

# SPECTRUM

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Community Global Health Tech Hackathon Challenges

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Main Feature Excellence in Teaching and Learning Workshops



#### Film Festival Award for MUIC Lecturer

Mr. Bryan Ott, a Lecturer from the Fine and Applied Arts Division of Mahidol University International College (MUIC), has been awarded the Grand Prize at the Rhode Island International Film Festival Screenplay Competition 2019. Mr. Ott won the award for his feature film script *They Sound Human*, which tells the story of an Irish immigrant to the United States in 1865, searching for her missing daughter who may have been abducted by orphan traders, all whilst 'demonic beasts' try to capture abandoned children in the forest.

strong understanding of archetype storytelling craft practice, may not produce lasting results.



The script is a sequel to his 2017 grand prize winning *Beasts and Children*, and Mr. Ott is currently adapting *They Sound Human* into a graphic novel, to be published towards the end of 2020. Mr. Ott discussed his thoughts on meaningful storytelling; "with the current global need for online content, it's important to consider that content creation without a



There is so much creative content in the world, but it seems to me that most of it is very disposable. As a screenwriting practitioner, I am constantly working to improve my writing, getting feedback and developing my ideas. I want to create content that emotionally moves a reader, perhaps inspires other storytellers through demonstration of craft, but also potentially stands some test of time. I want my kids to read it one day, and be influenced to perhaps create and tell lasting stories as well."

#### Special Talk at Faculty of Science



The research performed by universities provides insight into how we can create a better world. However, it can often be difficult for universities to translate this research into new products and services which can make a difference to people's lives. This is because there is often not enough understanding of the business side of the process, and how to navigate the next stages once the research has been completed.

Dr. Sebastian C. P. Bhakdi, M.D., an adjunct faculty member at the Department of Pathobiology, Faculty of Science, Mahidol University, and CEO and Founder of X-ZELL Biotech Co. Ltd., one of Asia's top innovative health technology start-ups, gave a special talk at the

Department of Pathobiology, Faculty of Science, Mahidol University, on 19<sup>th</sup> December 2019. At the talk he shared his experiences in translating basic research into business, and answered the questions of faculty members and researchers.

One of X-ZELL's innovative products is a test to detect "tumor-derived Circulating Endothelial Cells (tCEC) - a biomarker that was considered undetectable in clinical routine". This system allows non-invasive testing for prostate cancer, working towards 'Vision Zero', zero deaths due to undetected cancer.



# The First International Symposium on Botanical Gardens and Landscapes



In addition to being tourist attractions and centers of culture and community, botanical gardens are valuable scientific resources to support research in a range of areas. To support the sharing of knowledge, research and best practices, the Department of Plant Science, Faculty of Science, Mahidol

University, hosted the First International Symposium on Botanical Gardens and Landscapes, from the 2<sup>nd</sup> - 4<sup>th</sup> December 2019.

The Symposium brought together renowned researchers from around the world, with 5 keynote speakers, including: Prof. Hugh W. Pritchard, of the Royal Botanic Gardens, Kew, UK; Prof. Pei Shengji, of Kunming Institute of Botany, China; and Prof. Irina Mitrofanova, of Nikita Bodanical Gardens, Russia. The presenters covered topics ranging from Plant Genetic Resources, Plant Breeding, Ethnobotany, and Urban Horticulture and Gardens.



#### Bike for Health

The ASEAN University Network-Health Promotion Network (AUN-HPN), hosted by the ASEAN Institute for Health Development, Mahidol University; in collaboration with the Thai Health Promotion Foundation, organized the 'Bike for Health' event on the 11<sup>th</sup> December 2019, at Mahidol University's Salaya Campus. The event aimed to promote physical activity and health promotion strategies through active public exhibitions.

