

Jutamas Kaewsuk

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Overall Profile

Environmental engineering professional with over ten years of working experience in NGO, research institutes, governmental agency and academic institute. Working as lecturer and researcher in higher education institution for four years. Expertise in solid waste and plastic waste research. Teaching in solid waste engineering course and working on microplastic contamination in surface water environment and community solid waste management.

Working Experience

Lecturer

July 2020 – Present

Environmental Engineering and Disaster Management Program (ED), Mahidol University Kanchanaburi Campus (MUKA)

Responsibilities:

- Lecture bachelor program of environmental engineering
- Leading projects concerning to plastic waste, microplastic contamination in the environment

Achievements:

- Project management
- Communication skills

Mahidol University is the leading university in health, science and technology in Thailand. MUKA is a campus located in Kanchanaburi focusing on finding solution for local communities with multi-disciplinary research. ED is the only program in the country that provide environmental solution as part of disaster management. ED has mandates of; (i) providing teaching undergraduate courses, (ii) conducting research in those environment engineering and disaster management areas, and (iii) supporting technical services to local and western ASEAN region

Lecturer

January 2017 – June 2020

Faculty of Environment and Resources Studies (FERS), Mahasarakham University (MSU)

Responsibilities:

- Lecture master program of environmental management
- Leading projects concerning to water supply and aquatic microplastic pollution

Achievements:

- Project management
- Communication skills

FERS, MSU is the only higher education institution on environment and natural resources in Northeast Thailand. The FERS has mandates of; (i) providing teaching both undergraduate to postgraduate courses, (ii) conducting research in those environment and natural resources related areas, (iii) supporting technical services to local and Mekong communities, and (iv) conserving local cultural heritage and tradition

Project manager

July 2013 – July 2016

TEI Thailand Environment Institute (TEI), Pakkred, Nonthaburi, Thailand



Responsibilities:

- Project management, leading a project called “Dow Chemical for Sustainable Industry”. The objective of this project is to develop capacity building programs for industrial and business sectors to strengthen environmental awareness, develop good practice and strengthen public participation in natural resource and environment conservation.
- Project management, in collaboration with the Japanese Institute for Global Environment Strategies (IGES), developing a methodology framework for a new carbon market system and conducting training programs for the Thai industrial sector;
- Write proposals concerning capacity building and environmental awareness raising of personnel in the industrial sector;
- Hold courses on wastewater pollution control and management;
- Workshop organization and coordination;

Achievements:

- Gained leadership skills;
- Application of technical knowledge in practice;
- Integration of analytical skills into project development;

TEI is a non-government organization (NGO), working on environment issues in various aspects such as natural resource management, and pollution prevention and control. TEI works closely with the government, the private sector and local communities and other international partnerships.

Postdoctoral researcher:

January-December 2012

Korea Electrotechnology Research Institute (KERI), Gyeongnam, Changwon, South Korea

Responsibilities:

- Managed a research project on “Development of a next generation environmental-friendly membrane and its application technology”;
- Wrote research publications and conference proceeding as well as hold presentations at international conferences;
- Mentor for master students;

Achievements:

- Enhanced technical knowledge;
- Acquired leadership and team coordination skills;
- Learned how to adapt to a multi-cultural environment;
- Stress-resistance;

KERI is a government-funded research institute that is specialized in electrical engineering contributing. KERI has contributed to development of technology and quality of life improvement through research and development (R&D) achievement.

Postdoctoral researcher

August-December 2011

Changwon National University (CNU), Gyeongnam, Changwon, South Korea

Responsibilities:

- Managed a research project on “Low carbon resource recovery sewage system”;
- Conducted societal embedded and engineering research on decentralized sanitary and reuse (DeSAR) technologies for the implementation of sustainable urban water management in South Korea;
- Designed laboratory-scale wastewater to energy system;
- Wrote project proposal;
- Worked in collaboration with private companies to produce DeSAR prototype system;



- Event organization and coordination;
- Mentor for master students;

Achievements:

- Team leader skills;
- Strengthening of emotional quality (EQ)
- Working under time pressure;

CNU is a governmental university with strong background in engineering research.

Environmental officer

Jun 2007 – Jan 2008

Pollution Control Department (PCD), Ministry of Science Technology and Environment, Bangkok, Thailand

Responsibilities:

- Monitored and rehabilitated efficiency of domestic wastewater treatment plant of all municipalities in Northern Thailand;
- Assisted supervisor to establish policy for Provincial Administrative Organization (PAO);
- Collected samples and wrote report;

Achievements:

- Communication and coordination skill;

PCD is a government administrative which was established with the commitment of controlling, preventing, reducing and eliminating pollution as well as conserving and rehabilitating the environment condition for well being of Thai society.

