



اونیورسیتی تیکنولوژی برونی
UNIVERSITI TEKNOLOGI BRUNEI

UTB RESEARCH e-BULLETIN

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EDITORIAL TEAM:

GRADUATE STUDIES AND RESEARCH OFFICE



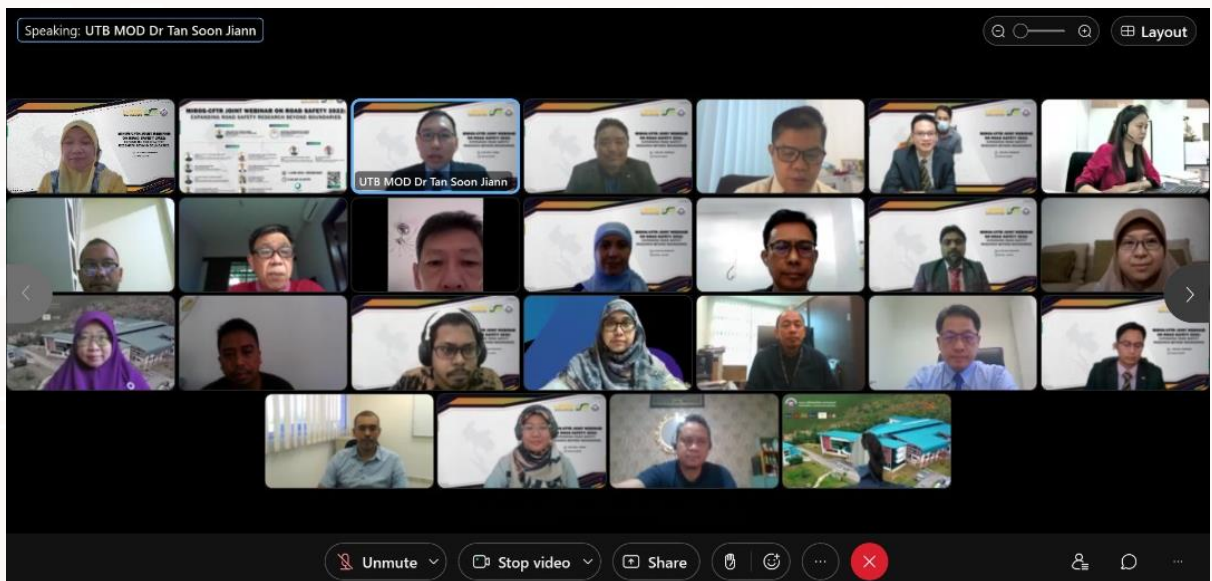
ISSUE 1
NOVEMBER 2022

Research Activities

Centre for Transport Research (CfTR)

CfTR-MIROS Webinar on Road Safety 2022

MIROS and CfTR at UTB joined forces to host the MIROS-CfTR Joint Webinar on Road Safety 2022 on June 1, 2022, from 8:30 a.m. to 12:30 p.m. The webinar, themed "Expanding Road Safety Research Beyond Boundaries," aimed to address shared road safety concerns and present the latest R&D insights from Brunei Darussalam, Malaysia, and the region. The event, featuring two sessions, included opening remarks by Dato' Dr. Khairil Anwar bin Abu Kassim from MIROS and Datin Paduka Professor Dr Dayang Hajah Zohrah binti Haji Sulaiman from UTB.



CfTR-MIROS Webinar on Road Safety 2022.

The first session, adroitly moderated by TS. Ahmad Noor Syukri Zainal Abidin, delved into topics such as the "ASEAN New Car Assessment Programme: History, Current & Future," presented by Assoc. Lt. Col. Ts. Zulhaidi Mohd Jawi, Director of the Vehicle Safety & Biomechanics Research Centre at MIROS. Additionally, Mr. Alvin Poi Wai Hoong, Senior Researcher from the Road Traffic & Infrastructure Unit, Road Safety, Engineering and Environment Research Centre at MIROS, highlighted the relevance of "Applying International Road Assessment Programme Fundamentals in Improving Road Safety." Mohd Khairul Alhapiiz Ibrahim, Head of the Driving Simulation and Psychometric Data Unit, along with TS. Dr. Iskandar Abdul Hamid, Senior Researcher from the Office of the Director General at MIROS, further contributed to this session by addressing crucial facets of driving awareness and regional road safety development.

The second session, gracefully moderated by Dr. Tan Soon Jian, featured insightful presentations by luminaries like Dr. Wida Susanty binti Haji Suhaili, Assistant Professor at the School of Computing and Informatics, UTB, on "Road Accident Data Enhancement and Development—A Case Study of Brunei Darussalam."

