Suttinun, O., Phenrat, T., and Sangganjanavanich, P. (2014). Legal Measures of Controlling Underground Storage Tank in Petrol Station. The 13th National Environmental Conference, Bangkok, Thailand, 26-28 March 2014. (In Thai).
- Prommanee, S., Suttinun, O., Phenrat, T., and Sangganjanavanich, P. (2014). Thai Legal Measures for Remediation and Monitoring of Remediation Process of Contaminated Abandoned Mines Sites. The 13th National Environmental Conference, Bangkok, Thailand, 26-28 March 2014. (In Thai)
- Na-Patthalung, W., Suttinun, O., Musikavong, C. (2014). Presence of Organic Carbon and Organic Nitrogen in Groundwater, Raw Water Supply, and Water Supply in the U-Tapao River Basin, Thailand. International congress on natural sciences and engineering (ICNSE), May 7-9, 2014, Kyoto, Japan
- Kietkwanboot, A., Hanh, T.T.M., and Suttinun, O. (2013). Decolorization and Biodegradation of Phenolic Compounds in Palm Oil Mill Effluent by White Rot Fungi Immobilized on Oil Palm Residues. The 2nd International Conference on Environmental Science & Engineering and Management, KhonKaen, Thailand, March 27-29, 2013.
- Chantho, P., Musikavong, C., and Suttinun, O. (2013). Pretreatment of phenolic compounds in palm oil mill wastewater by the thermophilic *Bacillus thermoleovorans* strain A2 for enhancement of biogas production. The 2nd International Conference on Environmental Science & Engineering and Management, KhonKaen, Thailand, March 27-29, 2013.
- Na Phatthalung, W., Pongpiachan, S., Klysubun, W., Prietzel, J., Thumanu, K., and Suttinun, O. (2011). Applications of Fluorescence-Yield X-ray Absorption Near Edge Structure (FL-XANES) on Characterization of Terrestrial Soils and Tsunami Deposits. 2011 Asia Women Eco-science Forum, Seoul, Republic of Korea, November, 7-9, 2011.

- Pongpiachan, S., Na Phatthalung, W., Klysubun, W., Thumanu, K., and Suttinun, O. (2011). Preparation of Anoxic Environmental Samples and Sulfur Speciation of PM₁₀ in the Atmosphere of Songkhla by Using FL-XANES (Fluorescent Mode X-ray Absorption Near Edge Structure). The 10th National Environmental Conference, Songkhla, Thailand, 23-25 March 2011 (In Thai).
- Hattayanone, M., Pongpiachan, S., Suttinun, O., Kositanone, C., and Sorrawisut, A. (2011). Application of Geographic Information System (GIS) to Study the Distribution of Polycyclic Aromatic Hydrocarbons in PM₁₀ Urban Atmosphere of Bangkok. The 10th National Environmental Conference, Songkhla, Thailand, 23-25 March 2011. (In Thai)
- Wong-utai, C., Pongpiachan, S., Aeimbhu, A., Wanakamol, P., Suttinun, O., Rujiraworawut, K., and Paso, A. (2011). A Feasibility Study of Applying Nanotechnology to Trap Hydrocarbons in Lubricating Oil. The 10th National Environmental Conference, Songkhla, Thailand, 23-25 March 2011 (In Thai).
- Choochuay, C., Pongpiachan, S., Suttinun, O., and Kositanon, C. (2011). A study of mutagenic index of bacteria in particles of urban areas in Bangkok. The 10th National Environmental Conference, Songkhla, Thailand, 23-25 March 2011 (In Thai).
- Putkhao, P., Thumanu, K., Thuntanuch, W., Suttinun, O., Kositanon, C. and Pongpiachan, S. (2011). Comparison of ATR-FTIR spectroscopy and Ion chromatography to determine organic functional groups and inorganic ions in Urban Atmosphere of Chiang-Mai. The 10th National Environmental Conference, Songkhla, Thailand, 23-25 March 2011 (In Thai).
- Ponpi boon, T., Pongpiajan, S., Suttinun, O., Ewecharoen, A., and Paso, A. (2011). A Comparative Efficiency Study of Activated Carbon Made from Coffee Bean and Coconut Shell in Trapping Chloroform in Water Supply. The 10th National Environmental Conference, Songkhla, Thailand, 23-25 March 2011 (In Thai).
- Bunchai, A., H-Kittikun, A., Suttinun, O., and Musikavong, C. (2011). Evaluation of Greenhouse Gas Emission from Dry Extraction Process of Palm Oil Mill. The 10th National Environmental Conference, Songkhla, Thailand, 23-25 March 2011.
- Tosu, P., Luepromchai, E. and Suttinun, O. (2011). Phenol Degradation by Co-culture of *Methylobacterium* sp. NP₃ and *Acinetobacter* sp. PK₁ Immobilized on Oil Palm Residues. The 10th National Environmental Conference, Songkhla, Thailand, 23-25 March 2011 (In Thai).
- Mamimin, C., Sompongchaiyakul, P., and Suttinun, O. (2011). Comparison of Bioremediation Strategies for Phenol Degradation in Palm Oil Mill Effluent. The 10th National Environmental Conference, Songkhla, Thailand, 23-25 March 2011.
- Suttinun, O., Müller, R. and Luepromchai, E. (2009). Effect of trichloroethylene and essential oil component on toluene dioxygenase from *Rhodococcus* sp. L4. The 3rd Congress of European Microbiologists (FEMS 2009), Gothenburg, Sweden, June 28 –July 2, 2009. **(Awarded with a FEMS Non-European Young Scientist Travel Grant)**
- Kaewtip, W., Chuahom, S., Suttinun, O., Luepromchai, E. and Weschayanwiwat, P. (2009). Combined cloud point extraction and bioremediation techniques for clean-up trichloroethylene in various soil types". The 8th National Environmental Conference, NakhonRatchasima, Thailand, March 25-27, 2009.
- Suttinun, O., Müller, R. and Luepromchai, E. (2008). Induction of *Rhodococcus* sp. L4 to cometabolize trichloroethylene by plant residues. The XII International Congress of Bacteriology and Applied Microbiology, the Meetings of the Three Divisions of the International Union of Microbiological Societies (IUMS 2008),

