

**EMPOWERING MINDS.
ADVANCING SUSTAINABILITY.
CREATING IMPACT.**



UCSI SUSTAINABILITY
REPORT

2025



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AT UCSI UNIVERSITY, WE RECOGNISE SUSTAINABILITY AS A CORNERSTONE OF CONTEMPORARY EDUCATION.

It is our responsibility to equip future generations with the holistic understanding and ethical framework required to navigate and positively impact an increasingly complex global landscape. By integrating these principles into our curricula, training programmes, and institutional culture, we transcend the mere dissemination of knowledge to actively cultivate responsible global citizens.



At UCSI University, we recognise sustainability as a cornerstone of contemporary education. It is our responsibility to equip future generations with the holistic understanding and ethical framework required to navigate and positively impact an increasingly complex global landscape. By integrating these principles into our curricula, training programmes, and institutional culture, we transcend the mere dissemination of knowledge to actively cultivate responsible global citizens.

For UCSI University, active alignment with the **Sustainable Development Goals (SDGs) and Environmental, Social and Governance (ESG)** principles delivers substantial value. This commitment allows us to demonstrate our institutional impact clearly, address the growing demand for sustainability-focused education, establish strategic partnerships and reinforce our identity as a forward-thinking and globally responsible university.

The year 2025 commenced with renewed emphasis on sustainability education. Beyond embedding these concepts into academic curricula and publications, students were provided regular opportunities to participate in the training session "**Sustainability and ESG – What Every University Student Should Know.**" The inaugural **Future Leaders Empowerment Series (FLES) conference**, featuring a sustainability-themed video competition, was launched for both university and school students. In collaboration with the NGO REGENERASI, an

advocate for MyPalmPride, we produced educational content to promote sustainable palm oil and address common misconceptions, culminating in the first forum "**Sembang Sawit Seminar**" (SSS) at UCSI. Furthermore, sustainability briefings remain a mandatory component of all new student orientations.

For professional development, the year began with the ESG Festival, a conference organised in partnership with the training firm ProQuest. The event convened industry leaders, with proceeds directed to the NGO Dignity for Children. In a significant milestone, UCSI University was appointed by the **Ministry of Foreign Affairs** to conduct the **Malaysian Technical Cooperation Programme (MTCP)**, delivering training in science diplomacy and sustainability to delegates from 15 countries across Asia and Africa. Continuing our collaboration with the National Climate Governance Summit, UCSI organised a Blue Economy Seminar as a satellite event this year. All new staff members receive an orientation detailing the University's dedication to sustainability and their role within this commitment.

Progress in environmental stewardship maintained its momentum. We launched the inaugural "**From Trash to Cash**" initiative in partnership with the **NGO Riicycle**, which evolved into a monthly programme where recyclable waste is exchanged for Riicycle Points, convertible to cash and vouchers. Phase 2 of the Single-Use Plastic Ban on campus was implemented, followed by the joint organisation of Environment and Social Responsibility Day with the University's ESR Club. The 1,000 Tree-planting Project, sponsored by WWF and initiated through the efforts of RCE Greater KL and the University, reached its successful conclusion this year.



In recognition of UCSI's ongoing leadership in fostering social well-being, the University was officially launched as a "**Harmoni-Mesra Campus**" by the country's Minister of Unity. This was preceded by a week-long series of activities and seminars designed to celebrate creativity, promote cultural appreciation, and strengthen community bonds, leaving a lasting impact under the theme "Towards Sustaining Harmony." Reflecting this commitment, a multi-racial student community orchestrated a remarkable Chinese New Year celebration and a diverse International Cultural Night. Other cultural festivities such as Hari Raya and Deepavali were also observed through food bazaars and performances.

Looking forward, UCSI University is dedicated to deepening the integration of sustainability across all academic programmes, advancing green campus initiatives and fostering a prosperous, harmonious, and socially responsible environment for our community. This report not only documents our achievements but also reaffirms our resolve to continue transforming mindsets, influencing behaviours and contributing to a more sustainable world for generations to come.



MESSAGE FROM THE PRESIDENT AND VICE-CHANCELLOR

At UCSI University, we believe that universities have a responsibility not only to educate, but also to lead in addressing the complex environmental, social and economic challenges of our time.

“Sustainability, therefore, lies at the heart of our vision to develop future-ready graduates and to contribute meaningfully to society.”

The UCSI University Sustainability Report 2025 reflects the collective commitment of our academic community — students, faculty, researchers, administrators and partners — towards advancing sustainability within and beyond the University. Across our campus, numerous initiatives demonstrate how sustainability is being integrated into operations, education, research and community engagement.

We are particularly encouraged by the growing momentum among our students and staff who continue to champion sustainability initiatives, develop innovative research and build partnerships that contribute to real-world solutions.

Importantly, our sustainability efforts align with the 17 United Nations Sustainable Development Goals, which serve as a shared global roadmap towards a more inclusive, resilient, and sustainable future. By mapping our initiatives to these goals, we reaffirm our commitment to ensuring that the work carried out at UCSI University contributes meaningfully to both national and global development priorities.

While we are encouraged by the progress presented in this report, we recognise that sustainability is an ongoing journey that requires continuous learning, collaboration and innovation. Moving forward, UCSI University will continue to strengthen its sustainability initiatives, expand strategic partnerships, and empower our community to be agents of positive change.

Together, we remain committed to building a sustainable future for our university, our communities, and the world.