Following this, Dr. El-Said Mamdouh Mahmoud Zahran, Associate Professor from the Faculty of Civil Engineering at Ain Shams University, Egypt, delivered an enlightening discourse on "Spatial Traffic Accident Analysis." Concluding the second session was Dr. Sheik Mohammed Sulthan, Assistant Professor from the Faculty of Engineering at UTB, elucidating "Charging Methods and Safety of Electric Vehicle Charging Stations."

The webinar also marked the signing of a MoU between MIROS and UTB, solidifying their commitment to road safety collaboration. With over 100 participants, the event served as a successful platform for sharing cutting-edge R&D insights into contemporary road safety challenges in the region.

Centre for Innovative Engineering (CIE)

The Center for Innovative Engineering (CIE) is at the forefront of advancing innovative engineering solutions that drive positive societal change. With a resolute commitment to transformative progress, CIE has spearheaded two remarkable social impact projects in collaboration with the Ministry of Primary Resources and Tourism (MPRT) and Asia Pacific Telemetry (APT).

In partnership with the Department of Fisheries and Hiseaton, CIE has undertaken a pioneering aquaculture project aimed at the marine species domain. This initiative, which secured a substantial B\$10,000 funding grant from Universiti Teknologi Brunei (UTB) (2021-2022), focuses on enhancing aquaculture practices. This endeavor marks a profound stride towards increasing productivity while maintaining environmental sustainability.

Teaming up with the Department of Agriculture and Agrifood (DAA), CIE's second project, Vertical Rice Farming (VRF), takes center stage. This innovation-centric venture is funded through collaborative efforts, securing B\$20,000 from BIBD and an additional B\$10,000 from DAA. With the overarching goal of revitalizing rice production, the VRF project harnesses the potential of Internet of Things (IoT) technology to optimize paddy plantations. By addressing critical concerns raised by DAA, the initiative bridges academia and industry, ultimately aiming to enhance seed production and contribute to the agricultural landscape of Brunei.

Aligned with its mission to foster knowledge dissemination, CIE conducted a thought-provoking social innovation workshop. This workshop, a key deliverable under the Project Net Peat funded by APT in 2022, epitomizes CIE's dedication to nurturing a culture of innovation. As milestones echo through CIE's journey, it marks the culmination of two significant ASEAN IVO 2018 projects - "Networked ASEAN Peatland Communities (NAPC)" and "Smart Watering System (SWS) for Paddy Plantation."

i. Networked ASEAN Peatland Communities (NAPC)

NAPC is one of the ASEAN IVO 2018 projects funded by NICT Japan. Originally designed as a two-year project, a two-year extension was granted due to the pandemic situation, with the aim of achieving the targeted deliverables. The lead for this project was Dr. Wida Susanty Haji Suhaili, and the team members included Dr. S. H. Shah Newaz, Dr. Au Thien Wan, Pg. Dr. Rafiah, and Dr. Rakib. This initiative represents a collaborative effort among UTB, Universiti Putra Malaysia (UPM), Institut Pertanian Bogor (IPB) in Bogor, MIMOS Sdn Bhd Malaysia, and the National Institute of Information and Communications Technology (NICT) of Japan. The primary objective of this project is the deployment of Internet of Things (IoT)-based solutions for community-based peat swamp forest monitoring. Both technological advancement and social innovation stand as the core deliverables of this project. Notably, AITI's Smart Nation initiatives, DST's provision of SIM cards for connectivity, and ANIAN's contribution in the form of a loaned gateway and LoRa knowledge transfer have supported this project as well.

NAPC project won several awards regionally and internationally. The most recent award was presented in December 2021 for the ASEAN Outstanding Engineering Achievement Award for 2021. The final accomplishment for this project is obtaining a certificate from NICT Japan for outstanding contribution to the overall project.

Underwriters Laboratories-ASEAN-U.S. Science Prize for Women 2021.

<https://asean.usmission.gov/asean-national-finalists-compete-in-science-prize-for-women-competition>

JAKARTA, 19 May 2021 – The Association of Southeast Asian Nations (ASEAN), through the Committee on Science, Technology and Innovation (COSTI), and the U.S. Government, through the U.S. Agency for International Development (USAID), in partnership with Underwriters Laboratories are proud to announce the national finalists in two categories for the Underwriters Laboratories-ASEAN-U.S. Science Prize for Women 2021.

This year, applicants compete in the Mid-Career Scientist category (for participants aged 41 years old and younger) and the Senior Scientist category (for participants aged 45 years and older).

Highlighting the competition theme of Clean Water and Clean Air, the following women are selected as national finalists from 64 applicants across both categories to represent the participating ASEAN Member States.