Management Positions

Assistant Dean for Foreign Relations

July 2019 – June 2020

Faculty of Environment and Resource Studies, Mahasarakham University

Education

Doctoral of Engineer, Environmental Engineering

August 2011

Department of Environmental Engineering, Changwon National University, South Korea

Advisor: Prof. Dr. Gyu Tae Seo

Dissertation: A study on application of nanofiltration (NF) membrane processes for enhancing drinking water quality-natural organic matter (NOM) removal and water softening.

Master of Engineer, Environmental Engineering

June 2006

Department of Environmental Engineering, Kasetsart University, Thailand

Advisor: Asst. Prof. Dr. Monthon Thanuttamawong

Thesis: Treatment of dairy wastewater using photosynthetic bacteria in submerged membrane bioreactor.

Bachelor of Science, Environmental Science

April 2002

Department of Environmental Science, Kasetsart University, Thailand

Advisor: Asst. Prof. Dr. Jakkrit Mahujchariyawong



Senior project: Cultivation of effective microorganisms from food wastes for agricultural soil improvement and composting.

Researches/Projects

March – August 2020

Mobile application development for used face mask (Infectious waste) management for consumers and garbage management personnel: a case study in Maha Sarakham Province

Funding agency: Thai Health Promotion Foundation

August 2019 – 2020

Implementation of a climate change-integrated water safety plan for community water supply system of Nong Toom, Khon Kaen

Funding agency: Faculty of Environment and Resource Studies, MSU

August 2019-2020

Source, characteristics and contamination of microplastic from municipal wastewater to the environment

Funding agency: Mahasarakham University

June 2017 – 2018

No Plastic Campaign MSU

Funding agency: The U.S. Embassy

Jan 2017-Sep 2017

Urban climate change resilience assessment – Khon Kaen city, Thailand

Funding agency: Urban Climate Resilient for Southeast Asia (UCRSEA)

July 2013-July 2016

Applying lean for environment principle for sustainable production for SME in Thailand

Funding agency: Dow Chemical Thailand

Jan 2012-Dec 2012

New cheap anodic aluminum oxide composite membrane by lithography technique

Funding agency: KERI

May 2010-May 2012

Density functional theory (DFT) studies on recalcitrant pharmaceuticals transformation and functional reactivity through water treatment process

Funding agency: New University Fund of Korea (NURI)

PI: Prof. Seo Gyu Tae

May 2011-May 2013

Low carbon resource recovery sewage system

Funding agency: National Research Fund of Korea (NRF)

PI: Prof. Seo Gyu Tae

May 2009-May 2010

Attenuation of hardness and total dissolved solid for supply water quality improvement in Changwon riverbank filtration system

Funding agency: Gyeongnam Regional Environmental Technology Development Center (GRETech)

PI: Prof. Seo Gyu Tae



Academic Service

UNESCAP

November 2020 – March 2021

Project Title: Closing the Loop Project - Scaling up Innovation to Tackle Plastic Pollution in Nakhon Si Thammarat

Responsibility: Plastic waste data collection in Nakhon Si Thammarat Municipality

IGES, Japan

August 2020 – December 2021

Project Title: Closing the Loop Project - Scaling up Innovation to Tackle Plastic Pollution in Nakhon Si Thammarat

Responsibility: Finalize baseline report. Conduct and facilitate a meetings and city action plan workshop.

UNESCAP

December 2020 – June 2021

Project Title: Voluntary Local Reviews

Responsibility: Technical support to Nakhon Si Thammarat Municipality to review it's progress on SDGs. Conduct and facilitate a training workshop and meetings.

UNESCAP

March – April 2021

Project Title: Waste Account on a Micro-scale (Thailand)

Responsibility: Compile waste data according to specification of the SEEA waste accounts. Produce solid waste account for the period of 2017 -2020 for UNESCAP Bangkok facility. Prepare cost analysis for waste collection and treatment. Develop final report and recommendations to improve the overall ESCAP's waste management programmes and strategies.

Skills

Language skills

Thai (Native), **English** (Good working proficiency), **Korean** (Limited working proficiency)

Training/Exchange program

ASEA-UNINET Staff Exchange Program

April 2019

University of Natural Resources and Life Sciences, Vienna, Austria

Funding Agency: ASEA-UNINET

Short Term Research Exchange

December 2018 – January 2019

Changwon National University, South Korea

Funding Agency: MSU

YSEALI Environmental Sustainability fellow 2015

7 October 2015 - 13 November 2015

Funding Agency: United State Department of State, Washington, DC. USA

Certificate: Certificate of Completion

ISO9000/2015 Requirement and Internal Audit

August 2015

Agency: Thailand Environment Institute, Nonthaburi, Thailand

Certificate: Certificate of participation

ISO14001/2015 Requirement and Internal Audit

August 2015

Agency: Thailand Environment Institute, Nonthaburi, Thailand

Certificate: Certificate of participation



Payment for Environment Service (PES)