Faculties, Colleges, Institutes and Centers hosted exhibits on best practices for health promotion in 4 locations along the cycle path: Faculty of Medical Technology, College of Sports Science and Technology, Sireeruckhachati Nature Learning Park, and ASEAN Institute for Health Development. These exhibits were designed by some of Mahidol

University's many Medicine and Health Sciences faculties, colleges and institutes; Faculty of Physical Therapy, Faculty of Medicine Ramathibodi Hospital, Institute of Nutrition, Faculty of Medical Technology, College of Sports Science and Technology, Faculty of Nursing, and Faculty of Engineering.

Students, staff and executives, including Prof. Banchong Mahaisavariya, Acting President of Mahidol University; along with representatives of universities from Cambodia, Lao, Myanmar, and Vietnam, as well as the Chief District Officer of Phuttamonthon District, cycled along the route around Salaya Campus, stopping at each exhibit to learn more about how they can improve health promotion. Moreover, a mini concert of a national artist, the singer Charin Nantanakorn, was held in the evening after the cycling event, to show that health could not only be promoted through physical activity but also through social interaction as well.



The ASEAN Institute for Health Development, and many other faculties, colleges and institutes at Mahidol University play an important role in health promotion within Thailand, through working with government and community organizations, and regionally and internationally as part of academic networks, such as AUN-HPN. Activities such as this not only bring this health promotion work home to our campuses, staff and students, but also help to share techniques which can help to inspire others to promote good health in their own communities.

#### **Global Health Tech Hackathon Challenges**



On 20<sup>th</sup> September 2019, over 100 students, researchers, and professors attended Day 1 of the Global Health Tech Hackathon Challenges at the Faculty of Engineering, Mahidol University, to pitch their ideas, win prizes, and start their business. Assoc. Prof. Dr. Jackrit Suthakorn, Dean of Faculty of Engineering gave the keynote speech to open the event, before participating in a panel discussion alongside Dr. Thomas Stewart, Foreign Affairs Expert from Faculty of Environment and Resource Studies; Prof. Dr. Pattarachai Kiratisin, Director of Institute of Innovation and Technology Management (iNT); Ms. Montha Kaihirun, Innovation Counselor Manager at National Innovation Agency; and Dr. Keita Ono, Director of Innogineer Maker Studio. Dr. Stewart

also gave a talk on "8 Simple Rules for Starting a New Business" to inspire the participants for the event and beyond. Day 1 ended with an introduction to the Hackathon & Global Grand Challenges Summit #GGCS2019 in London. The mentors from Thai startups helped students pitch their ideas and form their groups for the next two days of the event.

On the following day, the groups of participants started developing their ideas. Workshops were held on creating Lean Canvas business plans and doing Design Thinking, in both Thai and English to make sure they were accessible to all participants. After lunch, the participants could choose to attend a workshop on Customer Validation at Siriraj Hospital, or a 3D Printing workshop. These workshops gave participants fresh perspectives and allowed the groups to further develop their innovative ideas, with some teams staying until midnight to dene their problem statements, identify their target groups, and come up with the best solutions!

On the final day of the competition, the mentors and coaches helped the groups consider how to pitch their ideas, with the participants working to a tight deadline, having to finish before noon. The pitching session lasted for almost 6 hours, with 22 groups each having 5 minutes to present their innovation, followed by 5 minutes of Q&A. The winning teams were chosen by the panel of judges:

• First place - winning a 20,000 Baht cash prize: *Selfin*, who created a marketplace for children with ADHD to develop soft skills

• Second place - winning a 10,000 Baht cash prize: *Blank*, who developed a business around AI Pathology



• Third place - winning a 5,000 Baht cash prize: *Health U*, who designed the Health U Application, which allows users to connect with a pharmacy online.



The Global Health Tech Hackathon Challenges created a new learning experience platform for students and staff, helping to develop creative thinking, critical thinking, and communication skills. This event, organized by the Faculty of Engineering, was a Satellite Event of the Global Grand Challenges Summit event series, by the Royal Academy of Engineering, UK, and was supported by the Royal Academy of Engineering, UK and the National Innovation Agency, Thailand.

