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CENTRE OF EXCELLENCE ON ENERGY TECHNOLOGY AND ENVIRONMENT



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Outstanding Achievement

Professors Shabbir and Navadol Among the Top 2% Most Cited-scientists in the World



Contribution to Knowledge Platform

SWITCH-Asia RPAC: 2020 Leadership Academy on Circular Economy

Public Hearing on Research & Innovation for Thailand's Future Energy System

Academic Seminar on Small Particles in Large Cities

Hotspot Analysis Tool for Sustainable Consumption and Production

การประชุมวิชาการประเด็นข้อเสนอแนะเชิงนโยบาย
การวิจัยเชิงระบบในประเด็นระบบพลังงานอนาคต
(Future Energy System)

18 กุมภาพันธ์ 2564
9:00 - 12:00 น.



Contribution to Research Platform

MoU Signing Ceremony: Low Carbon Industry Development Following Circular Economy

LCSAL Team Granted Research Fund from ARDA



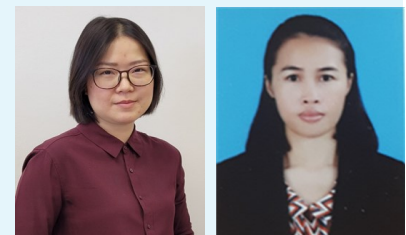
Welcome New Comers

Dr Siriphan Sobanbua



Promotion

Congratulations to Dr Marisa Raita for her Promotion to Assistant Professor



Outstanding Achievement

Professors Shabbir and Navadol Among the Top 2% Most Cited-scientists in the World

JGSEE-CEE is proud to congratulate again Professor Shabbir H. Gheewala and Professor Navadol Laosiripojana for being among the top 2% most cited-scientists in the world in the field of Environmental Sciences and Energy, respectively.



DURING 1997 - PRESENT



> 210
international
journals



5,566
total citations



44
H-index

DURING 2003 - PRESENT



221
international
journals



4,249
total citations
(excluding self-citation)



36
H-index



3 international
patents
15 national
patents

(Under collaboration with industries)



Contribution to Knowledge Platform

SWITCH-Asia RPAC: 2020 Leadership Academy on Circular Economy

During 14-18 December 2020, SWITCH-Asia Regional Policy Advocacy Component (RPAC) which is implemented by UNEP in collaboration with Ekonnnect Knowledge Foundation (EKF) and JGSEE-CEE at KMUTT organised the online Leadership Academy on Circular Economy. The 2020 Leadership Academy focused on how to communicate about circular economy to enhance behavioral changes of various sectors with emphasis on interdisciplinary, project-based and participatory approaches. The 2020 Leadership Academy involved a network of young professionals working on circular economy in Asia. They shared their experiences via case studies and stories on circular economy in Asia and Europe. The topics covered included: Evolution of Circular Economy (CE); Life Cycle Thinking in CE and Stakeholders; Dimensions of Behaviour Change; Policies, Regulations & Economic Instruments related to CE; Purchase-Use-End of Life Stages; Design for Sustainable Behaviour; Regional Circular Economy - A Systems Perspective; Impact of COVID-19 Pandemic; Communication in CE; Importance of Communication & Behavioural Change in CE; Behavioural Change in CE.

Public Hearing on Research & Innovation for Thailand's Future Energy System

การประชุมวิพากษ์ประเด็นข้อเสนอแนะเชิงนโยบาย
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Our energy system is undergoing a fundamental and disruptive transformation as to how energy will be produced and consumed over the next 10 to 20 years. This transformation can be characterized by the so-called “three potential game-changers”*: a) Advanced energy acceleration propelled by new technology, cost reductions and increasing commitment to the environment and climate change; b) Mobility revolution prompting changes in the level and type of energy demand as a result of new technologies and business models; and c) Energy system fragmentation shifting ownership across the energy supply as activity becomes more localized and new players thrive. Viewed from a “socio-technical” perspective**, the energy system may be disrupted

in four dimensions: 1) technology, 2) ownership and actors, 3) markets and business models, and 4) regulation. In this connection, JGSEE has been tasked to answer three key “system research” questions: 1) What would Thailand's future energy system look like and what would be its corresponding technology pathways? 2) What would be the key technologies required and the appropriate innovation strategy for Thailand's energy system transition in such a way that it significantly benefits the economy and society? 3) What would be required, in terms of research and innovation (R&I), to support and drive the transition?

The answers to these questions are contained in a final report to be submitted shortly by JGSEE-CEE to Thailand Science Research and Innovation (TSRI), Ministry of Higher Education, Science, Research and Innovation, the sponsor of the project. And, to provide interested parties with the opportunity to expand on the written report and to discuss issues, particularly the policy recommendations, in a public forum, JGSEE, in collaboration with TSRI, held a “virtual” public hearing on 18 February 2021. The event drew more than 100 participants.

Asst Prof Dr Sukanda Luangon Lewis, Program Director, National Policy and Transnational Relations Division, TSRI, presided over the event with a keynote lecture on “system research” by Dr Somsak Chunharas, former Deputy Minister for Public Health and the President of National Health Foundation. Assoc Prof Dr Bundit Fungtammasan, the head of the project, outlined the project scope and overview of key results. Dr Weerin Wangjiraniran and Dr Jakapong Pongthanasawan of Energy Research Institute, Chulalongkorn University, jointly presented the work on future scenarios and technology pathways, Dr Athikom Bangviwat of JGSEE/KMUTT, on key technologies and priority R&I programs, and Asst Prof Dr Santi Charoenpornpattana of STPI/KMUTT, on innovation strategy and budget allocation and funding schemes. Dr Bundit and Assoc Prof Dr Chumnong Sorapipatana then capped the half-day event by a joint presentation of policy recommendations.