Istanbul, Turkey, August 5 -15, 2008. **(Awarded with an IUMS 2008 student travel grant)**

- Suttinun, O., Müller, R. and Luepromchai, E.(2007). Effect of various terpenes on inducing *Rhodococcus* sp. L4 to cometabolize trichloroethylene. The 6th Princess Chulabhorn International Science Congress, Bangkok, Thailand, November 25-29, 2007.
- Luepromchai, E. and Suttinun, O. (2006). Trichloroethylene biodegradation by terpene inducible dioxygenase in *Rhodococcus pyridinivorans* L4 bacteria. International Conference: Hazardous Waste Management for a Sustainable Future. Century Park Hotel, Bangkok, Thailand. January 10-12, 2006.
- Weight, K., Suttinun, O., Pinyakong, O., and Luepromchai, E. (2006). Application of plants and their associated bacteria for atmospheric PAH degradation. International Conference: Hazardous Waste Management for a Sustainable Future. Century Park Hotel, Bangkok, Thailand. January 10-12, 2006.
- Luepromchai, E. and Suttinun, O. (2005).Biodegradation of endosulfan in soil amended with sludge and effective microorganisms (EM). BioThailand 2005. QueenSirikit National Convention Center, Bangkok, Thailand. November 2- 5, 2005.
- Suttinun, O. and Luepromchai, E. (2005). Bioremediation of trichloroethylene contaminated soil by the addition of terpene-induced *Rhodococcus* and plant residues. The XI International Congress of Bacteriology and Applied Microbiology, the Meetings of the Three Divisions of the International Union of Microbiological Societies (IUMS 2005), San Francisco, California, USA. July 23-28, 2005. **(Awarded with an IUMS 2005 student travel grant)**
- Suttinun, O. and Luepromchai, E. (2004). Application of terpene induced cell for enhancing biodegradation of TCE contaminated soil. The 3rd National Environmental Conference, Songkhla, Thailand, 28-30 January 2004.
- Suttinun, O. and Luepromchai, E. (2003). Plant terpene as an inducer for trichloroethylene (TCE) biodegradation and bioremediation. EMECS 2003: The 6th International Conference on the Environmental Management of Enclosed Coastal Seas, Bangkok, Thailand, 18-21 November 2003.
- Luepromchai, E. and Suttinun, O. (2003). Substrate diversity of a new *Rhodococcus pyridinivorans* and its application for TCE biodegradation".SETAC Asia/Pacific | ASE Annual Meeting, Christchurch, New Zealand, 28 September – 1 October, 2003.

RESEARCH PROJECTS

- **Title:** Reduction of polymerization and inhibitory effects of phenolic compounds present in palm oil mill effluent on biogas production by co-culture of white rot fungi
Grant from: Thailand Research Fund
Research period: Feb 2015- Jan 2018
- **Title:** Ethanol production from nipa palm frond using immobilized *Clostridium* sp.
Grant from: Energy policy and planning office, Ministry of Energy
Research period: July 2014-June-2015
- **Title:** Removal of phenolics and color from palm oil mill effluent by *Brachiaria humidicola* planted soil with *Methylobacterium* sp. NP3 and *Acinetobacter* sp. PK1 inoculation
Grant from: Thailand Research Fund
Research period: Nov 2012- Jan 2015

- **Title:** Integration of biological approaches for enhancement of biogas production, wastewater treatment, and utilization of palm oil mill effluent
Grant from: National Research Council of Thailand
Research period: Aug 2013-Aug 2014
- **Title:** Sequential decolorization of palm oil mill effluent using immobilized bacteria and fungi
Grant from: Industrial Technology Assistance Program, NSTDA
Research period: Dec 2012-Dec 2013
- **Title:** Pretreatment of phenolic compounds in palm oil mill wastewater by thermophilic bacteria for enhancement of biomethanation
Grant from: Energy policy and planning office, Ministry of Energy
Research period: June 2012-May 2013
- **Title:** Characterization and Removal of Phenolic Compounds in Palm Oil Mill Wastewater Treatment Plant
Grant from: Prince of Songkla University
Research period: Apr 2012-Apr 2013
- **Title:** Phenol degradation and decolorization of palm oil mill effluent by bacteria and fungi immobilized on palm oil residues
Grant from: Research grant for new scholar, The Thailand Research Fund
Research period: June 2011-Dec 2013
- **Title:** Pretreatment of phenolic compounds in palm oil mill wastewater by bacteria immobilized on silica for enhancement of biomethanation
Grant from: Innovation Coupon, The Federation of Thai Industries
Research period: June 2012- Oct 2012
- **Title:** Phenol degradation by mixed culture of *Methylobacterium* sp. NP3 and *Acinetobacter* sp. PK1 immobilized on oil palm residues
Grant from: Prince of Songkla University
Research period: April 2010 – April 2012

Others

- Chairperson, Ph.D. Program in Environmental Management, Faculty of Environmental Management, Prince of Songkla University, Oct 2013-present
- Coordinator of International Graduate Student, Faculty of Environmental Management, Prince of Songkla University, May 2010-Jan 2012