# The ASEAN Center for Sustainable Development Studies and Dialogue



Across the world societies and communities are under strain. Decades of rapid growth and globalization have resulted in high inequality and the destruction of natural resources and ecosystems. For many years it has been known that a new system is needed, one which, as defined by the report *Our Common Future*, "meets the needs of the present without compromising the ability of future generations to meet their own needs"; this is Sustainable Development.

Thailand has a close connection with the ideas of Sustainable Development, particularly inspired by the philosophy of H.M. the Late King Bumibol Adulyadej on Sufficiency Economy. The Thai chairing of ASEAN in 2020 has also taken the theme of 'Advancing Partnership for Sustainable Development'. For a long time, the College of Management Mahidol University has also had a focus on the sustainable perspective in its research, teaching and services, with some of their research and reports, such as *Sustainable Social Enterprise Model: Relationships and Consequences*, being among the world's most widely viewed.

This work has led to the establishment of the ASEAN Centre for Sustainable Development Studies and Dialogue (ACSDSD), in collaboration with the Ministry of Foreign Affairs of Thailand and ASEAN. The ACSDSD hopes to engage future collaboration with a number of international development partnerships such as the Asia Foundation, Rockefeller Foundation, the European Union, and national governments including Switzerland, Italy, and Russia. The ACSDSD's research interests and strengths cross the areas of sustainable business, responsible consumption, aging consumers, corporate sustainability, sustainable supply chains, and education for sustainable development. In addition to its research work, the ACSDSD has the key mission of promoting studies and dialogue on Sustainable Development among the ASEAN nations.

The ACSDSD was established through the signing of a Memorandum of Understanding between the Ministry of Foreign Affairs of Thailand and Mahidol University on 30<sup>th</sup> October 2019. On 3<sup>rd</sup> of November the ACSDSD was officially launched at the 35<sup>th</sup> ASEAN Summit in Bangkok, with representatives of the ACSDSD attending the Summit and related meetings.

The ACSDSD also plays a role in promoting dialogue and concrete operation with ASEAN's external partners such as the EU. On 17<sup>th</sup> November 2019, the *High-Level ASEAN-EU Dialogue on Sustainable Development*, brought together representatives and experts from the ASEAN member states, including from ACSDSD, and those from the EU. At the meeting, both sides noted the importance of building and sustaining policy dialogue to promote cooperation on sustainable development, in line with the ASEAN-EU Plan of Action 2018-2022.

The ACSDSD will continue to facilitate dialogue with regional and international actors, including the EU at the 2<sup>nd</sup> ASEAN-EU Dialogue on Sustainable Development: Towards Achieving the Sustainable Development Goals, in Brussels, Belgium, in February 2020; and building synergy between research, education and academic services at Mahidol University and across the region. Creating these interdisciplinary, inter-organizational, and international links is the first step in strengthening our societies, ecosystems, and economies for the future.



#### **The Excellence in Teaching and Learning Workshops**



University professors often have a broad range of responsibilities; teaching classes at different levels, leading discussions in tutorials, supervising postgraduate students through their research projects, performing their own research, writing funding proposals, working with the community, government and industry; just to name a few tasks that they could face. With such busy schedules, it can often be difficult for professors to focus on developing their skills and learning new techniques, particularly in the area of teaching.

To help support our professors, and develop teaching and learning in higher education across Thailand and the region, Academic Affairs Division and International

Relations Division, Mahidol University, in collaboration with the Academy of Continuing Professional Development in Education, School of Education, Macquarie University, Australia, have been running the Excellence in Teaching and Learning Workshops (ETLW), with the second batch of participants taking the first module in November and December 2019.

The ETLW was designed around the structure of Macquarie University's Microcredentials system, through which participants can take 4 modular workshops to develop a range of teaching skills and approaches, and at the end receive a Graduate Certificate of Higher Education (GCHE). Each module involves a series of online readings and exercises to prepare the participants for a week-long in-person workshop, led by 3 of Macquarie's expert facilitators. Following the workshop, the participants can then complete a final online component in order to work towards their GCHE.

