

Curriculum Vitae

Name: Nusara Sinbuathong, Ph.D
Position: Scientist
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EDUCATION

2007 Ph.D (Environmental and Hazardous Waste Management)
Inter Department, Chulalongkorn University, Thailand
1994 M.Eng (Environmental Engineering), Kasetsart University, Thailand
1984 B.Sc (Chemistry), Chiangmai University, Thailand

TRAINING

1999 Wood chemistry, JICA, University of Tokyo, Japan

PROFESSIONAL EXPERIENCE

1986 - present Scientific Equipment and Research Division, Kasetsart University,
Bangkok, Thailand

AREA OF EXPERTISE

- Anaerobic digestion and biogas production
- Heavy metal elimination
- Spectrometry
- Chromatography

RESEARCH GRANT

As Head of Project (Selected)

2018 Biogas production from fresh weeds

2018, 2019 Sunn hemp for bioenergy production

2017	Effect of climate variability on plant management along the Chao Phraya basin
2014, 2015	Methane Production from Napier Grass Fossil Fuels by Two-stage Anaerobic Digestion
2014	Feasibility Study for Biomethane Production from High Salinity Industrial Wastewater
2013	Development for Simplified Methodology Used for the Automated Field Test Equipment in the Determination of Nitrogen and Phosphorus, Kasetsart University Grant
2012	BioHydrogen Production by Dark Fermentation from Brewery Wastewater, Kasetsart University Grant
2010-2011	BioHydrogen Production by Dark Fermentation from Agricultural and Food Industrial Wastewater, Kasetsart University Grant
2009	Detection, Isolation, and Identification of Anaerobic Metal-Resistant Strains for the Treatment of Industrial Wastewater, Kasetsart University Grant
2009	Biogas Production from <i>Jatropha curcas</i> Seed Cake by Various Types of Anaerobic Process Operation, Toray Science Foundation, Japan
2008, 2010	Biogas Production from <i>Jatropha curcas</i> Seed Cake by a Single-Stage and a Two- Stage Anaerobic Process

As Co-Researcher (Selected)

2009	The Application of Chemical Fertilizers on Paddy Field According to the Soil Analysis Data
2008	Supplementation of Red Mold Rice from an Egg Yolk Pigmented and Cholesterol Lowering <i>Monascus</i> Strain on Egg Performance and Quality in Laying Hens

PUBLICATIONS (selected)

1. **Nusara Sinbuathong**, Boonsong Sillapacharoenkul. 2020. Dark fermentation of starch factory wastewater with acid- and base-treated mixed microorganisms for biohydrogen production. *International Journal of Hydrogen Energy*. DOI:10.1016/j.ijhydene.2020.06.109
2. Punika Puengprasert, Tanida Chalobol, **Nusara Sinbuathong**, Penjit Srinophakhun, Anusith Thanapimmetha, Chen-Guang Liu, Xin-Qing Zhao, Chularat Sakdaronnarong. 2020. A combined cellulosic and starchy ethanol and biomethane production with stillage recycle and respective cost analysis. *Renewable Energy*. 157:44 –445.
3. **Nusara Sinbuathong**, Boonsong Sillapacharoenkul. 2020. Enhancement of biogas production from sunnhemp using alkaline pretreatment. *International Journal of Hydrogen Energy*. DOI: 10.1016/j.ijhydene.2020.04.058
4. Boonsong Sillapacharoenkul, **Nusara Sinbuathong** 2020. Anaerobic biological treatment of frozen seafood wastewater. *Environmental progress & Sustainability Energy*, 35(5), DOI: 10.1002/ep.13418
5. **Nusara Sinbuathong**, Netechanok Sombat, Shettapong Meksumpun. 2020. Comparison of the increase in methane yield using alkali pretreatment for French weed and water lettuce prior to co-digestion. *Environmental progress & Sustainability Energy*, 35(4), DOI: 10.1002/ep.13361
6. **Nusara Sinbuathong**, Netechanok Sombat, Wannapa Kratay. 2020. Sedge for biogas production and improving the process by pretreating sedge prior to co-digestion. *International Journal of Global Warming*, 20(1): 12–24.
7. **Nusara Sinbuathong**, Mattapanart Leadvilai, Boonsong Sillapacharoenkul. 2019. Anaerobic digestion of high salinity wastewater and methane production. *Desalination and Water Treatment* 152:116–123.

