

## The 2024 International Conference on Materials and Energy



During 30 October - 1 November 2024, the 2024 International Conference on Materials and Energy (ICOME2024) was held at Avani Ratchada Bangkok Hotel, by the cooperation between KMUTNB and Université de Lorraine (UL), France, to commemorate the 65<sup>th</sup> founding anniversary of KMUTNB and the 34<sup>th</sup> anniversary of the Thai-French Innovation Institute. The opening ceremony was co-presided over by H.E. Mr. Jean-Claude Pimboeuf (2<sup>nd</sup> on the right top corner), Ambassador of France to Thailand, and Prof. Dr.-Ing. habil. Suchart Siengchin (1<sup>st</sup> on the right top corner), KMUTNB President. For the first time, the ICOME conference was held in Thailand, dedicating to advance cutting-edge research in materials and energy applications with over 140 research contributions from 21 countries worldwide.

### Trilateral Meeting between KMUTNB, UL, and Kyutech

On 31 October 2024, a trilateral meeting between King Mongkut's University of Technology North Bangkok (KMUTNB), Université de Lorraine (UL), France, and Kyushu Institute of Technology (Kyutech), Japan, took place in the Pole Star Meeting Room of the STRI Building at KMUTNB. The meeting focused on

future plans to strengthen academic(Continued P. 2)



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## Academic Cooperation

### The 3<sup>rd</sup> International Symposium on Sustainable Fibers & Polymeric Materials



On 25 October 2024, the 3<sup>rd</sup> International Symposium on Sustainable Fibers & Polymeric Materials (SFPM'24) was held at Aachen Conference Room, TGGGS Building. The symposium was graced by Prof. Dr. -Ing. habil. Suchart Siengchin (10<sup>th</sup> from left), KMUTNB President, while the welcome address was delivered by Assoc. Prof. Dr. Sanjay Mavinkere Rangappa (8<sup>th</sup> from left), Chairman of SFPM'24. This symposium attracted over 300 participants from different countries across the world.

### 41<sup>st</sup> Asian Welding Federation Board Governing and Technical Meetings



During 5 – 10 November 2024, at Universiti Kuala Lumpur-Malaysian France Institute, Malaysia, Asst. Prof. Dr. Panarit Sethakul, Acting CEO of Welding Institute of Thailand led the delegation from KMUTNB to attend the 41<sup>st</sup> AWF Governing Council Camp Task Force's Meeting. Also, Asst. Prof. Dr. Peerawatt Nunthavarawong, Chairman of WIT's Thermal Spraying Committee, presented his research paper to attending members of the AWF at this conference.

### 7<sup>th</sup> Asian Symposium on Materials and Processing



From 5-7 December 2024, Prof. Dr. Somrerik Chandra-ambhorn (3<sup>rd</sup> from left), Vice President for Research and Information Technology Development, KMUTNB, participated as a keynote speaker at the 7<sup>th</sup> Asian Symposium on Materials and Processing, hosted by the Indian Institute of Technology Madras (IIT Madras). He presented a research paper on materials development for electricity generation equipment utilizing solid oxide fuel cells, a project spearheaded by the KMUTNB Research Team.

*Continued from page 1*

cooperation among the three universities. The event was honored by the presence of Dr. Ludovic Andres, Attaché for Scientific and Higher Education Cooperation from the French Embassy. Representing UL, the delegation was led by Prof. Dr. Karl Tombre, Vice President for International Affairs, and Mrs. Nathalie Fick, Director of the International and European Office. Kyutech's delegation included Assoc. Prof. Dr. ABE Seiya and Mr. Toshiro Wakabayashi, Director of the International Affairs Division. The KMUTNB executive team was led by Prof. Dr.-Ing. habil. Suchart Siengchin, President of KMUTNB.

For over decades, all three universities have formed bilateral partnership with one another and developed successful bilateral cooperation. For the first time, the three institutions agreed to launch a new trilateral initiative aimed at integrating their strengths to maximize collaborative outcomes. This joint effort seeks to advance education and research in electrical engineering and related fields.

After the meeting, the delegations visited the facilities and laboratories of TFII and Techno Park, gaining insights into KMUTNB's innovative infrastructure and ongoing projects.