So far 2 batches of 30 - 40 participants have taken Module 1 of ETLW, which aims to support the development of academics' theory and practice in problem-based and student-centered learning. Each batch has brought together professors from a wide range of disciplines, and utilized a problem-based approach to show how this can push the boundaries of traditional education, by widening scope of the participants' (and in future their students') problem solving resources. Although universities aim to provide a depth of specialized education, it is now more important than ever that graduates understand how to overcome challenges outside of their specialty or comfort zone.

The week-long workshop was broken into 4 areas of focus, with some time each day dedicated to each area, allowing the participants to see the interrelation between these areas: Digital Technologies, Planning and Assessment, Student Engagement, and Problem-based Learning. Over the course of the workshop, the participants worked on their own project in interdisciplinary groups, devising a costed plan to overcome the issues found in a classroom. The participants were assigned a room in the same building, and visited the room and spoke to students to find out what problems there were, such as the temperature; noise or acoustics; distractions; or with using group or individual technologies. The participants



brought their own skills to the table to investigate the issues and plan a solution, and presented their findings at the end of the week. By taking part in this activity, the participants gained insight into the benefits of teaching their own students through a problem-based approach.



Across the whole Module, covering the face-to-face workshop and the pre-and post-workshop exercises and readings, there are 5 central themes covering theory and practice, from design to assessment. The themes open by identifying the needs of the local context, and the importance of reflection and critical reflective conversations with colleagues in enhancing learning. The focus then goes towards the participants' current teaching methods, and if these meet the needs of students. Building on this, an understanding of theory in strengthening student engagement is developed. This theme is explored through both an analysis of scientific literature and case studies, and participation in practical experiences to give a first-person understanding.

The Module themes then go further into considering how modern digital resources can be utilized to promote learning outcomes within their participants' fields, and developing their skills in assessing when and how digital resources are fit for purpose with respect to their own needs. The themes also cover student assessment, strengthening participants' understanding of formative and summative assessment, how these can be utilized to enhance learning, and how the alignment of assignment task design and learning outcomes is key to coherent learning. These themes flow throughout the Module, linking the activities and discussions with the intended learning outcomes.

Macquarie University has designed the ETLW around its Microcredentials system, which aims to help professionals in a wide range of disciplines to upgrade their skills whilst in work. Under this system, one module of ETLW, including the online components, counts as 5 credit points. If a participant completes 4 modules they can be awarded the GCHE qualification. The GCHE is focused on building the capacity of academics in the leadership of teaching and learning, through developing the skills to continuously update their understanding of cutting edge educational practice.



The ETLWs have had enormous benefits for participants across Mahidol University, as well as allowing the transfer of this new knowledge and understanding to the participants' faculties, colleges and institutes. Academic Affairs Division and International Relations Division, Mahidol University, will be working with the Academy of Continuing Professional Development in Education, School of Education, Macquarie University, to see how the workshops can be developed, expanded and optimized in 2020 to build on this strong foundation.



## Graduate Programs in Health Technology Assessment



Universities, research institutes, and the private sector are constantly developing new breakthroughs in medical treatments, techniques, tests, medicines, and equipment, which can help people to recover or improve their quality of life. However, implementing these new developments, particularly at a national level, can be complex and expensive, and it is important for healthcare providers and governments to be able to understand the benefits of new health technology, the barriers to its effective implementation, and the alternatives, in order to optimize healthcare for all patients.

The field of Health Technology Assessment acts as a bridge between research and policy making. A range of interdisciplinary skills are needed to develop accurate judgements of the relationship

between a health technology's clinical effectiveness, or how the health outcomes compare to those of available alternatives; and the cost-effectiveness, or if these improvements justify any additional costs. Making this comparison involves examining the safety, clinical efficacy, cost, organizational implications, social consequences, and legal and ethical considerations of the health technology. This requires a truly interdisciplinary understanding of the wide range of factors involved.