National Finalists in the Mid-Career Scientist Category are:

- Wida Susanty Huj Suhaili, Brunei Darussalam
- NEU Bina, Cambodia
- Irwin Suci Nurhikmah, Indonesia
- Adawati Sali, Malaysia
- Cici Vicky Dey, Myanmar
- Mykylene Gonzaga Capistrano, Philippines
- Hongying Li, Singapore
- Sumarna Ratupokih, Thailand
- Thi Dung-Guy Hoang, Viet Nam

ASEAN U.S. Science Prize for Women recognizes the best in Dr. Wida Susanty Huj Suhaili & representative for #IBO in the 2021 International Science Prize for Women supported by #USAID through & mitigating forest fires in Southeast Asia that impact the human health, environment & weather patterns. #ASEAN4Science



Borneo Bulletin

THE COMPASSIONATE NEWSPIPER IN BRUNEI DARUSSALAM, SABAH AND SARAWAK.



UTB scientist selected nation's representative in regional science competition

Dr. Wida Susanty Huj Suhaili (UTB) scientist has been selected as a national finalist for a regional science competition organized by ASEAN Commission on Science, Technology and Innovation (ASTI).



UTB scientist represents Brunei at ASEAN S&T Fellowship in Indonesia

Congratulations!

REGIONAL FINALISTS

Underwriters Laboratories-ASEAN-U.S. Science Prize for Women 2021

FESTIVAL OF IDEAS

NETWORK ASEAN PEAT SWAMP FOREST COMMUNITIES IoT Based System

Amanan Awal Stage Menengah Kebakaran Hutan Paya Gambut

PROF. DR. DR. ADUWATI SALI

Awards and Recognitions

Facebook post for Dr. Wida Susanty Huj Suhaili:

DR. WIDA SUSANTY HJ SUHAILI

Honored Professor of the Department of Environmental Technology, Brunei Darussalam University, Brunei Darussalam.

Finalist for the 2021 ASEAN U.S. Science Prize for Women for her work on smart monitoring and management to prevent the frequent forest fires.

National Finalists

U.S. Mission to Asian (USAID) @

Inspired by her joint health issues with asthma, exacerbated by the annual haze in the region due to peatland forest fires, Professor Wida Susanty Huj Suhaili of Universiti Putra Malaysia, focuses her research on peatland monitoring and management to prevent the frequent haze pollution in the region.

INTERNATIONAL AWARD OF MERIT

The Malaysia-Centria Technology Exchange 2021

BEST PAPER PRESENTATION AWARDED

CIIS

Liou, Doo, Tseng

MTE 2021

International Merit Award

Salween Award

Certificate of Excellent Contribution

Awarded to the project

NAPC: Networked ASEAN Peat Swamp Forest Communities

at the ASEAN IVO Project Review 2021 from 18th November to 15th December 2021

Project Members	
Adawati Sali*	UPM, Malaysia
Borhamuddin Mohd Ali	UPM, Malaysia
Mohd. Falfae A. Razid	UPM, Malaysia
Sharifah Munazzah	UPM, Malaysia
Almas Anoudin	UPM, Malaysia
Sheriza Mohd Razali	UPM, Malaysia
Azizi Mohd Ali	UPM, Malaysia
Nur Lugman Saleh	UPM, Malaysia
Wida Susanty Huj Suhaili	UTB, Brunei
Rafidah Petra	UTB, Brunei
Hafizul Mohamad	MEMOS Berhad, Malaysia
Nordin Ramli	MEMOS Berhad, Malaysia
Lailah Saifina	IPB, Indonesia
Imas Sitan	IPB, Indonesia
Yudi Aditya	BPPC, Indonesia
Sulaiman Albertus	BPPC, Indonesia
Vo Nguyen Quoc Bao	PITT, Vietnam
Nobuyuki Arai	RAJ co., Ltd., Japan