**Prof Emeritus Datuk Ts Ir
Dr Siti Hamisah Tapsir, FASc**

*UCSI University president and
vice-chancellor*



UCSI UNIVERSITY SUSTAINABILITY HIGHLIGHTS

Research Grants (2025)



UCSI secured **55** sustainability-related **Research Excellence and Innovation Grant (REIG)** projects and **5** **Fundamental Research Grant Scheme (FRGS)** projects, along with **1** **Prototype Development Research Grant Scheme (PRGS)** project

Sustainability Publications (2025)

> 50%

A total of **629** out of **1114** publications were focused on sustainability



QS WORLD UNIVERSITY RANKINGS: SUSTAINABILITY 2026

ENVIRONMENTAL SUSTAINABILITY

#1	IN MALAYSIA AND SOUTHEAST ASIA
#7	IN ASIA
#18	IN THE WORLD



QS WORLD UNIVERSITY RANKINGS: SUSTAINABILITY 2026

334

GLOBALLY

57

ASIA

9

SOUTHEAST ASIA



UCSI University organises the Green Office Award annually, with three audit cycles conducted each quadrimester. Departments are assessed across key sustainability criteria, including green attitudes, the adoption of reusable practices, energy and water conservation, recycling and composting efforts, and strategies to reduce paper usage. This initiative promotes continuous improvement and fosters a culture of environmental responsibility across the institution.



At the World SDG Challenge, the Gold Medal was awarded to Dr Wang Kang Han for the development of an AI-powered digital system designed to detect illegal logging through an early warning mechanism. The system also supports digital labelling for tree planting initiatives, contributing to improved monitoring and accountability in environmental conservation efforts.



The inaugural UCSI Sustainability Action Award 2025 received 21 submissions, from which eight winners were selected. Collectively, these projects demonstrate a strong commitment to sustainability through education, innovation and community engagement. The initiatives span environmental conservation (including oceans, mangroves and coastal protection), sustainable solutions (such as urban farming, water filtration and algae-based energy) and responsible consumption (including food waste reduction and material recycling). Several projects focus on community empowerment, including support for refugee communities and student-led outreach activities, while others integrate sustainability into teaching and research. Overall, these initiatives reflect interdisciplinary approaches that combine practical impact, awareness-building and behavioural change in support of the SDGs.



Malaysia CSR Impact Leadership Award

UCSI University was recognised with the Malaysia Corporate Social Responsibility (CSR) Impact Leadership Award 2025 at the fourth Malaysia Sustainability Leadership Summit. This award acknowledges the University's outstanding contributions to community empowerment and sustainable development, highlighting its collective efforts in driving positive change through impactful ESG and CSR initiatives in Malaysia.

SUSTAINABLE DEVELOPMENT GOALS
UCSI GROUP SUPPORTS SUSTAINABLE DEVELOPMENT GOALS

SUSTAINABILITY AND ESG:

WHAT EVERY UNIVERSITY STUDENT NEEDS TO KNOW

AVERAGE TWICE A MONTH | **LIMITED TO 30 PAX ONLY!**

Are you ready to make a difference in the world and in your future career?

This unique, engaging training will help you:

- ✓ **Understand** the Sustainable Development Goals (SDGs)
- ✓ **Connect** the dots between Environment, Social, and Governance (ESG) and global sustainability efforts
- ✓ **Learn** why ESG matters to businesses, nations and YOU as a future graduate

Why should you care?

- ✦ The United Nations is driving global efforts to combat environmental challenges and improve social equity and governance worldwide.
- ✦ These goals are shaping industries, organisations and public policies.
- ✦ Employers are seeking graduates who are ESG-savvy to help them transition to a sustainable future.

What's in it for you?

- ✦ Gain knowledge that will set you apart in the competitive job market.
- ✦ Equip yourself with skills that open doors to impactful career opportunities.
- ✦ Be the change-maker companies are looking for.

Don't miss this chance to invest in your future and the planet.

Sustainability and ESG training sessions are conducted, on average, twice monthly at UCSI University as part of its ongoing efforts to embed sustainability awareness within the student community in support of the SDGs. These sessions explore the role of ESG in addressing environmental and social challenges across industries and institutions. Participants gain a deeper understanding of how sustainability principles contribute to long-term value creation and responsible organisational conduct. The training reinforces the importance of equipping students with the knowledge and competencies needed to drive meaningful and lasting impact beyond the campus environment.

SUSTAINABILITY encompasses a complex array of social, economic, governance and environmental challenges. Addressing these challenges will require fundamental transformations in how societies and economies operate, as well as in how humanity interacts with the planet. Education, research, innovation and leadership are indispensable in equipping society to navigate this transition. Universities, with their unique societal position and commitment to creating and disseminating knowledge, have a pivotal role to play in advancing sustainability and achieving the United Nations SDGs.