To meet the growing need for high level specialists in Health Technology Assessment, both in Thailand and abroad, relevant faculties and institutes across Mahidol University have come together to establish the International Master of Science program and International Doctor of Philosophy program in Health Technology Assessment. Experts from the Faculty of Pharmacy, Faculty of Medicine Ramathibodi Hospital, Faculty of Medicine Siriraj Hospital, Faculty of Public Health, Faculty of Social Sciences and Humanities, Institute for Population and Social Research, and Faculty of Graduate Studies, contribute to the programs; which opened in January 2017.



The programs collaborate with internationally renowned experts, and several HTA organizations and network such as; Health Intervention and Technology Assessment Program (HITAP), HTAsiaLink, International Decision Support Initiative (iDSI), National Institute for Health and Care Excellence (NICE), and Priority Cost Effective lessons for Systems Strengthening (PRICELESS). To support capacity building around the world, the programs also offer financial support for high qualified students from HTA related organizations in Low-and Middle-Income countries.

The content of the programs covers key areas, including Principles of Evidence-based Medicine, Health Policy and Health Systems, Biostatistics, and Economic Evaluation; as well as developing a student's research skills in preparation for their Master's or PhD thesis. Students entering the PhD program who already have a Master's Degree in a relevant area are able to enter into the research only stream.



#### Siriraj Medical Museum



Today information is available to all of us in a volume and with an ease of access which we never would have thought possible 20 years ago. However, it is not enough for information to be available, and in fact this can raise new issues. Much of the information online is misrepresented, inaccurate, out of date, or even just 'fake news'. When browsing the internet, it is also easy to

get distracted, switching from app to app, or, if we need to find something specific, getting overwhelmed by the volume of information we are confronted with.

To meet modern needs, universities must teach people how to assess the merits of sources to find accurate information which they can trust, and make sure that people can easily find important information. Museums are an essential part of this strategy, allowing experts to create engrossing stories through physical objects, background information, and interactive exhibits; not only giving trustworthy information, but actively engaging those within the field as well as the general public.

Mahidol University operates 40 archives and museums, 7 of which come under the banner of the Siriraj Medical Museum (SMM), Faculty of Medicine Siriraj Hospital. This museum aims to provide a valuable learning and research resource for Medicine and Health Sciences students and staff, both at Mahidol University and beyond, as well as being informative for the general public.

The Ellis Pathological Museum, the first part of SMM, was established by Prof. Aller G. Ellis, an American Pathologist who collected specimens to help teach his Pathology students to identify diseases, with a particular focus on those which have the greatest effect on the people of Thailand. The museum also catalogues different types of congenital anomalies, along with information on their effective treatment and prevention.

**The Congdon Anatomical Museum** brings together Dr. Edgar Davidson Congdon's collection of over 2,000 organs to support the teaching of Anatomy, one of the foundations of medical education. The museum also contains the world's only exhibit of a whole-body nervous and arterial system, dissected by Dr. Patai Sirikarun.

The Sood Sangvichien Prehistoric Museum and Laboratory displays a wide range of prehistoric tools from the Paleolithic, Mesolithic and Neolithic ages, ranging from between 1 million to 4,000,000 years old, along with beads, colorful stones, and different designs of painted pottery. These artifacts were collected by Dr. Sood Sangvichien, an expert in Anatomy and Anthropology, who was involved in the excavation of the Chorakhe Phueak archaeological site in Kanchanaburi Province. The objects are displayed in the museum to show the environment of 'Lampang Man', who was discovered at the site.

**The Parasitology Museum** displays the specimens which Dr. Vichitr Chaiyaporn, the founder of the museum, collected from his patients. The museum teaches visitors how to prevent such parasites from getting into their system, through education on types of food, cooking processes, disease-carrying insects, and venomous animals.