## Academic Cooperation

### University of Applied Sciences Technikum Wien, Austria



On October 24, 2024, at the Faculty of Information Technology and Digital Innovation (ITD), Ms. Sikan Kulchonchan, Vice President for International Affairs (6<sup>th</sup> from left), and the ITD executive team warmly welcomed a delegation from the University of Applied Sciences Technikum Wien, led by Prof. Helmut Gollner, International Coordinator, and Prof. Harald Wahl, Program Director, along with a group of computer science students. The visit included engaging activities at ITD's learning centers and laboratories, along with productive discussions on computer science education between ITD lecturers, and the delegation.

### Signing Ceremony of the Declaration of Intent for Sustainable Development



On 13 November 2024, King Mongkut's University of Technology North Bangkok (KMUTNB), a member of the Sustainable University Network Thailand (SUN Thailand), participated in the Signing Ceremony of the Statement of Commitment to the Sustainable Development Goals (SDGs) at the United Nations Conference Centre in Bangkok.

Representing KMUTNB was led by Asst. Prof. Dr. Krissachai Sriboonma, Vice President for Corporate Affairs and Development for Sustainability, who also serves as the Chairman of SUN Thailand, Prof. Dr. Somrerk Chandra-ambhorn, Vice President for Research and Information Technology Development, and Assoc. Prof. Dr. Nattapong Makararat, Assistant to the President for Environmental and Physical Development attended the event. The event, organized by SUN Thailand and the Council of University Presidents of Thailand, gathered representatives from 59 higher education institutions. These institutions collectively pledged their commitment to achieving the Sustainable Development Goals, aligning with the policies set forth by the Ministry of Higher Education, Science, Research, and Innovation.



### Chaoyang University of Technology, Taiwan

On 15 November 2024, at KMUTNB, Prof. Dr.-Ing. habil. Suchart Siengchin, President of KMUTNB, presided over the MOU signing ceremony between KMUTNB and Chaoyang University of Technology (CYUT), Taiwan. Representing KMUTNB in signing the MOU was Assoc. Prof. Dr. Aiya Chantarasiri,

Dean of the Faculty of Science, Energy, and Environment, KMUTNB Rayong Campus. Prof. Bing-Lan Liu, Dean of the College of Science and Engineering, represented CYUT. This newly established MOU aims to strengthen academic cooperation between KMUTNB and CYUT, particularly in the field of joint research.

### Yunnan Modern Vocational Technology College, China



On 14 December 2024, at the Ratchaphruek Meeting Room, KMUTNB, Prof. Dr. Teravuti Boonyasopon, Chairman of the KMUTNB Council, presided over the signing ceremony of a Letter of Intent (LoI) between KMUTNB and Yunnan Modern Vocational Technology College (YMVTC). The LoI was signed by Prof. Dr. Saowanit Sukparungsee, Vice President for Academic Affairs of KMUTNB,

and Dr. Zhou Gang, Dean of YMVTC. The LoI focuses on collaboration in curriculum development, joint research in modern electric vehicles and automation systems, and lecturer and student mobility programs.

## Academic Cooperation

### Fern University in Hagen, Germany



On 20 November 2024, Prof. Dr.-Ing. habil. Dr. h.c. Herwig Unger (3<sup>rd</sup> from left) from FernUniversität in Hagen paid an annual visit to KMUTNB and discussed the future plan for collaborative activities with Ms. Sikan Kulchonchan (4<sup>th</sup>), Vice President for International Affairs, Assoc. Prof. Dr. Phayung Meesad (1<sup>st</sup>), Director of Central Library, and Assoc. Prof. Dr. Pichet Sriyanyong (2<sup>nd</sup>), who will assume the role of Vice President for International Affairs in January 2025. Prof. Dr.-Ing. habil. Herwig Unger has dedicatedly served as a coordinator for the cooperation between the two universities for over decades.

### CESI École d'Ingénieurs, France



On 4 November 2024, the executive team of Faculty of Information Technology and Digital Innovation (ITD), led by Asst. Prof. Dr. Dr.-Ing. Sunantha Sodsee (3<sup>rd</sup> from left), Dean of ITD, welcomed Mr. PHAN Dinh-Thoai-Alexandre (4<sup>th</sup> from left) from CESI École d'Ingénieurs, France. During this visit, the signing of MoU took place to establish a strategic partnership and formalize the cooperative relations between KMUTNB and CESI École d'Ingénieurs, focusing on the development of joint research activities, as well as the student and staff mobility program.