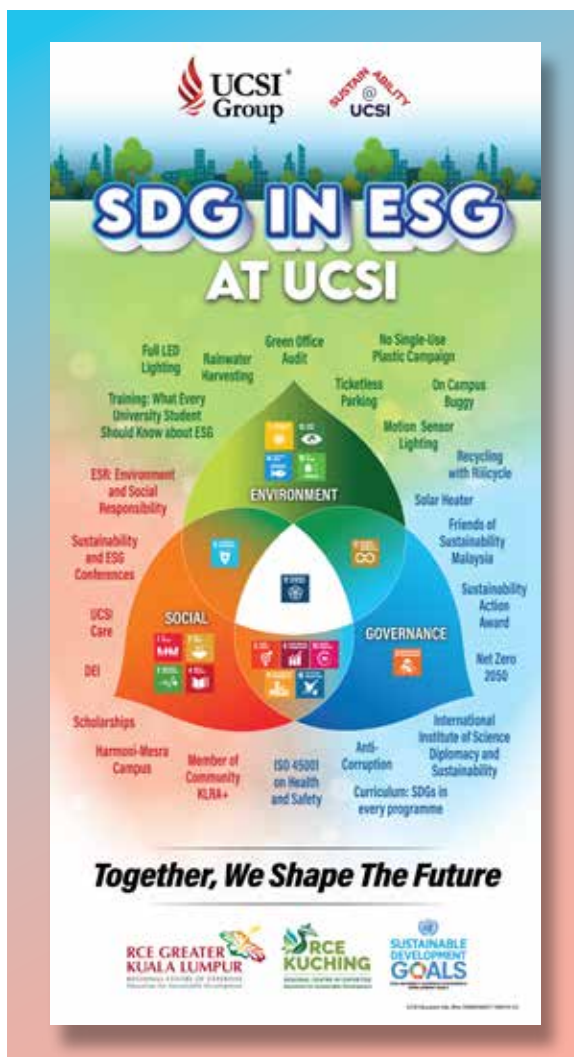


Similarly, ESG principles form a critical foundation for modern education, equipping future generations with the holistic understanding and moral framework necessary to navigate and improve an increasingly complex world. By embedding these values into curricula and institutional cultures, education systems can move beyond imparting knowledge to actively shaping responsible global citizens.

For UCSI University, active engagement with the SDGs and ESG principles offers significant benefits. It enables us to demonstrate our institutional impact clearly, respond to growing demand for sustainability-focused education, forge new partnerships and solidify our identity as a responsible and globally conscious university.

UCSI contributes to sustainability in multiple, interconnected ways, supporting both individual goals and the overall SDG framework. Our key areas of contribution include:

- **Governance and Operations:** Embedding sustainability into the heart of the university through governance structures, policies, and daily decisions. This encompasses employment practices, resource management, campus and support services, facilities, procurement, human resources and student administration.
- **Teaching and Learning:** Equipping students with the knowledge, skills and motivation to understand and advance sustainability, often termed Education for Sustainable Development. This involves delivering specialised academic and vocational expertise to implement solutions, ensuring education is accessible and inclusive, building capacity among students and professionals and empowering youth as agents of change.



- **Research and Discovery:** Generating the essential knowledge, evidence, solutions, technologies and innovations required to support global SDG and ESG implementation. Our research employs both traditional disciplinary methods and interdisciplinary, transdisciplinary and sustainability science approaches. This includes capacity building, collaboration with innovative enterprises on sustainable solutions, promoting diversity in research and training the next generation of sustainability researchers.
- **Community and Partnership:** Amplifying public engagement and participation in sustainability-related initiatives. We foster cross-sector dialogue and action, advocate for the higher education sector in national implementation efforts, contribute to policymaking and demonstrate the sector's steadfast commitment to the global sustainability agenda.

THE CASE FOR UNIVERSITY ENGAGEMENT IN SUSTAINABILITY

Universities occupy a unique position within a society. With a broad remit around the creation and dissemination of knowledge, universities have long been powerful drivers of global, national and local innovation, economic development and societal wellbeing. As such, UCSI have a critical role in contributing to SDGs and ESG, directly or indirectly, and will also greatly benefit from engaging with them (see Figure 1).

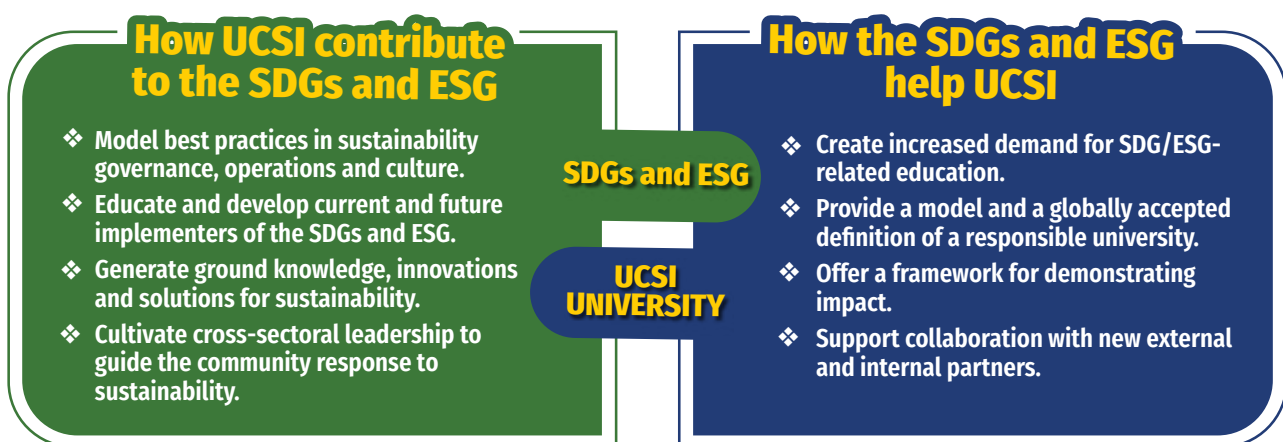


Figure 1

Embracing sustainability at UCSI demonstrates a change of behaviour and values which otherwise might not have been pursued diligently and it helps to mould to be a more responsible university, producing more responsible and effective graduates.