April 2014

Agency: ECO BEST, Khao Yai National Park, Thailand

Certificate: Certificate of participation

Triple Bottom Line Valuation Method for National Resource Areas Training Program

October 2013

Agency: LEAD Program, USAID, Khao Yai National Park, Thailand

Certificate: Certificate of participation

Environmental management

May – June 2002

Agency: Office of National Resources and Environmental Policy and Planning, Thailand

Certificate: Certificate of training

Hazardous water treatment

April– May 2002

Agency: General Environment Conservation Public Company Limited (GENCO), Thailand

Certificate: Certificate of training

Publications (h-index: 5)

Jutamas Kaewsuk, Arika Bridhikitti and Pensiri Kyes, "Contamination and potential health risk of microplastics in Downstream Chi River, Thailand. Environmental Pollution". Manuscript preparation, to be *Submitted in July 2021*.

Penkhae Thamsenanupap and **Jutamas Kaewsuk**, "Occurrence of microplastics in Chi River Basin, Thailand: anthropogenic influence and potential threats to edible arthropods. Environmental Pollution". *Submitted on June 16, 2021*.

Astrud Lea Beringer and **Jutamas Kaewsuk**, "Emerging Livelihood Vulnerabilities in an Urbanizing and Climate Uncertain Environment for the Case of a Secondary City in Thailand", Sustainability. 2018 (10) 1452.

Jung Sik Won, **Jutamas Kaewsuk**, Jun Ho Jo, Dong-Hee Lim, Gyu Tae Seo, "A density functional theory study on the ozone oxidation of sulfonamide antibiotics", Journal of Advanced Oxidation Technology, 18 (2015) 31-38.

(39 Reads)

Rawiwan Boonchai, **Jutamas Kaewsuk**, Gyu Tae Seo, "Effect of nutrient starvation on nutrient uptake and extracellular polymeric substrate for microalgae cultivation and separation" Desalination and Water Treatment. doi: 10.1080/19443994.2014.939501. **(12 Reads; 2 Citations)**

Jutamas Kaewsuk, Gyu Tae Seo, "Computational study of NF membrane fouling in rejection of specific NOM compounds" Desalination and water treatment. 51/31-33 (2013) 6218-6223. **(6 Reads; 1 Citation)**

Jutamas Kaewsuk, Dong Yun Lee, Gyu Tae Seo, "Effect of co-existing ionic on nanofiltration rejection for hardness water desalination" Desalination and Water Treatment, 43 (2012) 260-266. **(25 Reads; 4 Citation)**

Seung-Hyun Kim, **Jutamas Kaewsuk**, Gyu-Tae Seo, "Effects of various characteristics of seawater on the performance of dual media filters", Desalination and Water Treatment, 27 (2011) 197–203. **(29 Reads; 2 Citation)**

Jutamas Kaewsuk, Gyu Tae Seo, "Verification of NOM removal in MIEX-NF system for advanced water treatment", Separation and Purification Technology, 80 (2011) 11–19. **(34 Reads; 15 Citation)**

Jutamas Kaewsuk, Worachat Thorasampan, Monthon Thanuttamavong, Gyu Tae Seo, "Kinetic development and evaluation of membrane sequencing batch reactor (MSBR) with mixed cultures photosynthetic bacteria for dairy wastewater treatment", Journal of Environmental Management, 91 (2010) 1161–1168. **(90 Reads; 53 Citation)**



Gyu Tae Seo, Jin Tae Kim, Sung Su Kim, **Jutamas Kaewsuk**. Synthesis of Magnetite Nano-Particles and Powder Activated Carbon as a Novel Material for Water Treatment. Materials Science Forum. 620-622 (2009) 145-148. (5 Reads)

Conferences and Proceeding

International conferences

Jutamas Kaewsuk, Wacharapon Santiwacharanuruk, Sadanan Sriwutthipong, "Fate and occurrence of microplastic in Chi River, Thailand" Micropol2019 IWA, 21-23 October 2019, Seoul, South Korea. (Oral)

Jutamas Kaewsuk, Nuppewon Janghan, and Jindarat Munlao, "Development of rural water supply sustainability index and assessment", EnvironmentAsia 2019, 13-14 June, 2019, Chiangmai, Thailand. (Oral)

Jutamas Kaewsuk, Jong Uk Kim, Min Woo Kim, Truong Nhat Nguyen, Jeong Wook Ahn, Dae Yeong Jeong, "New cheap anodic aluminum oxide composite membrane by lithography technique", PRiME 2012, 4-6 September, 2012, Hilton Hotel, Honolulu, USA. (Oral)

Jutamas Kaewsuk, Min Woo Kim, Nguyen Nhat Troung, Dae Yeong Jeong, "Characterization of low cost ultrafiltration ceramic membranes", Asian Membrane Society, July 4-6, 2012, Grand Hotel, Busan, South Korea. (Oral)

