

SDG REPORT

Rajamangala University of Technology

Phra Nakhon 2024

13 CLIMATE ACTION



- Executives from RMUTP participated in the international academic conference aimed at advancing Thailand towards a Net-Zero society by reducing greenhouse gas emissions to zero, held in Düsseldorf, Federal Republic of Germany.
- RMUTP Offers Free Training on “Energy Control and Management Systems for Smart Farms or Smart Buildings Using IIoT Technology”
- RMUTP RACING Team won 2nd place for Asia-Pacific Class in Shell Eco-marathon Asia Pacific and Middle East 2024
- RMUTP Collaborates with Ten Innovation Co., Ltd. to Promote Clean Energy
- RMUTP professor has been selected to join NASA in a mission to conduct in-depth research on Thailand’s air quality as part of the ASIA-AQ project. This collaboration aims to identify the sources of PM 2.5 pollution and develop long-term solutions to address the issue.



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Dr. Natworapol Rachsiriwatcharabul, President of Rajamangala University of Technology Phra Nakhon (RMUTP), along with Asst. Prof. Dr. Prin Boonkanit, Vice President for Administrative, Research, and Innovation Development, and Dr. Chalakorn Udomraksasakul, Director of the Institute of Research and Development, attended the international conference “The Innovation Towards Thailand’s Net-Zero Society to Carbon Neutrality with the EU” in Düsseldorf, Germany, from 30 April to 7 May 2024. The conference aimed to strengthen Thailand’s human resources and technological development, with the goal of achieving sustainability and global recognition. Interested individuals can apply through the direct admission system, round 1, from now until March 4, 2024

The conference discussions centered around three main topics: 1) Green transition strategies and policies, focusing on strategic actions to reduce greenhouse gas emissions to zero and enhance energy resource security; 2) Financial mechanisms and public-private partnerships, involving ESG (Environment, Social, and Governance) groups to support green economic and financial transformations; and 3) Leading sustainability science, with an emphasis on promoting research and innovation for carbon neutrality, and aligning efforts with EU environmental measures.

During the visit, the RMUTP delegation also toured the Max Planck Institute for Chemical Energy Conversion, exchanging knowledge with academics and researchers from leading institutions in Germany. RMUTP remains committed to fostering a sustainable Net-Zero society in Thailand, applying environmental innovations, and developing human resources with a deep understanding of natural resource conservation. The university aims to create a lasting impact on the transition towards a Net-Zero society by achieving zero greenhouse gas emissions.





สถาบันสหวิทยาการดิจิทัลและหุ่นยนต์

กรมส่งเสริมการค้าระหว่างประเทศ กระทรวงพาณิชย์

RMUTP

หลักสูตร
การสร้างระบบควบคุมและจัดการพลังงาน
สำหรับโรงเรือนอัจฉริยะหรืออาคารอัจฉริยะด้วยเทคโนโลยี IIoT

- Introduction to IIoT และ IIoT
- เทคโนโลยี M2M (Machine to Machine) และ IIoT (Industrial Internet of Things)
- การใช้งาน Modbus Protocol สำหรับติดต่อสื่อสารกับเครื่องมือนิยัต
- การอ่านค่าจากหน่วยความจำ และ ตัวแปรสำหรับ PLC
- การออกแบบระบบแสดงหน้าจอบนอุปกรณ์แสดงผล HMI
- การแสดงและข้อมูลจากเครื่องมือนิยัต Web browser และ Mobile application
- การสร้างระบบควบคุมและพลังงานผ่านระบบ IIoT
- เทคโนโลยีการสื่อสารด้วย MQTT (Message Queuing Telemetry Transport) Protocol
- การติดตั้ง MQTT Broker/Server
- การนำข้อมูลจากระบบจัดการฐานข้อมูล (SQL SERVER / MySQL)

Free !!!
-- ฟรีค่าเล่าเรียน --
-- ค่าอุปกรณ์การเรียน --

วัตถุประสงค์

- เพื่อพัฒนาความรู้ในการสร้างระบบควบคุมและจัดการพลังงานด้วยระบบ IIoT
- เพื่อประยุกต์ใช้ระบบควบคุมและจัดการพลังงานสำหรับโรงเรือนอัจฉริยะหรืออาคารอัจฉริยะ

คุณสมบัติผู้เรียน

ควรมีพื้นฐานความรู้เกี่ยวกับ PLC และคอมพิวเตอร์เบื้องต้น

วันที่จัดการเรียน 19 - 20 มิถุนายน 2567

เวลา 08.30 - 16.00 น.

สถานที่ ห้อง Mobile Application ชั้น 3 อาคารสถาบันสหวิทยาการดิจิทัลและหุ่นยนต์ นคร สมุทร ศูนย์พระนครเหนือ

สอบถามรายละเอียดเพิ่มเติม 02-665-3777 ต่อ 6191, 6192

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RMUTP Offers Free Training on "Energy Control and Management Systems for Smart Farms or Smart Buildings Using IIoT Technology"

The Digital Interdisciplinary and Robotics Institute at Rajamangala University of Technology Phra Nakhon is offering a free training course on smart agricultural technology for urban society. The course, titled "Energy Control and Management Systems for Smart Farms or Smart Buildings Using IIoT Technology," aims to develop knowledge in creating control systems and applying energy management for smart farms or smart buildings using IIoT systems. The training will be conducted by experts from E-Power Service Co., Ltd.