UCSI plays a role in the aspirations of sustainability due to our societal roles:

1. **Embodying Sustainable Principles:** By integrating sustainability into our own governance, operations and culture, we directly advance the goals within our own spheres of influence.
2. **Creating Implementers:** We educate and equip current and future leaders, professionals and citizens with the skills, knowledge, and motivation to contribute to the SDGs and ESG.
3. **Providing Knowledge and Solutions:** We conduct research and innovation to understand complex challenges, develop solutions, assess policies and monitor and report progress.
4. **Providing Cross-Sectoral Leadership:** As trusted, neutral entities, we can lead and facilitate multi-stakeholder dialogue, advocate for the SDGs and ESG and guide societal and community responses.

How UCSI Benefits from the Sustainability Agenda

Engaging with sustainability provides us with significant strategic benefits:

1. **Capturing Educational Demand:** Aligning curricula with the SDGs meets growing student and employer demand for sustainability-related education, future-proofing the institution.
2. **Defining a Modern Mission:** The SDGs and ESG framework provide a comprehensive blueprint for us to redefine ourselves as responsible, globally aware agents of change in the 21st century, aligning with our social mission.
3. **Demonstrating Impact:** The SDGs and ESG offer a powerful, globally recognised framework to communicate our societal value and relevance to our stakeholders.
4. **Building Partnerships:** The sustainability framework creates a common language for forging new cross-sectoral collaborations in research and education, both externally and internally across disciplines.

In essence, universities are indispensable in supporting sustainability and the SDGs provide a vital roadmap for UCSI to maximise our impact and relevance.



Figure 2: An overview of UCSI's contributions to sustainability.

Sustainable Development Goals and Environmental, Social and Governance at UCSI

The United Nations SDGs are shown connected with ESG practices at UCSI. It explains how operations, governance, education, research and communities can use ESG as a practical way to support the SDGs—whether by protecting the environment, caring for people, or ensuring fair and transparent decision-making. By linking global goals to local action, the poster invites everyone at the University to see how their choices and responsibilities contribute to building a more sustainable, fair and hopeful future.

1
NO
POVERTY

NO POVERTY

GOVERNANCE AND OPERATIONS

UCSI University demonstrates its commitment to Sustainable Development Goal 1 (No Poverty) by promoting equitable access to higher education for students from financially disadvantaged backgrounds. Guided by its institutional philosophy of being a “*Socially Responsible Campus*,” the university prioritises widening participation among students from low-income households, particularly those within Malaysia’s Bottom 40% (B40) income group.

At the institutional level, UCSI University provides financial assistance and scholarship schemes through mechanisms such as the UCSI University Trust, which administers scholarships and funding opportunities aimed at reducing financial barriers to higher education. In the 2025 reporting year, a total of RM1,666,316 in tuition fee waivers and financial assistance was disbursed to support students in need. These initiatives enable capable students from lower-income families to access and successfully complete their studies.

Beyond financial aid, UCSI University maintains a comprehensive student support ecosystem designed to assist students from economically disadvantaged backgrounds throughout their academic journey. These support mechanisms include student welfare assistance, tuition fee assistance and access to essential learning resources. These initiatives help students manage financial challenges while allowing them to remain focused on their studies.

The university also implements student success initiatives and academic support systems that assist financially disadvantaged students in progressing through their programmes and completing their degrees. These initiatives reflect the university’s broader commitment to improving social mobility and reducing educational inequality.

UCSI University also hosts a diverse international student community representing more than 120 nationalities. While scholarships are available to international students, these are generally awarded based on academic merit rather than financial need.

Through these combined efforts, UCSI University continues to strengthen its role as an institution that supports inclusive education and socio-economic mobility, ensuring that students from disadvantaged backgrounds have the opportunity to access and complete quality higher education.

TEACHING AND LEARNING

1. COMMUNITY PROGRAMME YOUTH-FRIENDLY RECYCLING CORNER: BRIGHT MINDS, GREEN ACTIONS AND BACK-TO-SCHOOL SUPPORT AT SK SEMATAN

The Youth-Friendly Recycling Corner: Bright Minds, Green Actions and Back-to-School Support programme was organised by UCSI University Sarawak Campus at Sekolah Kebangsaan Sematan, Sarawak, involving university representatives, teachers and approximately 100 primary school students. Led by Adlin Baizura Ariffin from the Faculty of Hospitality and Tourism Management, the initiative addressed financial hardship among underprivileged students whose limited household income restricts access to essential school supplies, aligning with SDG 1.

The programme combined sustainability education with community support. Activities included recycling awareness sessions, creative upcycling projects such as painting used tyres to establish a school recycling corner and the distribution of 150 school backpacks donated by an industry partner to support students from low-income families.

The initiative reduced financial pressure on families while promoting environmental awareness and experiential learning, also contributing to SDG 4 and SDG 12.



2. FROM POCKET MONEY TO PORTFOLIO

“From Pocket Money to Portfolio” was a university-organised financial literacy session held on 25 October 2025 at UCSI University and was attended by 110 participants. The programme addressed youth financial illiteracy, which contributes to economic vulnerability and aimed to equip students with practical knowledge and skills for informed financial decision-making, supporting SDG 1.

Participants gained insights into budgeting, investment strategies and wealth management through guidance from the UCSI Youth Financial Literacy Club and Wong Kok Hong, Head of Wealth Investment Advisor at Affin Bank Berhad. The session increased financial awareness, motivated responsible money management and provided actionable tools to build long-term economic resilience. At a broader level, the initiative advances SDG 4 by enhancing financial literacy and lifelong learning, SDG 8 by fostering employability and entrepreneurial skills and SDG 10 by promoting equal access to financial knowledge, contributing to youth empowerment and poverty reduction. SDG 17 was also demonstrated through the partnership with Affin Bank Berhad.