Academic Seminar on Small Particles in Large Cities



On 1 March 2021, an online academic seminar on “Small Particles in Large Cities: What Solutions Can We Find?” The event, held in Thai, was organised by the Policy Research Center on Green Economy of the Faculty of Economics, Thammasat University. On this occasion, Assoc Prof Dr Savitri Garivait was invited to deliver a talk on “Causes and Emission Sources of Particulate Matter in Cities.” The presentation aimed at providing an overview on the formation and emissions of particulate matter, and the mitigation options of haze pollution in large cities via various emission control strategies. Such options and strategies were also debated among participants of the seminar. The importance of setting up a national air pollutant emissions inventory to contribute enhancing air quality management in Thailand was also addressed during the event.

Hotspot Analysis Tool for Sustainable Consumption and Production



On 20 March 2021, the Life Cycle Sustainability Assessment Lab (LCSAL) arranged a training session on “Hotspot Analysis Tool for Sustainable Consumption and Production” (SCP-HAT). The training was conducted by Dr Mushtaq Ahmed Memon (Regional Coordinator for Resource Efficiency at UN Environment Programme). It was attended by members of LCSAL working on various aspects of responsible consumption and production through life cycle thinking. The SCP-HAT tool provides information about the environmental and socio-economic performance of 171 countries over the past 25 years and aim at supporting science-based national policy frameworks. Participants to the training benefited from real-time experience regarding country profiles analysis, hotspot identification, and national data systems using various SCP indicators. This information was used to interpret past trends and predict future responses of different countries to various policies and situations. This includes the great economic recession in 2008 and COVID-19.

Contribution to Research Platform

MoU Signing Ceremony: Low Carbon Industry Development Following Circular Economy



On 23 March 2021, Prof Shabbir H. Gheewala, Head of LCSAL, JGSEE and Dr Pariyapat Nilsalab, JGSEE researcher (LCSAL) attended the Kick-off meeting and MoU signing ceremony of the project on “Low Carbon Industry Development Following Circular Economy” at the Cavalli Casa Resort in Ayutthaya province. Professor Shabbir is the project advisor and his LCSAL team plays an essential role in operating the project. Assoc Prof Dr Thapat Silalertruksa, Department of Environmental Engineering, KMUTT, is the head of the project. The project is performed in collaboration with the Thailand Greenhouse Gas Management Organisation (Public Organisation). It aims at encouraging a low carbon industry model in Ayutthaya province by applying the concept of circular economy, and carbon footprinting and life cycle assessment. The MoU signing ceremony involved 20 industries from the Ayutthaya province. They are joining the project as pilot low-carbon industries under the circular economy model.

LCSAL Team Granted Research Fund from ARDA

Professor Shabbir H. Gheewala and his team in the Life Cycle Sustainability Assessment Laboratory (LCSAL) of JGSEE-CEE have been granted a 2021 Agricultural Research Development Agency (Public Organization) fund for the research project entitled “Sustainability Assessment of Oil Palm Value Chain and Refinery Systems for Food, Fuel and Other Value Products in Thailand (Phase II)”. Further updates about the project will be posted in next issues of JGSEE’s newsletter.

Welcome New Comers

Dr Siriphan Sobanbua



In 2020, Dr Siriphan Sobanbua earned a PhD degree in Biotechnology on “Overexpression of Antimicrobial Substance KAC5 in Lactobacillus Reuters KUB-AC5 and its Detection based on Real Time PCR”. The thesis work was supervised by Assoc Prof Dr Sunee Nitisinprasert, Kasetsart University. During her doctoral studies, Dr Siriphan received a scholarship from the Research and Researchers Fund for Industries and Beta Group Public Co. Ltd. She is now a post-doctoral researcher at JGSEE-CEE under the supervision of Professor Chantaraporn Phalakornkule. She is working on the project titled “Management of Digestate for the Productions of Biogas, Water and Value-added Product from Concentrated Digestate based on Circular Economy in Ethanol Production Process”. This project is performed under the CEE’s program on “Development of Bioenergy Technology and Value-added Products based on Circular Economy Concept for Sustainable Bioeconomy: Bioeconomy”.

Promotion

Congratulations to Dr Marisa Raita for her Promotion to Assistant Professor



JGSEE-CEE is pleased to congratulate Dr Marisa Raita for her promotion to the position of Assistant Professor effective since 19 June 2020. Dr Marisa works in the Advanced Fuel Processing Laboratory (AFPL). Her expertise is on the utilisation of lignocellulosic biomass and by-products from the agricultural and industrial sectors, and their conversions to value-added chemicals and other products. This research expertise contributes to support the development of the biorefinery industry in Thailand. Her research work also aims at developing integrated prototypes and process technologies from the lab to the pre-pilot scale prior to potential up-scaling to the industrial scale. Over the past few years, Dr Marisa has contributed to research projects with Thai government agencies, research institutions, and private companies.

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