8. **Nusara Sinbuathong**, Roj Khun-Anake, and Suriya Sawanon. 2019. Biogas production from sunn hemp, *International Journal of Global Warming*, 19 (1/2):24–36.
9. **Nusara Sinbuathong**, Wannapa Kratay, Netechanok Sombat, Suchat Leungprasert, Suriya Sawanon. 2019. Biogas production in semi-continuous-flow reactors using fresh water hyacinth from the Chao Phraya River, *International Journal of Global Warming*, 17 (3):252–265.
10. **Nusara Sinbuathong**. 2019. Predicting the increase of methane yield using alkali pretreatment for weeds prior to co-digestion, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 41:9, 1124–1131.
11. Boonya Charnnok, Chularat Sakdaronnarong, **Nusara Sinbuathong**. 2019 Hydrothermal pretreatment with sulfonated bentonite catalyst enhances potassium removal and bioconversion of oil palm empty fruit bunch to sugar and biohydrogen, *Biomass Conversion and Biorefinery*, 9 (2): 389-399.
12. **Nusara Sinbuathong**, Yuwadee Sangsil, Suriya Sawanon. 2018. Cutting interval of Napier grass affecting methane yield in anaerobic digestion. *International Journal of Global Warming*, 14(3): 288–300.
13. Suriya Sawanon, Piyanee Sangsri, Suchat Leungprasert, **Nusara Sinbuathong**. 2017. Methane Production from Napier Grass by Co-digestion with cow dung *Energy Solutions to combat Global Warming Book Series: Lecture Notes in Energy* 33:169-180.
14. **Nusara Sinbuathong**, Yuwadee Sangsil, Suchat Leungprasert, Suriya Sawanon. 2016 Methane production from napier grass by two-stage anaerobic digestion. *International Journal of Global Warming*, 10(4): 423-436.
15. **Nusara Sinbuathong**, Budsakorn Kanchanakhan and Suchat Leungprasert. 2015. Biohydrogen production from normal starch wastewater with heat-treated mixed microorganisms from a starch factory. *International Journal of Global Warming*, 7(3), 293-306.

16. **Nusara Sinbuathong**, Chamaiporn Somjit, Suchat Leungprasert. 2015. Feasibility study for biohydrogen production from raw brewery wastewater International Journal of Energy Research 39(13):1769-1777.
17. Chularat Sakdaronnarong, Apisada Ittitanakam, Waranuch Tanubumrungsuk, Suthinee Chaithong, Sirinna Thanosawan, **Nusara Sinbuathong**, Chuttchaval Jeraputra. 2015. Potential of lignin as a mediator in combined systems for biomethane and electricity production from ethanol stillage wastewater RENEWABLE ENERGY Volume: 76: 242-248.
18. **Nusara Sinbuathong**, Pramote Sirirote, Daniel Watts, Suphang Chulalaksananukul. 2013. Heavy metal resistant anaerobic bacterial strains from brewery digester sludge. International Journal of Global Warming, 5(2):127-134.
19. Chularat Krongtaew Sakdaronnarong, Sirinna Thanosawan, Suthinee Chaithong, **Nusara Sinbuathong**, Chuttchaval Jeraputra. 2012. Electricity production from ethanol stillage in two-compartment MFC, Fuel. 107:382-386.
20. Tanathorn Vitisant, Warawut Chulalaksananukul, Rungtiwa Piumthongkum, **Nusara Sinbuathong**, Puttachad Mekthong, Suphang Chulalaksananukul. 2012. Synthesis of Sugar Ester by Local Yeast Lipase in Solvent Free System. International Journal of Science and Technology. 2(11):773-777.
21. Suphang Chulalaksananukul, **Nusara Sinbuathong**, Warawut Chulalaksananukul. 2012. Bioconversion of Pineapple Solid Waste under Anaerobic Condition through Biogas Production. KKU Research Journal 17(5):733-741.
22. **Nusara Sinbuathong**, Pramote Sirirote, Boonsong Sillapacharoenkul, Junko Munakata-Marr. 2012. Biogas production from two-stage anaerobic digestion of *Jatropha curcas* seed cake. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects. 34(22):2048-2056.
23. Monnat Theerachat, Chompunuch Virunanon, Suphang Chulalaksananukul, **Nusara Sinbuathong**, Warawut Chulalaksananukul. 2011. NirK and nirS Nitrite Reductase