3. UCSI UNIVERSITY FOSTERS COMPASSION THROUGH GOLDEN BONDS OUTREACH AT RUMAH SERI KENANGAN

The Golden Bonds Visiting Programme was organised by the Student Affairs and Alumni Department of UCSI University Sarawak Campus in collaboration with RCE Kuching on 25 October 2025 at Rumah Seri Kenangan, Kuching. The initiative addressed economic vulnerability among elderly residents, supporting SDG 1 by providing essential food items and daily necessities.

Approximately 30 residents benefited from the outreach, while students gained valuable experience engaging with them, fostering social responsibility and intergenerational connection. The programme also supported SDG 3 by promoting physical and mental well-being, SDG 4 by providing experiential learning in civic engagement and community service and SDG 10 by assisting marginalised elderly communities.

At a broader level, this initiative strengthened social safety nets, encouraged inclusive support systems and enhanced community solidarity. By combining direct assistance with student-led engagement, the programme contributed to poverty alleviation, improved quality of life for elderly residents and nurtured socially responsible leadership, aligning with national and global sustainability efforts.



RESEARCH AND DISCOVERY

1. ANALYSING THE IMPACT OF SOCIO-ECONOMIC FACTORS ON ENVIRONMENTAL DEGRADATION: EMPIRICAL INSIGHTS FROM EMERGING ECONOMY

(Sustainable Futures, Volume 10 (2025). Assoc Prof Dr Lim Ai Fen)

To support the achievement of the United Nations' Sustainable Development Goals, this study examines the impact of population growth, poverty and energy consumption on environmental degradation through the lens of Malthusian theory, within the context of Pakistan. The research employs unit root tests, co-integration analysis and the Auto-Regressive Distributed Lag model to analyse time series data spanning from 1972 to 2023.

The findings indicate that population growth, poverty and excessive energy consumption significantly accelerate environmental degradation, as proxied by CO₂ emissions, in both the short and long run. Based on these results, the study recommends that policymakers implement strategies to manage population growth, alleviate poverty and curb unsustainable energy consumption in order to mitigate environmental degradation and ecological collapse, while contributing to the achievement of the SDGs.

This study offers a novel contribution by examining the combined effects of population growth, poverty rates and energy consumption patterns on environmental degradation, proxied by CO₂ emissions, from a Malthusian perspective within the Pakistani context. Furthermore, it contributes to SDG-related discourse by addressing key issues in poverty alleviation, sustainable energy use and environmental protection.

2. DIGITAL TRANSACTIONS AND FINANCIAL DEVELOPMENT: THE MODERATING ROLE OF GLOBAL INTEGRATION ACROSS INCOME LEVELS

(*International Review of Economics and Finance*, (2025). Assoc Prof Dr Liew Chee Yoong)

This study examines the interaction between digital financial transactions (DFT) and financial development (FD) across 121 countries over the period 2003–2022, focusing upon the moderating role of global financial integration (GFI). Using two-step system generalised method of moments (GMM), Bootstrap Quantile-on-Quantile Regression, Nonlinear multilevel Mixed-Effects and D-K Fixed Effects models, this study explores the variations in this relationship across high-, upper-middle-, and low-income countries. The findings indicate that DFT and economic development positively influence FD, while bank risk demonstrates a negative influence. Governance quality positively influences FD, and while GFI also positively influences FD, it weakens the positive impact of DFT on FD globally. Interestingly, GFI strengthens the DFT-FD relationship in middle- and low-income economies, suggesting region-specific dynamics and the potential of GFI to counter structural barriers in these economies. This distinct interaction emphasises the need for customised policies that promote both digital financial inclusion and global financial integration that are aligned with country-specific economic contexts. Our study provides actionable insights for policymakers to foster sustainable financial development through customised digital and financial integration strategies.

COMMUNITY AND PARTNERSHIP (COMMUNITY OUTREACH)

1. UCSI CARE – CHRISTMAS GIFT OF LOVE AND CARE

The UCSI Care: Christmas Gift of Love and Care initiative marked its sixth year, reaffirming UCSI University's commitment to social responsibility and inclusive community engagement. The programme supported vulnerable children and senior citizens in five welfare homes - Bodhi Home Care, Persatuan Kebajikan Wen Hua, Hope Learning Center, Ruth Education Center and Pusat Jagaan Anbe Sivam - through the collection and distribution of Christmas gifts and essential items, with Bodhi Home Care receiving continuous support for six years. Staff, including UCSI Asst Prof Lucas Lim, alongside students and volunteers, actively participated, strengthening university-led community involvement. Aligned with SDG 1: No Poverty, the initiative provided material support while fostering empathy and long-term partnership. It also supports SDG 3: Good Health and Well-being, SDG 4: Quality Education by promoting well-being, assisting marginalised groups and offering students experiential learning in volunteerism and SDG 10: Reduced Inequalities. The programme enhanced social cohesion, delivered joy to beneficiaries and contributed to inclusive, equitable and sustainable community development.



2. COURTESY VISIT BY UCSI UNIVERSITY TO MAIPK

On 12 August 2025, UCSI University conducted a strategic courtesy visit to Majlis Agama Islam dan 'Adat Melayu Perak to explore potential collaboration opportunities for expanding higher education access among asnaf students—individuals eligible for zakat support, typically from low-income and underprivileged communities. The engagement addressed persistent poverty and limited socioeconomic mobility caused by restricted access to quality education and professional training opportunities.