The Songkran Niyomsan Forensic Medicine Museum helps Forensic Pathology students, as well as the general public, to learn about how the causes of unnatural death are investigated. The museum displays the collection which Dr. Niyomsan developed throughout his career, including murder weapons and bones.



#### New Paradigm in Autism Development



Autism Spectrum Disorder (ASD) is a neurological condition which normally becomes apparent in the first 3 years of life. ASD can affect social development in children, with children on the Autistic spectrum often showing little interest in other children, and having problems with communication and recognizing facial expressions and emotions. Although current understandings of neurodiversity accept that ASD is not a problem to be 'solved', it is important to provide support to individuals with ASD and their families, to promote and improve their quality of life.

Providing this type of support is one of the key aims of the research, education and services of the National Institute for Child and Family Development (NICFD), Mahidol University. Whilst individualized

work with children with ASD and their families can be of great benefit to those children and families, it can also help to improve support networks within communities, and form the foundation for effective and sensitive national policy.

For many children with ASD, the aim of doctors and therapists is to create and implement frameworks to teach the skills which they need, particularly around socialization and communication. In young children this would generally be focused around games and activities which help the child to understand what they need to do in a given situation. Often children can be capable of learning the appropriate response to the situation, however, it is rare that they will be able to translate this learning into real world scenarios.

Asst Prof. Keawta Nopmaneejumruslers, Deputy Director of the Clinical Services and Early Childhood Development Center, NICFD, has been researching the clinical implementation of Developmental, Individual Differences, and Relationship-based (DIR) Floortime; a modern treatment model for children with ASD, Downs Syndrome, Learning Difficulties, and other developmental delays. This model is built around the interactions between the children and their parents, and is individualized for the needs of each child.

The NICFD team begin by teaching the parents about DIR Floortime, and how it has been adopted in Thailand. The 'I-CARE' framework shows parents how to engage with their children through: Interaction; Comfort and Adapt, to make sure that activities are not distressing their child; Read & Respond, to assess their child's reaction; and Encouragement, to support the development of learning.



Following the initial training session for parents; the parents and children come to NICFD's clinic once a month for targeted work, and then the parents practice DIR Floortime with their child at home for 14 hours each week through Floortime, Physical Activities, Problem Solving Interaction, and Peer Play. NICFD then monitor the child's development in terms of emotions, language, play and other areas. Among the test group of 50 children with ASD of varying levels of severity, it was found that, following the DIR Floortime intervention, 25% were able to progress sufficiently to re-enter school. Most importantly, the work has helped to strengthen the relationships between parents and children in difficult circumstances.

Research Institutes of Thailand have now provided funding for distributing the knowledge gained through this research into communities around Thailand under the name Thai Home-based Autism Intervention (THAI) Model Project. The project has now been launched in 5 provinces around Thailand.

## Dengue Mapping with Google Street View

Each year, 100 – 400 million people globally suffer from Dengue Fever, with around half of the world's population being at risk. The rate of infection has grown signicantly in recent decades, and Severe Dengue is the leading cause of serious illness and death in some Asian and Latin American countries. The level of infection, combined with the lack of an available vaccine, makes Dengue one of the world's most signicant Public Health concerns.

Prof. Dr. Peter Haddawy, Dr. Myat Su Yin, and Asst. Prof. Dr. Anuwat Wiratsudakul, of the Mahidol–Bremen Medical Informatics Research Unit, located in the Faculty of Information and Communication Technology (ICT), Mahidol University, have been taking a new approach to the issue of Dengue. Dengue is



spread by specific types of mosquitos, in particular A. *aegypti*, which breed in small containers which hold stagnant water. The Faculty of ICT have developed a new way to identify high risk areas for Dengue Fever, by mapping the density of containers where the mosquitos can breed.