* Project leader

Project period: 1st July 2018 to 30th June 2021

Date: 5th January 2022

Chair of the ASEAN IVO Steering Committee
Hiroyuki Yano
Vice President, NICT

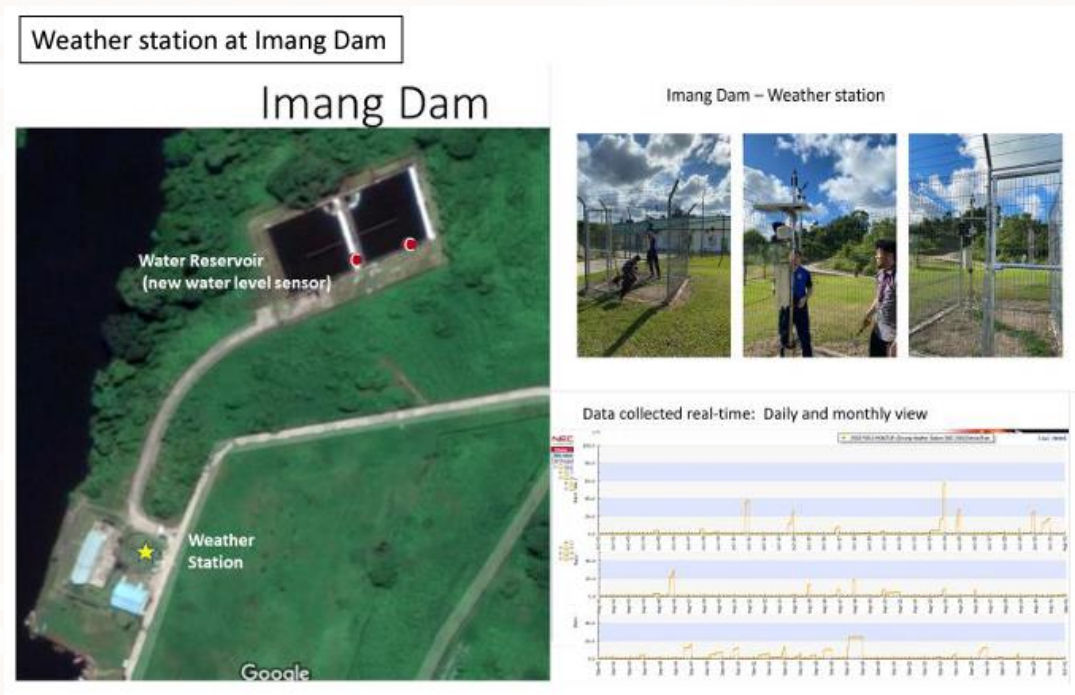


NAPC project's regional and international award triumphs.

ii. Smart Watering System (SWS) with paddy plantation

"SWS for Paddy Plantation" is a NICT Japan-funded ASEAN IVO 2018 project. Commencing in June 2018 and concluding in May 2022, with a one-year extension due to the COVID-19 situation, this three-year endeavor epitomizes collaborative excellence. The project is a partnership involving the National Electronics and Computer Technology Centre (NECTEC) of Thailand, the National Institute of Information and Communications Technology (NICT) of Japan, UTB of Brunei, DAA of Brunei, the University of Computer Studies, Yangon (UCSY) of Myanmar, and the Universiti Teknologi Malaysia (UTM).

Aligned with its vision, this project strategically addresses water and soil conditions in paddy plantations, ushering in a new technological era. Paddy, a water-intensive crop and a dietary cornerstone in Asia, benefits immensely from this initiative. The project's focal point lies in the development of a comprehensive array of technological components, including weather stations, sensor nodes, valve control nodes, and controller nodes. This array collectively monitors and regulates water irrigation, employing Automated Watering Devices (AWD) and watergates to achieve precision and efficiency.



Geographical Position and Deployment of Weather Station near Imang Dam

IBTE Agro: First trial 2020 (Jul – Sep Season)



Incorporating the second version to meet IBTE Agro's new requirement

As the project's culmination looms, the year holds the realization of its intended objectives and the identification of expansion pathways. Under the stalwart leadership of Dr. Wida Susanty Haji Suhaili (Country Lead), Dr. Au Thien Wan, Dr. Deeni Kurniawan, Pg Dr. Seri Rahayu, Murhamdillah Morni, Pg Dr. Rafiah Pg Hj. Petra, and Haji Ismit Haji Mohammad have played pivotal roles as UTB members. This formidable team has navigated challenges and breakthroughs, shaping the project's trajectory.

The project's success story was further propelled by the support of AITI's Smart Nation initiatives, DST's provisioning of SIM cards for seamless connectivity, and UTB's internal grant. These contributions have been instrumental in fostering a thriving ecosystem of collaboration and innovation.

iii. Aquaculture

This project represents a collaborative research effort aimed at providing innovative solutions for the aquaculture industry. In the preceding year, CIE received propositions from Hiseaton Sdn Bhd and AITI within the aquaculture domain. Subsequently, the center engaged with the Department of Fisheries (DoF) to delineate the scope and projects wherein UTB's contributions could be instrumental. This project, rooted in applied research, encompasses four key research domains: i) technology for enhanced productivity, ii) technology for intelligent water quality monitoring, iii) structural technology for infrastructure enhancement, and iv) data analytics. Financing for this endeavor was secured through the CIE grant, complemented by the provision of knowledge and fingerlings of Giant Prawn and Sea Bass by DoF and Hiseaton, respectively.