J. Kaewsuk, S. J. Jeong, T. S. Lee, G. T. Seo, "Evaluation of Hydrogen Production in Mixed Culture Dark Fermentation for Energy Recovery in DeSar System", The International Symposium on Southeast Asian Water Environment, December 1-3, 2011, The Emerald Hotel, Bangkok, Thailand. (Poster)

Jutamas Kaewsuk, Dong Yun Lee, Gyu Tae Seo, "Effect of co-existing ionic on nanofiltration rejection for hardness water desalination", The 4th International Desalination Workshop, November 16-19, 2011, Jeju, South Korea. (Oral)

Jutamas Kaewsuk, Dong Yun Lee, Gyu Tae Seo, "Nanofiltration-based water softening for drinking water quality enhancement in existing river bank filtration (RBF) plant", International Conference on Water Environment, August 22-23, 2011, Busan, South Korea. (Poster)

Jutamas Kaewsuk, Dong Yun Lee, Taek Soon Lee, Gyu Tae Seo, "Enhancement of drinking water quality by NF membrane for application to existing river bank filtration plant in Korea", 6th IWA Specialist Conference on Membrane Technology for Water & Wastewater Treatment, October 4-8, 2011, Aachen, Germany. (Oral)

J. Kaewsuk, G. T. Seo, T. S. Lee, "Submerged NF membrane with MIEX pretreatment for sustainable advanced water treatment" IWA Regional Conference and Exhibition on Membrane Technology & Water Reuse, October 18-22, 2010 Istanbul, Turkey. (Oral)

Jutamas Kaewsuk, Gyu Tae Seo, Taek Soon Lee, "Fluidized bed MIEX as a pretreatment process of submerged nanofiltration for advanced water treatment", The International Symposium on Southeast Asian Water Environment, October 28-30, 2009, AIT Conference Center, Thailand. (Oral)

Jutamas Kaewsuk, Monthon Thanuttamavong and Gyu Tae Seo, "A Kinetic Study on Mixed Cultures Photosynthesis Bacteria for Treatment of Dairy Wastewater in Membrane Sequencing Batch Reactor (MSBR)", The Sixth International Symposium on Southeast Asian Water Environment. Bandung, Indonesia, October 29-31, 2008. (Poster)

Gyu Tae Seo, Jin Tae Kim, Sung Su Kim and **Jutamas Kaewsuk**, "Synthesis of Magnetite Nano-Particles on the Surface of Powdered Activated Carbon (PAC) for Advanced Water Treatment Application", The Sixth



International Symposium on Southeast Asian Water Environment. Bandung, Indonesia, October 29-31, 2008. (Poster)

National conferences

Jutamas Kaewsuk, Min Woo Kim, Truong Nhat Nguyen, Jong Wook Ahn, Dae Yeong Jeong, "Preparation and characterization of new cheap anodic aluminum oxide composite membranes for ultrafiltration application", Korean Electrochemistry Society Fall Conference. November 8-9 2012, Jeju International Conference Center, Jeju, South Korea. (Poster)

Jutamas Kaewsuk, Gyu Tae Seo, Taek Soon Lee, "Evaluating the effect of MIEX pretreatment on organic fouling and resistance of nanofiltration membrane treating surface water", 2011 Korean Society of Environmental Engineering Fall Conference, December 2-3, 2010, Incheon, South Korea. (Oral)

Jutamas Kaewsuk, Gyu Tae Seo, Taek Soon Lee, Byung Hyun Moon, "Filtration characteristic of polyamide NF membranes for NOM rejection and the effect of MIEX pre-treatment", 20010 Korean Society of Environmental Engineering Spring Conference, March 4-5, 2010, Jeju, South Korea. (Oral)

Jutamas Kaewsuk, Gyu Tae Seo, Taek Soon Lee, "Hybrid fluidized bed MIEX/submerged NF for advanced water treatment", 2009 Korean Society of Environmental Engineering Spring Conference, April 19-20, 2009, Gwangju, South Korea. (Oral)

Jutamas Kaewsuk, Gyu T. Seo, Jong S. Yun, Seung-Hyun. Kim, "Dual-media filtration for pre-treatment of seawater desalination by RO" 2008 Korean Society of Environmental Engineering Fall Conference, 12-13 November 2008, Seoul, South Korea. (Poster)

Jutamas Kaewsuk. Monthon Thanuttamavong. Gyu Tae Seo, "Membrane Sequencing Batch Reactor (MSBR) Couple with Photosynthetic Bacteria for Treating Dairy Wastewater" 2008 Korean Society of Environmental Engineering Fall Conference, 6-7 November 2008, Seoul, South Korea. (Poster)

References

Prof. Dr. Gyu Tae Seo (Advisor)

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