### Multimedia University, Malaysia



On 25 October 2024, a delegation from Multimedia University visited KMUTNB to explore opportunities for extending academic collaboration. The delegation, led by Prof. Dr. Lim Way Soong (2<sup>nd</sup> from left) and Asst. Prof. Dr. Yeo Boon Chin (1<sup>st</sup>) from the Faculty of Engineering and Technology, engaged in strategic discussions with key executives from KMUTNB. Participants included Ms. Sikan Kulchonchan (3<sup>rd</sup>), Vice President for International Affairs, Assoc. Prof. Dr. Pichet Sriyanyong (4<sup>th</sup>), Vice President-designate for International Affairs, Asst. Prof. Dr. Tanaporn Rojhirunsakool (5<sup>th</sup>), Assistant Dean for International Affairs, and Assoc. Prof. Dr. Petch Jearanaisilawong (6<sup>th</sup>), a senior lecturer from the Faculty of Engineering who has played a pivotal role in fostering collaboration as a visiting lecturer and through joint research initiatives between the two universities.

### University of Twente, Netherlands



On 26 November 2024, the group of 30 master's student from Mechanical Engineering Program, University of Twente, visited laboratories and research facilities at Faculty of Engineering, KMUTNB and they were warmly welcomed by Asst. Prof. Dr. Tanaporn Rojhirunsakool, Assistant Dean for International Affairs and Public Relations, Prof. Dr. Athakorn Kengpol, and Assoc. Prof. Dr. Cattareeya Suwanasri, Head of Department of Electrical and Computer Engineering.

## Academic Cooperation

### Kyushu Institute of Technology, Japan



During 14 – 15 November 2024, the delegates from Faculty of Engineering visited Kyutech. Presenting their research papers at the 12<sup>th</sup> International Symposium on Applied Engineering and Sciences were Asst. Prof. Dr. Amornphun Phunopas, Assoc. Prof. Dr. Petch Jearanaisilawong, and Asst. Prof. Dr. Tonkid Chantrasmi. Also, Asst. Prof. Dr. Tanaporn Rojhirunsakool represented KMUTNB at the International Strategic Partners Pentagon Meeting along with representatives from other key allies of Kyutech.

### Executives of Graduate College to Visit Chinese Universities



From 20 - 22 November 2024, Asst. Prof. Dr. Suphot Chunwiphat (3<sup>rd</sup> from left of front row), Dean of Graduate College led the delegates from Graduate College and Faculty of Engineering to sign MoU to establish strategic partnerships and discuss the potential cooperation with Kaifeng Vocational and Technical College, Zhongyuan Institute of Technology, Xuchang Business Administration School High-level Capital, Zhengzhou University, Zhengzhou Institute of Technology Vocational College.

### Tokyo City University, Japan



From November 3 to 9, 2024, seven selected students from the Faculty of Applied Science, KMUTNB, were awarded scholarships under the Sakura Science Program 2024 to participate in an internship at Tokyo City University. In addition to gaining valuable insights into Japanese culture, this internship allowed the students to expand their academic perspectives and enhance their international experiences. During the program, the students also visited the National Museum of Emerging Science and Innovation (Miraikan).

### 10<sup>th</sup> International Student Start-up Conference, South Korea



During 29 – 31 October 2024 at Tongmyong University in Busan, South Korea, the teams of KMUTNB students from Department of Electrical and Computer Engineering, Faculty of Engineering, won three prestigious awards from the 10<sup>th</sup> International Student Start-up Conference. The three awards earned by the KMUTNB student's teams included the Global Innovative Technology Award (First Prize), Start-Up Vision Award (Fifth Prize) and Innovative Business Model Award (Consolation Prize).

## Campus News

### KMUTNB Achieves Success as an IGIP-Certified Training Center

On 7 August 2024, the International Society for Engineering Pedagogy (Internationale Gesellschaft für Ingenieurpädagogik: IGIP) certified King Mongkut's University of Technology North Bangkok (KMUTNB) as an IGIP Accredited Training Center for 2024–2028. KMUTNB has also been designated the IGIP National Section of Thailand, marking a historic achievement as the first such center in Southeast Asian.



Since 2019, KMUTNB has diligently worked towards establishing an IGIP National Section in Thailand. The university has formed a dedicated team from the faculty of Technical Education, led by Asst. Prof. Dr. Panarit Sethakul in collaboration with the IGIP International Monitoring Committee (IMC), followed all prescribed guidelines and procedures.