Discussions focused on enrolment pathways into healthcare, medical and technical programmes, alongside structured support to enhance affordability and academic readiness. Key outcomes included alignment on partnership frameworks, potential sponsorship channels and strategies to facilitate access for eligible students. This initiative also supports SDG 4: Quality Education, SDG 8: Decent Work and Economic Growth by promoting equitable education, employability and long-term economic resilience among marginalised communities, contributing to national efforts in poverty reduction and sustainable socioeconomic development and SDG 10: Reduced Inequalities.



2
ZERO
HUNGER

ZERO HUNGER

GOVERNANCE AND OPERATIONS

UCSI University adopts a structured and impact-oriented approach to advancing Sustainable Development Goal 2 (Zero Hunger) by improving food access, promoting balanced nutrition and supporting sustainable food systems within the campus and surrounding communities. Although the University does not maintain a permanent on-campus food bank, it implements targeted initiatives to support students experiencing financial hardship and vulnerable communities through food distribution drives, emergency aid programmes and partnerships with civil society organisations. These initiatives provide access to safe and nutritious meals for underserved groups, while student volunteer programmes strengthen civic engagement and community outreach. Such efforts contribute to SDG Target 2.1 (ensuring access to safe and sufficient food) and SDG Target 2.2 (improving nutrition and promoting healthy diets).

UCSI also promotes responsible food consumption and healthy dietary practices through campus food outlets such as Santé (<https://www.sante.com.my/>), which emphasises fresh ingredients and environmentally conscious menus, alongside other food services available on campus. Beyond food access, the University integrates sustainable food system principles into academic, research and community engagement initiatives, including projects related to urban agriculture, food sustainability and responsible consumption. Through these coordinated efforts, UCSI contributes to strengthening food resilience, nutrition awareness and sustainable food practices at the institutional and community levels.

TEACHING AND LEARNING

1. WASTE-TO-VALUE DAY

Waste-to-Value Day, organised by UCSI University on 30 October 2025, addressed food waste and unsustainable consumption, supporting SDG 2. Led by UCSI's School of Architecture and Built Environment Dr Emmanuelle Khoo Fong Yi, this initiative promoted food rescue, recycling and sustainable resource use. Participants engaged with student-led exhibitions, fundraisers and demonstrations of upcycled materials, which raised RM8,000 to support Kafa and refugee schools while collecting 150 kg of recyclables. The event highlighted tools like the Value Food app to facilitate ongoing food rescue efforts as part of its SDG 17 initiative.

The programme increased awareness of sustainable consumption and circular economy practices, motivating participants to adopt waste-reduction behaviours. At a broader level, it strengthened multi-stakeholder collaboration between academia, students and community partners, which also advances SDG 11, SDG 12, SDG 13 and SDG 17.



2. HUNGER PROJECT 2025

On 20 July 2025, UCSI University, in collaboration and partnership with Region 1 Lions and Leo Clubs, organised the Hunger Project 2025 at Stutong Community Market, Sarawak, to address food insecurity among elderly and low-income families, supporting SDG 2. Students, volunteers and community members contributed to collecting, sorting and packaging essential food items, which were distributed to local charitable organisations, including Lions Nursing Home.

This initiative provided immediate nutritional support to vulnerable populations while fostering civic engagement and community solidarity. At a broader level, the project strengthened multi-stakeholder collaboration between the university, community groups, and volunteers, contributing to SDG 1, SDG 3, SDG 10, SDG 12 and SDG 17. It promoted equitable access to resources, encouraged responsible consumption and enhanced community resilience, demonstrating the positive impact of coordinated local action on multiple sustainable development goals.



3. HEALTHY AND CARING COMMUNITY PROJECT: INTEGRATED FOOD DONATION, NUTRITIONAL STATUS ASSESSMENT AND COMMUNITY EDUCATION INITIATIVE

On 2 August 2025, the Faculty of Applied Sciences from UCSI University, in collaboration with The Lost Food Project and funded by Yayasan MySDG, organised Projek Komuniti Sihat dan Prihatin at PPR Sri Tioman 2, Kuala Lumpur, to address food insecurity and poor nutritional awareness among low-income urban communities, supporting SDG 2. Participants included local residents, UCSI students and academic staff, who engaged in nutrition education, healthy cooking demonstrations and basic health screenings.

This initiative enhanced participants' knowledge of nutrition, healthy eating and food waste reduction while providing practical skills for preparing nutritious meals from surplus food. At a broader level, the programme strengthened community resilience, promoted equitable access to nutrition and fostered cross-sector collaboration, contributing to SDG 3, SDG 11, SDG 12 and SDG 17. It exemplifies how multi-stakeholder partnerships can advance sustainable, healthy and inclusive urban food systems.



RESEARCH AND DISCOVERY

1. CHEMISTRY, PHARMACOLOGY, USES, SAFETY STUDIES AND CLINICAL STUDIES OF GLUCOSYL HESPERIDIN: AN OVERVIEW

(Journal of Applied Pharmaceutical Science, (2025) Professor Dr Eric Chan Wei Chiang)

Glycosyl hesperidin (GH) or hesperetin rutoside has been patented in 1997 and 2000, and has been endorsed as a novel food in 2024. A flavanone mostly from Citrus fruits, GH can be synthesised by adding one glucose molecule to hesperidin. Pharmacological properties of GH are diverse with anti-hypertension, antimicrobial, anti-inflammatory and anti-obesity being the major activities. Food additives, functional food, beverage, health supplement and cosmetics are some of the uses of GH. Now a commercial product, GH is being sold in Japan, Taiwan and Korea as a dietary supplement. From 2004 to 2023, a total of 13 clinical studies involving GH were reported in the literature. All conducted in Japan, their area of study included arthritis, triglyceride, blood flow, obesity, lower leg swelling, vasodilation, vascular flexibility and hepatic function. In the concluding remarks, the prospects and fields for further research of GH are suggested.