Genes from non-agricultural forest soil bacteria in Thailand . World Journal of Microbiology and Biotechnology. 27(4):999-1003.

24. **Nusara Sinbuathong**, Junko Munakata-Marr, Boonsong Sillapacharoenkul, Suphang Chulalaksananukul. 2011. Effect of the solid content on biogas production from *Jatropha curcas* seed cake. International Journal of Global Warming 3(4):403-416.
25. **Nusara Sinbuathong**, Boonsong Sillapacharoenkul, Roj Khun-Anake, Daniel Watts. 2010. Optimum organic loading rate for semi-continuous operation of an anaerobic process for biogas production from *Jatropha curcas* seed cake. International Journal of Global Warming 2(2):179-188.
26. **Nusara Sinbuathong**, Pramote Sirote, Winai Liengcharernsit, Sutha Khaodhiar, Daniel J. Watts. 2009. Kinetic comparison high sulfate of microbial assemblages for the anaerobic treatment of wastewater with and heavy metal contents. Journal of Environmental Biology 30 (1): 11-15.
27. **Nusara Sinbuathong**, Suphang Chulalaksananukul, Pramote Sirote, Boonsong Sillapacharoenkul. 2008. Comparisons of the Methane Production Yield Coefficient from Anaerobic Microbial Assemblages in the Anaerobic Treatment of Wastewater. Journal of Agricultural Machinery Science 4(3), 269-272.
28. **Nusara Sinbuathong**, Sutha Khaodhiar, Winai Liengcharernsit, Pramote Sirote, Daniel Watts. 2007. Effect of sulfate on the methanogenic activity of a bacterial culture from a brewery wastewater during glucose degradation. Journal of Environmental Sciences 19, 1025–1027.
29. **Nusara Sinbuathong**, Bussarin Kongseri, Panadda Plungklang, Roj Khun-anake. 2000. Cyanide removal from laboratory wastewater using sodium hypochlorite and calcium hypochlorite. Kasetsart Journal: Natural Science 34(10): 74-78.

30. Sombun Techapinyawat, Malee Na Nakorn and **Nusara Sinbuathong**. 1995. Effects of ethephon and paclobutrazol on growth and yield of Mungbean cv Kamphaeng Saen 1. *Kasetsart Journal: Natural Science* 29(2): 193-204.
31. Patana Anurakpongsatorn, Chongrak Keawprasit, **Nusara Sinbuatong** and Benja Chutintrasri. 1988. Insecticide residues in mushroom. *Kasetsart Journal: Natural Science* 22 (4): 318-322.

CONFERENCE PRESENTATIONS

- Nusara Sinbuathong**, Yuwadee Sangsil, Suchat Leungprasert, Suriya Sawanon Methane production from napier grass by two-stage anaerobic digestion Peking University, Beijing, China 24-29 July 2014.
- Nusara Sinbuathong**, Chamaiporn Somjit, Suchat Leungprasert Feasibility study for biohydrogen production from normal brewery wastewater, Peking University, Beijing, China 24-29 July 2014.
- Suriya Sawanon, Piyanee Sangsri, Suchat Leungprasert, **Nusara Sinbuathong** Methane production from napier grass by co-digestion with cow dung. Peking University, Beijing, China 24-29 July 2014.
- Nusara Sinbuathong**, Jirawat Runglertrakulchai and Suphang Chulalaksananukul Biomethanation of acidic pH wastewater with acidic stressed bacteria The International Conference on Environmental Science and Technology (**ICOEST 2013**) 18 – 21 June 2013, Cappadocia Urgup, Nevsehir, TURKEY.
- Nusara Sinbuathong**. International Conference on Green Energy Renewable Energy and Global Care 2012 November 28-29, 2012 in Jatropha Update Joint Symposium. Biogas production from *Jatropha curcas* seed cake: Batch, Single-stage, and Two-stage Anaerobic Digestion. Sunee Grand Hotel, Ubonrachathani, Thailand. (Invited speaker).
- Peeriya Peerapongpipat, Pongpan Suksommanat, **Nusara Sinbuathong**, Warawut Chulalaksananukul, and Suphang Chulalaksananukul: Evaluation of sea weeds from shrimp farming as oil feedstock for biodiesel production (Thailand). The First Asian Marine Biology Symposium in Phuket, Thailand, 13–17 December, 2012
- Nusara Sinbuathong**, Jirawat Runglertrakulchai and Suphang Chulalaksananukul