The IGIP National Section at KMUTNB will play a pivotal role in elevating the quality of lecturers, teachers, and management staff at higher education and vocational institutions in Thailand. This milestone further highlights KMUTNB's commitment to advancing engineering education in Southeast Asia.

The International Society for Engineering Pedagogy (IGIP), established in 1972, has over 50 years of history in supporting engineering, science, and technology education. Accredited by UNESCO, IGIP fosters global collaboration and excellence in engineering education.

Currently, IGIP oversees 28 National Sections worldwide, providing

certification programs through accredited training centers. Its professional certification, IGIP International Engineering Educator (Ing.Paed.IGIP), is globally recognized and demonstrates IGIP's partnership with renowned academic and professional organizations such as IFEES, IEEE, SEFI, ASEE, IIDEA, IELA, and IAEO.

The establishment of an IGIP-accredited International Engineering Educator Training Center at KMUTNB aims to certify professionals with the Ing.Paed.IGIP designation. This initiative seeks to develop and elevate Thailand's educational personnel to international standards. Key target groups include:

- Engineering educators, including administrators and staff at higher education institutions.
- Future professionals in engineering education.
- Students in engineering and science disciplines at higher education institutions.
- Technical teachers at vocational colleges and institutions.

The training center at KMUTNB is not only the first of its kind in Southeast Asian but also serves as a testament to Thailand's capability to contribute to global engineering education. KMUTNB's success as an IGIP National Section was made possible through the steadfast support of Prof. paed. habil. Hanno Hortsch and his team at Dresden University of Technology (TU Dresden), Germany, alongside the IGIP network. This achievement underscores KMUTNB's dedication to fostering global educational standards and collaboration, ensuring that Thailand remains a leader in engineering education within the region and beyond.



On 13 March 2023, the KMUTNB Committee for Establishing IGIP National Sections of Thailand, led by Asst. Prof. Dr. Panarit Sethakul (2<sup>nd</sup> from left, front row), met to discuss and report on the progress of establishing Thailand's National Section to Prof. Dr. habil. Hanno Hortsch (3<sup>rd</sup> left, front row), the committee's honorary advisor.



On 19 November 2024, the KMUTNB Committee for Establishing IGIP National Sections of Thailand, led by Asst. Prof. Dr. Panarit Sethakul (3<sup>rd</sup> from left), President of the Committee, and Assoc. Prof. Dr. Somsak Akatimagool (2<sup>nd</sup>), Dean of the Faculty of Technical Education, presented the achievement of KMUTNB as an IGIP-Certified Training Center to Prof. Dr. Teravuti Boonyasopon (4<sup>th</sup>), Chairman of the KMUTNB Council, and Prof. Dr.-Ing. habil. Suchart Siengchin (5<sup>th</sup>), KMUTNB President.

## Campus News

### Kyushu Institute of Technology, Japan



On 12 December 2024, Prof. Dr. Somrerck Chandra-ambhorn (9<sup>th</sup> from left), Vice President for Research and Information Technology Development led the executive team including Assoc. Prof. Dr. Pichet Sriyanyong (11<sup>th</sup>), the incoming Vice President for International Affairs and Assoc. Prof. Dr. Pianpool Kamoljitprapa (6<sup>th</sup>), Dean of Faculty of Applied Science to have a cooperation meeting with the Kyutech delegates led by Prof. Emeritus Keiichi Kimura (7<sup>th</sup>) to explore the possibility for academic cooperation in the field of Semiconductor and PCB, which has been one among the strength and main focuses of Faculty of Applied Science. For over decades, KMUTNB and Kyutech has been key allies in its mission to advance the research and educational quality, while the field of Semiconductor and PCB is the immense potential for their further cooperation.

### Institute of Science Tokyo, Japan



On 28 October 2024, Prof. Dr. Hiroshige Kikura (3<sup>rd</sup> from left) from Laboratory for Zero-Carbon Energy, Institute of Science Tokyo, visited Faculty of Engineering to discuss the progress of ongoing cooperative activities with the KMUTNB side led by Asst. Prof. Dr. Tanaporn Rojhirunsakool (4<sup>th</sup>), Assistant Dean for International Affairs and Public Relations. Prof. Dr. Hiroshige Kikura has conducted joint research activities with the Department of Instrumentation and Electronics Engineering. Also, he visited the Centre of Excellence in Instrumentation Technology and Automation located at KMUTNB Prachinburi Campus.