Although this type of mapping has been in existence for many years, when performed manually it is incredibly time consuming. Teams of trained people would visit an area, such as a suburban district, and walk around noting where they see different types of small containers, ranging from trash cans, to ower pots, to discarded car tires that contain mosquito larvae. As it takes so much time for a team to cover even a small area in this manner, it is not fit for practical implementation. The researchers at the Faculty of ICT have automated this process with the help of images available on the Google Maps Street View tool.

So far, the research has covered 3 provinces around Thailand: Bangkok, Nakhon Si Thammarat, and Krabi. The software harvests images from Street View, with around 1 million images for each province. It then uses convolutional neural network transfer learning to identify 8 common types of containers which may be breeding sites for Dengue mosquitos. Combining this with the geotagged data from the images, it is possible to create large-scale detailed mapping of Dengue vector breeding sites.

At present, the software has been tested in a variety of ways. The object recognition algorithm has an accuracy of 0.91 in terms of F-score, a measure of accuracy that considers both precision and recall. Container counts from the Street View images has also been compared with existing manually-collected data, showing that the number of containers which the program finds is accurate. The densities of the 8 types of container which the system identifies have also been found to be a good predictor of the presence of Dengue mosquito larvae during the rainy season.



In practice, this new tool, in combination with other datasets such as rainfall patterns, can help to identify places with a high risk of Dengue infections. This can help governments in Thailand and around the world to target interventions with awareness, prevention, and treatment. Work is now ongoing to use the generated data to build models to predict risk of infection.

# Visitors





# 03/09/2019

H.E. Mr. Mohammed Nazmul Quaunine, Ambassador Extraordinary and Plenipotentiary of the People's Republic of Bangladesh to the Kingdom of Thailand, together with Dr. Mohammad Khairul Hasan, Counsellor, paid a courtesy call to Prof. Banchong Mahaisavariya, Acting President of Mahidol University. On this occasion, the discussion focused on many aspects of the graduate and postgraduate courses at Mahidol University and the current collaboration between Bangladesh and Thailand.

# 03/09/2019

Assoc. Prof. Rong-Fu Kuo, Deputy Director Department of Biomedical Engineering, Medical Device Innovation Center, National Cheng Kung University, met with the Director of Institute for Technology and Innovation Management, Prof. Dr. Pattarachai Kiratisin; Prof. Dr. Waranun Buajeeb, Dean, and Associate Professor Dr. Rudee Surarit, Deputy Dean for Research, Faculty of Dentistry; Mahidol University. The discussion focused on opportunities and progress in research collaboration in the area of medical devices.



# 18/10/2019

**Prof. Banchong Mahaisavariya**, Acting President of Mahidol University, **Assoc. Prof. Nopraenue Sajjarax Dhirathit**i, Acting Vice President for International Relations and Corporate Communication, and representatives of the Faculty of Nursing and International College welcomed **Prof. Dr. Roger C.Y. Chen**, President, and other representatives from I-Shou University, to the official signing ceremony for the Memorandum of Understanding between Mahidol University and I-Shou University.





#### 18/10/2019

**Prof. Banchong Mahaisavariya**, Acting President of Mahidol University and representatives from Faculty of Graduate Studies, Faculty of Nursing, Faculty of Medicine Ramathibodi Hospital and Faculty of Physical Therapy, welcomed **Mr. Parash Shakya**, Executive Director, Norvic Education, BL Conglomerate Group; **Mr. K.N. Sharma**, CEO; and **Mr. Umesh Prasad Gupta**, Consultant, Norvic Institute of Nursing Education; to the official signing ceremony for the Memorandum of Understanding between Mahidol University and Norvic Institute of Nursing Education.

# 04/11/2019

**Prof. Banchong Mahaisavariya**, Acting President of Mahidol University, together with Assoc. **Prof. Nopraenue Sajjarax Dhirathiti**, Acting Vice President for International Relations and Corporate Communication, welcomed **Prof. Eiichi Saitoh**, President of Fujita Health University, to the official signing ceremony of a General Agreement for Academic Exchange between Mahidol University and Fujita Health University.



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