The triumvirate of projects is as follows:

- 1) IOT-based Fish Rearing System for Marine Species
- 2) Fish Tank Aeration and Ammonia Removal
- 3) Predictive Modelling of DoF Data for Project Production Level

All three projects have successfully achieved their stipulated objectives. Within Project 1, a strategic partitioning ensued, targeting three distinct species: Haruan, Sea Bass, and Giant Prawn. Supervision responsibilities for the Sea Bass and Giant Prawn ventures were shared between Dr. Wida Suhaili and Dr. Ravi Kumar Patchmutu, while Haruan's oversight was entrusted to Haji Ismit Haji Mohammad. Project 2 effectively harnessed the prototype system, leading to a pronounced focus on ammonia removal. The consortium guiding Project 2 included Dr. Shahir Shams, Prof Hasnain Isa, and Prof Beston Nore. Project 3 culminated in the comprehensive collection of data, which was meticulously analyzed. Dr. Hjh Nor Zainah and Dr. Arfi Baramantoro assumed the supervisory roles for Project 3. A presentation was conducted, showcasing the prototypes to the collaborators, and the Department of Fisheries was acknowledged as the principal stakeholder. Additionally, Hiseaton received a demonstration of the Sea Bass prototype, further strengthening their engagement.



Reflecting upon the shared experiences, the inaugural successful implementation of a Recirculating Aquaculture System (RAS) was identified, underscoring the necessity for industry-standard sensors to perpetuate the project's trajectory. In light of these insights, these projects are poised for a second iteration, leveraging the accumulated wisdom and insights, while seamlessly incorporating recommendations from DoF.



The expansion of these projects is now under the stewardship of two students from the School of Computing and Informatics (SCI) and two students from the Faculty of Engineering (FoE), with the capable supervision of Dr. Wida and Haji Ismit Haji Mohammad, respectively. This multi-faceted endeavor encapsulates both innovation and collaboration, promising a brighter future for aquaculture practices.

iv. Vertical Rice Farming (VRF)

This project commenced late last year when Dr. Wida was approached by the Department of Agriculture and Agrifood (DoAA) from MPRT to prepare a proposal for the Vertical Rice Farming (VRF) project. The project secured funding amounting to B\$20k from BIBD and an additional B\$10k from DoAA, MPRT. The primary objective of this project is to implement VRF through the utilization of an IoT-based solution, which will enable the monitoring and regulation of paddy plantations, ultimately enhancing seed production in Brunei. Additionally, the project focuses on addressing rice and paddy-related concerns highlighted by the Department of Agriculture and Agrifood (DAA), fostering a symbiotic partnership between academia and industry.



Collaborative work with DAA: Mixing and Preparing Various Media

Currently, the project is in its preliminary phase and has been subdivided into five distinct mini-projects under the realms of Final Year Project (FYP) and Master Research Project (MRP). This subdivision aims to ascertain the precise scope and prerequisites prior to embarking on the core structure. Oversight for these five mini-projects is provided by Dr. Zunaidi, Pg Dr. Seri Rahayu from Mechanical Engineering, Dr. Munira from the School of Science and Applied Mathematics (SSAM), Prof. Hasnain Isa and Dr. Shahir Shams from Civil Engineering, as well as Dr. Wida Susanty Haji Suhaili and Dr. Hjh Nor Zainah from the School of Computing and Informatics.

The VRF structure is erected within an area referred to as the Agricultural Research Area (ARA), an enclave that will soon accommodate numerous agriculture-centric projects.



Involvement of students as part of their project requirements.



Left: setup to test of different media.



Right: The VRF Structure.

Centre for research on Agri-Food Science and Technology (CrAFT)

i. Artificial Intelligent and Robotics: UTB, DoF and ODE joint approach to freshwater prawn research and innovation



Signing of a Memorandum of Understanding (MoU) Between UTB, MPRT, and ODE

Amid the Fourth Industrial Revolution (IR 4.0), there has been a significant transformation in food production methods in the last decade. Embracing IR 4.0 offers significant opportunities for the agricultural sector to enhance production and tackle food security issues.

To actualize these prospects, a promising Memorandum of Understanding (MoU) was formalized on August 16, 2022, involving Universiti Teknologi Brunei (UTB) through the Center for Agri-Food Science and Technology Innovation (CrAFT), ODE, Aquaculture and Agriculture Co., and the Department of Fisheries (DoF) under the Ministry of Primary Resources and Tourism (MPRT). This strategic collaboration underscores UTB's commitment to support the government's efforts in promoting technological integration among small and medium-sized enterprises. By harnessing the potential of Artificial Intelligence (AI) and robotics, this partnership aims to overcome key challenges in freshwater prawn production.