2. HYPERSPECTRAL IMAGING-BASED DEEP LEARNING BENCHMARKS IN NON-DESTRUCTIVE TESTING OF CHERRY TOMATOES

(Applied Food Research, (2025) Professor EUR ING. Ir Ts Dr Ang Chun Kit)

Non-destructive testing of fruit quality is critical for enhancing post-harvest processing efficiency and market value, particularly for delicate produce such as cherry tomatoes. Traditional methods, which are labor-intensive and destructive, limit real-time applicability. Hyperspectral imaging (HSI), by capturing spatial and spectral information, offers a promising alternative for rapid, non-invasive quality evaluation. This study evaluates the potential of combining HSI with traditional machine learning (ML) and deep learning (DL) models to predict four key physicochemical properties of cherry tomatoes: soluble solids content, acidity, sugar content and firmness. A dataset of 310 samples was analysed across two spectral ranges: visible/near-infrared (406–1010 nm) and near-infrared (957–1677 nm). Four preprocessing methods were applied to enhance spectral features: multiplicative scatter correction, standard normal variate, first derivative and second derivative. To establish DL benchmarks, Bayesian optimisation hyperparameter search, as neural architecture search, was employed for spectral preprocessing and DL network architecture tuning. For fair comparison, traditional ML models with preprocessing methods were optimised using grid search. Seven models, including linear regression (LR), partial least squares regression (PLSR), support vector regression (SVR), VGG, ResNet, Transformer, and DenseNet, were developed. Results indicated that DL models, particularly ResNet and Transformer, exhibit superior accuracy and robustness, achieving coefficient of determination (R^2) values up to 0.96 in the test sets. Spectral analysis based on Grad-CAM confirms that these DL models consistently focus on chemically informative wavelengths. These findings highlight the advantages of optimised DL models in developing interpretable and accurate HSI for non-destructive fruit quality testing, supporting advancements in agricultural productivity, enabling manufacturing innovation in post-harvest processing and promoting sustainable food consumption through reduced waste and improved quality control.

COMMUNITY AND PARTNERSHIP

1. BITE BY BITE: RESCUE MORE, WASTE LESS

Bite by Bite: From Waste to Wellness was a university-organised sustainability engagement held at UCSI University by final-year Nutrition with Wellness students from the Faculty of Applied Sciences, led by Assoc Prof Dr Satvinder Kaur. The event addressed food waste and its link to food insecurity, supporting SDG. Activities included expert talks by Ms Atiqah Dr Chang Lee Sin on meal planning, smart food storage and balanced nutrition; a cooking demonstration by Chef Fadzly transforming surplus ingredients into nutritious meals; and an upcycling workshop repurposing used coffee grounds into body scrub products. Interactive games, tasting booths with rescued ingredients and lucky draws reinforced experiential learning.

The programme increased participants' awareness and practical knowledge on reducing food waste and improving food utilisation. It also contributes to SDG 3, SDG 12 and SDG 11 by promoting nutritious diets, sustainable resource use and inclusive, resilient, environmentally conscious community practices, supporting national and global efforts to strengthen food security and reduce avoidable food loss.



2. BUBUR LAMBUK GIVEAWAY RAMADAN 2025: A COMMUNITY UNITED IN CHARITY AND COMPASSION

The Bubur Lambuk Giveaway Ramadan 2025 was organised to address food insecurity and social vulnerability among local communities during the fasting month, aligning with SDG. The initiative was led by UCSI University's Student Affairs and Alumni, Student Board, and Gastronomy Enterprise Club, in collaboration and partnership with RCE Kuching, AADK Daerah Kuching and SKUAD Antidadah Kuching, which also demonstrated SDG 17. Students, staff and partners prepared and distributed bubur lambuk, while also raising awareness of social issues such as drug prevention and rehabilitation, linking nutrition, health and social well-being.

The programme improved access to nutritious food for beneficiaries and strengthened community bonds. It also contributed to SDG 10 by supporting low-income and vulnerable groups, while promoting inclusive community care and shared responsibility. The initiative reflects the role of higher education institutions in advancing the SDGs through compassionate, community-driven engagement, reinforcing national efforts to reduce hunger and promote social solidarity.



3. UCSI SIGNS MOU WITH REGENERASI

UCSI University officially partnered with the NGO REGENERASI to empower Malaysian youth in sustainability and food security initiatives, addressing limited youth engagement and supporting SDG. The partnership was formalised through a Memorandum of Understanding witnessed by UCSI president and vice-chancellor Prof Emeritus Datuk Ts Ir Dr Siti Hamisah Tapsir and REGENERASI vice-president YBhg Datin Amy Latiff. Activities included certificate presentations to student ambassadors and a speech by REGENERASI Patron YBhg Tan Sri Dr Madinah Mohamad, highlighting youth-led initiatives in sustainable food practices.

The event inspired participants to take active roles in promoting sustainable food systems and responsible consumption practices, fostering leadership, collaboration and civic engagement among youth. It also contributes to SDG 4 by equipping students with practical knowledge and skills in sustainability, SDG 12 through the promotion of sustainable food practices and SDG 17 by strengthening collaboration between universities, NGOs and the wider community. By raising awareness of food security and sustainability, the initiative supports national and global efforts to ensure equitable access to nutritious food and build resilient, environmentally conscious communities.