ICOEST 2013 Biomethanation of acidic pH wastewater with acidic stressed bacteria. Cappadocia, Turkey

Nusara Sinbuathong, Pramote Sirirote, Daniel Watts, Suphang Chulalaksananukul, Heavy metal resistant anaerobic bacterial strains from brewery wastewater. Global Conference on Global Warming 2011 (GCGW 2011) Lisbon, Portugal 11-14 July 2011

Nusara Sinbuathong, Junko Munakata-Marr, Boonsong Sillapacharoenkul, Suphang Chulalaksananukul Effect of the solid content on biogas production from *Jatropha curcas* seed cake. Global Conference on Global Warming 2011 (GCGW 2011) Lisbon, Portugal 11-14 July 2011

Budsakorn Kanchanakhan, **Nusara Sinbuathong**, Suchat Leungprasert, and Daniel Watts. 2011. The 2011 International Conference on Alternative Energy in Developing Countries and Emerging Economics (2011 AEDCEE) J.B. Hotel, Hatyai 25 May 2011

AWARD (Selected)

- Certificate for outstanding presentation/contribution from Peking University (Global Conference on Global Warming 2014). July 2014, Beijing, China.
- Best Poster Award from 4th International Conference on Research Frontiers in Chalcogen Cycle Science & Technology 2015, the Netherlands.
- Outstanding government official of Kasetsart University Research and Development Institute (KURDI) of the year 2014.
- Certificate for outstanding presentation/contribution to GCGW 2014, Peking University, Beijing, China
- Outstanding government official of the Thai Government Public Sector in 2009.
- Outstanding government official of Kasetsart University in 2009.
- Winner award from Toray Science Foundation (TSF) Japan in 2009.
- Award and certificate for researchers achieving the paper published in SCI-indexed Journals in the years 2009-2013 (First and Corresponding author), provided by Kasetsart University.
- Award from Innovation of KU Mona rice in 2008 (Co-researcher), provided by Kasetsart University.
- Excellent presentation awards in 2008 (Co-researcher) from 13th Animal Science congress of the Asian-Australasian Association of Animal Production Societies. Hanoi, Vietnam.

OTHERS

- Editorial Board Member of International Journal of Global Warming, June 2019-present
- International Advisory Committee of 9th Global Conference on Global Warming 2020 at Zagreb, Croatia
- Reviewer for the reputable international journals in SCI data base for 8 Journals.
- Delegate of the Thai in presenting data in the topic of “Wastewater Treatment and Reuse for Agriculture and Utilization of Agricultural Waste for Energy Production: Case Studies. The Thai-Israeli Science and Technology Cooperation Conference 2012, Bangkok. Held by The Royal Thai Embassy, Tel Aviv and NSTDA.
- Invited lecturer for the Federation of Thai Industries since 2005-present.
- Invited lecturer of the Graduated School of Kasetsart University (Faculty of Engineering and Faculty of Agriculture) and Thammasart University (Faculty of Science and Technology) for 22 years.
- Chair person of the international conference at Istanbul 2009 (Session of Chemical Aspect II) and Izmir 2018 (Session of Waste Management-I) and Doha 2019 (Session of Waste Heat Recovery and Electrical Vehicles), also Co-chair person of international conference at Ubon Rachathani in 2012 (Session of Bioenergy and Biomass).