### Singapore Polytechnic, Singapore



On 17 December 2024, Assoc. Prof. Dr. Pichet Sriyanyong (3<sup>rd</sup> from left), the incoming Vice President for International Affairs, welcomed the team of lecturers from Singapore Polytechnic (SP), including Mr. Ong Hock San (4<sup>th</sup>), Mr. Jimmy Lau (5<sup>th</sup>) and Mr. Mario Lajarca (6<sup>th</sup>). The SP delegates had a meeting with the KMUTNB executives to discuss the cooperation to organize the upcoming Learning Express (LeX) KMUTNB-SP Collaboration Program 2025 at KMUTNB Prachinburi Campus.

### German Embassy in Bangkok

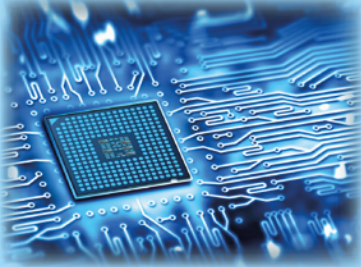


On 17 December 2024, Mr. Alexander Leutgeb, the newly appointed Economic and Climate Affairs Officer (3<sup>rd</sup> from left) at the German Embassy in Bangkok, and Dr. Kamonsak Suradom (1<sup>st</sup>), GTDEE's Senior Project Manager, visited KMUTNB to discuss potential areas for further strengthening the close and longstanding cooperation between KMUTNB and Germany. They were warmly welcomed by Ms. Sikan Kulchonchan (5<sup>th</sup>), Vice President for International Affairs, and Assoc. Prof. Dr. Pichet Sriyanyong (2<sup>nd</sup>), KMUTNB Vice President-designate for International Affairs.

## Campus News

### KMUTNB: Developing Skilled Workforce in Semiconductor and PCB to Align with Thai Government Policies

*“The Ministry of Higher Education, Science, Research, and Innovation (MHESI) has designated KMUTNB as the center for workforce development in semiconductor and PCB.”*



KMUTNB places significant emphasis on the electronics industry, a substantial and consistent revenue generator for Thailand. Since 2014, KMUTNB has proactively developed curricula, enhanced faculty expertise, upgraded laboratories, and collaborated with the industrial sector. These efforts have enabled KMUTNB to offer comprehensive programs tailored to the needs of the electronics industry in all dimensions, as outlined below:

#### **Semiconductor Sector:**

- Bachelor of Engineering (B.Eng.) in Microelectronics and Semiconductor Design (International Program): Focuses on Integrated Circuit (IC) Design.
- Bachelor of Engineering (B.Eng.) in Microelectronics and Semiconductor Engineering: Focuses on Integrated Circuit Assembly and Test (IC Assembly and Test).

#### **PCB Technology Sector:**

- Bachelor of Science (B.Sc.) in Industrial Physics and PCB Technology: Focuses on PCB Design, PCB Fabrication, and PCB Assembly.

#### **Electronics Manufacturing Services (EMS) Sector:**

- Bachelor of Engineering (B.Eng.) in Embedded Systems and Electronic Device Design: Focuses on designing electronic products, including AI systems, electronic components for electric vehicles, automation systems, and medical devices.

#### **Integration of Cooperative Education:**

All programs incorporate cooperative education to provide students with hands-on experience.

#### **Laboratories:**

KMUTNB has established state-of-the-art semiconductor and PCB assembly laboratories, partially supported by industrial partners. These facilities

are instrumental in both teaching and equipping students with practical, work-ready skills.

#### **Industry Collaboration:**

KMUTNB collaborates with numerous companies in the electronics sector, including UTAC Thai Ltd., Analog Devices (Thailand), Sony Device Technology, Infineon Technologies (Thailand), Silicon Craft, etc.

#### **Workforce Development Center and Short Courses:**

In response to the high demand for skilled personnel in the semiconductor and PCB industries, the Ministry of Higher Education, Science, Research, and Innovation (MHESI) has designated KMUTNB as the Semiconductor Academy. KMUTNB offers short courses for related field students, career switchers, and the general public, aiming to produce a workforce to meet industry needs.

#### **Commitment to Excellence:**

KMUTNB continues to pioneer efforts in aligning academic excellence with the evolving demands of the electronics industry, ensuring its graduates are well-equipped to contribute effectively to both national and global technological advancements.

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