The distinguished presence of Vice-Chancellor of UTB, Datin Paduka Professor Dr Dayang Hajah Zohrah binti Haji Sulaiman, graced the event as the esteemed guest of honor. The MoU was endorsed on behalf of UTB by Professor Dr. Mohamed Hasnain Isa, Awang Muhammad Zuhairi Bin Haji Awang Azahari, the manager of O.D.E., and Dayang Noraini Binti Haji Anggas, representing DoF.

Taking the lead in this collaborative initiative is Dr. Lim Tiong Hoo, a senior assistant professor in the Faculty of Engineering's Electrical and Electronic Engineering Program Area. Dr. Lim Tiong Hoo emphasized that the project secured a research grant of BND 100,000 from the UK-ASEAN Institutional Links Early Career Researchers Scheme and the ASEAN ICT Virtual Organization of ASEAN Institutes and NICT (ASEAN IVO). These grants provide a foundation for the partnership between UTB, ODE, and MPRT, creating a platform for joint research and innovation, poised to unlock the full potential of IR 4.0 across various industries, economies, and societies.

ii. Discussion for potential collaboration with The Centre of Science and Technology Research and Development (CSTRAD)

CrAFT has initiated early-stage dialogues with the Center for Science and Technology Research and Development (CSTRAD), operating under the Ministry of Defence. These discussions encompass nutritional science, food product development, infrastructure enhancement, and climate change adaptation. Intellectual expertise from UTB's Faculty of Engineering, School of Applied Sciences and Mathematics, and School of Design converged in this productive discourse. Delegates from CSTRAD were also given a tour of UTB's Food Science laboratories and the School of Design Studio.



CSTRAD Delegation's Tour of UTB Laboratories.

Wellness Research Thrust

i. Collaboration with Brunei Neuroscience Stroke and Rehabilitation Centre (BNSRC)

In collaboration with BNSRC, the Pantai Jerudong Specialist Centre (PJSC) is embarking on a series of research initiatives encompassing a wide spectrum of medical services. These initiatives encompass Acute Neuromedical and Neurosurgical Services, alongside an array of rehabilitation services that extend to areas such as Physiotherapy, Occupational Therapy, and Speech and Language Therapy. The scope of these services encompasses diverse domains including cancer patients, musculoskeletal issues, women's health, pulmonary rehabilitation, and more.

Moreover, a series of seminars and awareness campaigns are actively planned to foster knowledge dissemination. These events, which can be conducted either in an online format or through face-to-face interactions, aim to engage the community in discussions, workshops, and informative talks.

Among the upcoming projects, a notable project titled "Development of Training Algorithm Rehabilitation Robot Using Machine Learning Application for Electromyography (EMG) Signal" is in the pipeline. This project, an exciting collaboration between BNSRC and PJSC, is under the leadership of Dr. Zunaidi bin Ibrahim. Members of the Wellness Research Thrust actively contribute to this initiative, adding valuable expertise and insights.

ii. Collaboration with Universiti Teknologi Malaysia (UTM) and Korea

A continuous collaboration is maintained with UTM and partners in Korea. Among ongoing projects, one collaboration involves Liverpool Hope University (United Kingdom) and focuses on the "Mathematical Analysis of Non-Newtonian Fluid Models for Haemodynamical Flows in Abnormal Flow State." This project is spearheaded by Prof. Dr. Duraisamy Sambasivam Sankar.

iii. Webinar Series Collaboration with Brunei SEAMEO Regional Training Center

A proposed joint webinar series between UTB and Brunei SEAMEO Regional Training Center awaits confirmation. This series intends to feature various guest speakers from local and international backgrounds, discussing wellness and well-being topics for Technical and Vocational Education (TVET) instructors across ASEAN countries. Dr. Malai Zeiti Sheikh Abdul Hamid is leading this collaboration.

iv. Television Presenter Role with Radio Television Brunei (RTB)

The Wellness Research Thrust has received an invitation to contribute as a television presenter on RTB. Dr. Malai Zeiti Sheikh Abdul Hamid, Research Thrust Leader, hosted a health-related talk show program categorized as "Creative TV Content." The show, titled "Positive Parenting," consisted of seven recorded episodes (Episode 8–Episode 13), recorded between March 15 and March 30, 2022. The scheduled airing is expected to take place at the end of December 2022.



Dr Malai Zeiti S A Hamid in action on the screen.



Dr Zeiti Hamid (L) group photo with the invited guest speakers (R) after the programme, 'Positive Parenting'.