The course covers topics such as: Introduction to IIoT and IIoT, M2M (Machine to Machine), Technology and IIoT (Internet of Things), Using Modbus Protocol for communication with measuring instruments, reading data from memory and variables for PLCs, Designing display systems on HMI devices, Displaying data from measuring instruments using web browsers and mobile applications, Creating remote control and operation systems

The training will be held from June 19-20, 2024, from 8:30 AM to 4:30 PM at The Digital Interdisciplinary and Robotics Institute, Rajamangala University of Technology Phra Nakhon, North Bangkok Campus. Participants are expected to have a basic understanding of PLCs and basic computer skills.





RMUTP RACING Team won 2nd place for Asia-Pacific Class in Shell Eco-marathon Asia Pacific and Middle East 2024

Congratulations to RMUTP Racing Team comprising of students from Faculty of Industrial Education, Rajamangala University of Technology Phra Nakhon (RMUTP); Mr. Techarit Yothinratanakun (Driver), Mr. Pornpipat Sinthaweeakat (Team manager), Mr. Nopporn Khongniam (Mechanic 1), and Mr. Siriwit Jaranelarp (Mechanic 2), won the 2nd place in the Prototype Category with an internal combustion engine (ICE) vehicle by using ethanol fuel with the result of 892.5 km/l which climbing from the 4th place of the last year. This competition was prepared and trained by Acting Lt. Nattakit Ritthong, lecturer of Mechanical and Pol. Capt. Wuttichai Morjai to be lecturer consultant. This year’s event took place from July 2-6, 2024, at the Mandalika International Circuit in Lombok, West Nusa Tenggara Province, Indonesia with a total of 80 teams from 12 countries joining in this competition.

Pol. Capt. Wuttichai Morjai, lecturer consultant of the team said that this year we have developed our engine system, car transmission system, and brake system by electrical tuning and the Engine Control Unit (ECU) which is the key to this competition. Our students have to join in the hard training program for 1 – 2 months before joining in the competition day.





RMUTP Collaborates with Ten Innovation Co., Ltd. to Promote Clean Energy

On July 9, 2024, Rajamangala University of Technology Phra Nakhon signed a memorandum of understanding (MOU) with Ten Innovation Co., Ltd., at Rapheephat conference room, 3rd Floor, Rapeepatthanasak Building, Rajamangala University of Technology Phra Nakhon, Thewet campus.

The MOU was signed by Dr. Natworapol Rachsiriwatcharabul, President of RMUTP, and Mr. Theerawat Sutham, CEO of Ten Innovation Co., Ltd.

The objectives are to coordinate academic cooperation, promote and enhance teaching and training capabilities, and develop professional skills and other related activities in the electrical industry, such as joint research and development to foster technology and innovation. Additionally, the collaboration aims to enhance Thailand’s energy security potential, including related businesses and supply chains, as well as to advocate for both Thai and foreign entrepreneurs to adopt clean energy developed by Thai expertise. This initiative is intended to promote trade, economy, and society by building capabilities and competitive advantages for Thailand’s public and private organizations to advance with sustainable clean energy security.





RMUTP professor has been selected to join NASA in a mission to conduct in-depth research on Thailand’s air quality as part of the ASIA-AQ project. This collaboration aims to identify the sources of PM 2.5 pollution and develop long-term solutions to address the issue.

Asst.Prof.Dr.Woranuch Deelaman, a faculty member of the Faculty of Science and Technology at Rajamangala University of Technology Phra Nakhon, has been selected to join a NASA mission for an in-depth study of air quality in Thailand as part of the Airborne and Satellite Investigation of Asian Air Quality (ASIA-AQ) project. This mission, conducted in collaboration with the National Astronomical Research Institute of Thailand and the Geo-Informatics and Space Technology Development Agency, took place from March 16 to 25, 2024.

The research involved flying with a McDonnell Douglas DC-8 aircraft to study chemical compositions in the atmosphere from central to northern Thailand, with four flights conducted over the region from U-Tapao Airport in Rayong to Chiang Mai Airport. Additionally, the Gulfstream III aircraft from Langley Research Center (G-III) surveyed air quality remotely over Bangkok using LiDAR equipment to measure ozone concentration and PM 2.5 dust levels. The project also mapped greenhouse gas emissions broadly over Bangkok and its surrounding areas with a total of five flights. The data collected is real-time and focuses on the planetary boundary layer (PBL) above Thailand’s atmosphere.

Asst.Prof.Dr.Woranuch Deelaman remarked, “This is a valuable opportunity to collaborate with NASA researchers. The results will enhance the understanding of Thai air quality issues and provide deep insights into the root causes of PM 2.5 and air pollution in Thailand, which is crucial for developing sustainable solutions.”

She further explained that the most important outcome of the project is that NASA will release the data for public use, setting a standard in the scientific community. This data will help atmospheric scientists better understand Thai dust problems and analyze atmospheric components to address issues accurately. This includes examining greenhouse gases, human-made pollution, aerosol reflectance, and direct in-situ air samples. Such data will reveal the sources of pollution and aid researchers globally in enhancing their studies.

Asst.Prof.Dr.Woranuch Deelaman emphasized that this research could confirm many hypotheses about air pollution origins and potentially uncover unexpected discoveries. “This is a promising start for a systematic understanding of dust issues in Thailand. I will use the collected data to investigate pollution sources and assess health risks for the public,” she concluded.