The recording of the programme at RTB Studio, Brunei.



Group photo with the host, Dr Zeiti Hamid, guest speakers and other members of the RTB production team.

Featured Research Events

Borneo International Conference on Agrotechnology (BICAT) 2022

Universiti Teknologi Brunei (UTB), in collaboration with the Centre for Research on Agri-Food Science and Technology (CrAFT) and the Centre for Innovative Engineering (CIE), co-organized the Borneo International Conference on Agrotechnology (BICAT) 2022, with a focus on 'Technology for Agriculture 4.0'. The event coincided with Brunei's Mid-Year Conference and Exhibition (MYCE) 2022, organized by the Ministry of Primary Resources and



Tourism (MPRT). The conference took place both physically at the Main Conference Hall, International Convention Centre (ICC), Berakas, and virtually via Zoom.

BICAT 2022 marked UTB's pioneering agrotechnology conference under MYCE, providing a platform for sharing and discussing technology developments in agriculture. International experts were invited to exchange insights on recent and future agricultural technologies, offering a valuable opportunity for researchers, practitioners, and educators to present their innovations and discuss challenges. The event also fostered networking and collaboration, aiming to address future agricultural needs.

For more details about the conference, please visit <https://www.utb.edu.bn/news/bicat-2022/>.

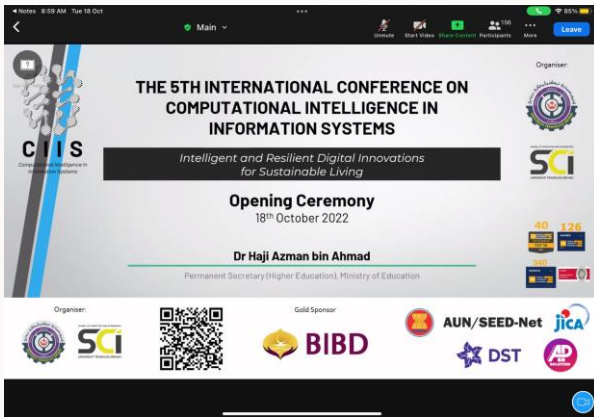
Computational Intelligence in Information Systems (CIIS 2022)

Universiti Teknologi Brunei (UTB) hosted the 5th Computational Intelligence in Information Systems (CIIS 2022) International Conference, organized by the School of Computing and Informatics (SCI). The virtual conference took place over three days, from October 17 to 19, 2022, with the opening ceremony held via Zoom.

This year's CIIS 2022 conference received gold sponsorship from Bank Islam Brunei Darussalam (BIBD), along with support from AUN/SEED-Net JICA, Datastream Digital Sendirian Berhad (DST), and AP Solution. The conference aimed to gather experts from academia and industry to share insights and advancements in Computing and Information Systems. With the theme "Intelligent and Resilient Digital Innovations for Sustainable Living," the event focused on topics such as Big Data, IoT, Machine Learning, Predictive Analytics, and more.

The conference featured pre-conference workshops, keynote addresses, paper presentations, and poster competitions. UTB's School of Computing and Informatics organized this initiative to facilitate knowledge exchange and practical experience with data handling. The conference received 35 submissions from various countries, resulting in the acceptance of 24 papers for presentation.

For additional information regarding the conference, kindly refer to the following link: <https://www.utb.edu.bn/news/utb-holds-the-5th-computational-intelligence-in-information-systems-ciis-2022-international-conference/>.



Screenshots taken during the opening ceremony session of the conference.

New Research Projects

Internal Grant Projects 2022/2023

In its continuous pursuit of research recognition, UTB has been augmenting its academic staff with high research potential. The university offers Internal Research Grants annually to encourage and foster research among all academic staff. Priority is granted to multidisciplinary and transdisciplinary research projects that align with the current national vision.

The following are 19 research projects that were awarded the internal grant:

No.	Title	Principal Investigator	Research Thrust	Members
1	Junction traffic performance modelling through vehicle trajectory analytics	Dr. Yap Yok Hoe	Centre for Transport Research	Dr. Tan Soon Jiann
2	Access to finance and credit-self rationing: determinants and policy recommendations	Dr. Safi Ullah Khan	Enterprise and Society	
3	A study of adopting knowledge management in e-learning for higher education: views of contingency plan during pandemic crisis	Mohd. Rozaidin Dr. Hj. Md. Serudin	Society and Enterprise	Dr. Heru Susanto Nuur Hamizah
4	Synergistic effects on nutritional compositions and antioxidant activities of selected Brunei medicinal plants for product development	Dr. Aida Maryam Basri	Agri-Food Research Thrust & Wellness Research Thrust	
5	Mutual trust based task allocation in fog computing to support trustworthy computation in SG and beyond	Dr. S. H. Shah Newaz	Digital & Creativity-DCRT/CIE	Dr. Mohammad Saiful Bin Hj Omar Dr. Au Thien Wan

Internal Grant Projects 2021/2022

No.	Title	Principal Investigator	Research Thrust	Members
6	Digital scroll for degree certificate using Blockchain Technology	Dr. Au Thien Wan	Digital and Creativity	<ul style="list-style-type: none"> • Dr. Ravi Kumar Patchmuthu • Dyg Serina Binti Md Ali
7	Developing Food Supplements Derived from Locally Available Mushrooms	Dr. Beston F. Nore	CrAFT/ AgriFood Thrust	<ul style="list-style-type: none"> • Prof. Dr. Mohamed Hasnain Isa • Muhammad Zikri Rifa'ie Haji Zulkifli
8	Short-sale Constraints and Stock Prices: Evidence from Chinese Stock Markets	Dr. Larry Su	Society and Enterprise	<ul style="list-style-type: none"> • Radin Jefri Bin Radin Mas Basiuni
9	coRa Based Conditioning of Smart "Tumpang Sari" Berries - Mushroom Farming	Dk Noralam binti Pg Tuah	Energy Research Thrust	<ul style="list-style-type: none"> • Khairuddin bin Hj Abdul Ghafar • Dk Norhafizah binti Pg Hj Muhammad
10	Employers' perceptions regarding the competencies of business graduates in Brunei Darussalam: The role of HELs	Dr. Heru Susanto	Society and Enterprise	<ul style="list-style-type: none"> • Mohammad Fauzan bin Superi
11	The Investigation of ICT Problems among the Digital-Based Startups in Brunei Darussalam	Professor Dr. Kamariah Binti Ismail	Society and Enterprise	<ul style="list-style-type: none"> • Dr. Shaista Wasiuzzaman • Dr. Nena Padilla-Valdez

Internal Grant Projects 2021/2022

No.	Title	Principal Investigator	Research Thrust	Members
12	Non-destructive Understructure Detection to Improve Efficiency and Safety of Construction Site	Dr. Ismawi bin Hj Md Yusof	Sustainable Build Environment / Centre for Transport Research	<ul style="list-style-type: none"> • Dr. Dina Shona Laila • Awg. Asmaal Muizz Sallehinn bin H.M. Sultan
13	The effect of vegetation on rainfall-induced slope instability	Dr. Ena Kartina Haji Abdul Rahman	Centre for Transport Research/Sustainable Built Environment	<ul style="list-style-type: none"> • Dr. Uditha Ratnayake • Dk Dr. Muneerah Pg Hj Jeludin
14	Feasibility and Techno-Economic Analysis for Solar Powered Electric Vehicle Charging Station to promote EV mobility in Brunei Darussalam	Dr. Sheik Mohammed Sulthan	Centre for Innovative Engineering (CIE)	<ul style="list-style-type: none"> • Dr. Ang Swee Peng • Muhammad Norfauzi bin PODP DP Haji Dani
15	Influence of radiative heat and magnetic field on pulsatile blood flow through inclined tapered, porous, stenotic and dilated artery with clinical applications	Prof. Dr. Duraisamy Sambasivam Sankar	Wellness	<ul style="list-style-type: none"> • Ms Hasnanizan Taib • Dr. Mas Munira Binti Rambli
16	Wearable Sensors to Monitor and Improve the Player's Performance in Sports	Dr. P. Ravi Kumar	Digital and Creativity	<ul style="list-style-type: none"> • Dr. Mohamad Saiful Hj Omar • Dr. Hj Sharul Tazrajiman Hj Tajuddin
17	Analysis of Energy Input in Rice Production in Brunei Darussalam	Dr. Mohammad Ali Basunia	Energy and Agriculture	<ul style="list-style-type: none"> • Dr. Roslyna Rosli

Internal Grant Projects 2021/2022

No.	Title	Principal Investigator	Research Thrust	Members
18	Self-leadership And Innovative Work Behaviors In Brunei Darussalam: Testing A Parallel Mediation Model With Goal Striving And Goal Generation	Dr. Kabiru Maitama Kura	Society and Enterprise	<ul style="list-style-type: none"> Hartini Mashod
19	The Development of an Upper Limb Rehabilitation Exercise System using Reinforcement Learning	Dr. Zunaidi Bin Ibrahim	Wellness research Thrust	<ul style="list-style-type: none"> Mr. Ahmad Shamil Bin Haji Abdul Rahmad Dr. Malai Zeiti Sheikh Abdul Hamid