GOOD HEALTH AND WELL-BEING

GOVERNANCE AND OPERATIONS

UCSI University advances Sustainable Development Goal 3 (Good Health and Well-being) through campus health services and preventive healthcare initiatives that improve access to medical support for students, staff and surrounding communities.

The Free Optometry Services Programme, organised by the Faculty of Medicine and Health Sciences and the School of Optometry, provides accessible eye care services including comprehensive eye examinations, binocular vision assessments, children's eye care, diabetic eye screening and digital eye strain evaluation. Services are available through walk-in and appointment systems, with subsidised eyewear offered to ensure affordability. The programme supports early detection of vision problems and promotes preventive eye health among students, staff and the public.



In addition, the Year-End Health Screening Programme provides preventive healthcare services to students and staff through on-campus screenings conducted in collaboration with Laurent Bleu Medical Clinic. The programme includes blood tests, general medical assessments and optional influenza vaccinations, supported by pre-registration and walk-in participation. UCSI University also allocates a medical allowance for staff health screening, encouraging regular health monitoring.

These initiatives strengthen early disease detection, improve health awareness and demonstrate the university's commitment to accessible and preventive healthcare in alignment with SDG 3.

TEACHING AND LEARNING

1. STRENGTHENING NASOPHARYNGEAL CANCER RESEARCH THROUGH KNOWLEDGE SHARING

UCSI University hosted the 13th Nasopharyngeal Carcinoma Research Day (NPCRD) alongside the 15th NPCSM Annual Meeting to address the public health challenge of nasopharyngeal cancer (NPC), which is often detected late due to subtle symptoms. The event aimed to advance research, improve early detection awareness and strengthen collaboration among researchers and healthcare stakeholders, directly supporting SDG 3. The NPCRD was officiated by UCSI deputy vice-chancellor of Academic and Internationalisation, Prof Datuk Ts Dr Rohana Yusof.



The programme featured six symposiums with expert speakers from the Nasopharyngeal Carcinoma Society of Malaysia, NEXTGENE Scientific Sdn Bhd and multiple universities, presenting findings on diagnostics, genomics, treatment strategies and disease management. The event enhanced awareness, knowledge exchange and interdisciplinary collaboration among researchers, clinicians and academics. It also contributes to SDG 4 through professional development, SDG 9 by fostering innovative technologies and SDG 17 through collaboration between universities, research institutions, healthcare organisations and industry partners.



2. UCSI MENTAL HEALTH WEEK 2025: SPEAK YOUR MIND, HEAL YOUR HEART

From 14 to 16 March 2025, UCSI University organised Mental Health Week 2025 across its campus to raise awareness and promote mental well-being among students, addressing the increasing prevalence of stress, anxiety and emotional challenges among young adults. Led by the Student Affairs and Alumni division and collaboratively organised with Prof Dr Mansor Abu Talib from the Wellbeing Research Centre, Timmie Liew Tean Mui from Human Resource and Farhah Afifah Zulkiflee from the Counseling Unit, Student Affairs and Alumni, the programme aimed to normalise mental health conversations, reduce stigma and strengthen emotional resilience in line with SDG 3.

The week featured educational talks such as “Finding Peace in the Chaos”, interactive booths, guided group discussions and creative workshops like “Art Therapy for Inner Calm” to equip students with practical coping strategies. The initiative reached hundreds of participants, enhancing awareness of mental health resources, fostering peer support and reducing stigma around help-seeking behaviour. At a broader level, the programme contributes to holistic student well-being, supports SDG 4 through learning on emotional intelligence and resilience, and advances SDG 10 by addressing mental health challenges equitably across all student groups.



3. HPV AWARENESS CAMPAIGN

The Human Papillomavirus (HPV) Awareness Campaign was organised by UCSI University under the leadership of Assoc Prof Dr Muhammad Junaid Farrukh from the Faculty of Pharmaceutical and Health Sciences, to support SDG 3. The campaign addressed low public awareness and misinformation regarding HPV and its link to preventable cancers, aiming to educate students, staff, parents and the wider community to promote informed health decisions and improve vaccination uptake among adolescents and young adults.

Key activities included a partnership with Hospital UKM with a keynote lecture by Prof Mohamad Nasir Shafiee, consultant obstetrician and gynaecologist, covering HPV transmission, risk factors, cancer prevention and vaccination. Educational materials and interactive discussions reinforced public health messages. The campaign helped in increasing awareness and understanding of HPV risks and preventive measures. At a broader level, it contributes to national cancer prevention efforts, strengthens community health literacy and supports SDG 4 through evidence-based health education as well as SDG 10 by ensuring equitable access to critical health information and preventive resources.



RESEARCH AND DISCOVERY

1. INSIGHTS INTO BIOLOGICAL ACTIVITIES PROFILE OF GINGEROLS AND SHOGAOLS FOR POTENTIAL PHARMACOLOGICAL APPLICATIONS

(Archives of Pharmacol Research, Volume 48, (2025). Asst Prof Dr Anand Gaurav)

Ginger (*Zingiber officinale*) rhizome has been widely used in traditional medicine for centuries to promote good health and well-being, treating conditions such as diarrhea, stomach discomfort, nausea, cholera, asthma and respiratory diseases. Gingerol and shogaol are essential bioactive phenolic compounds abundantly found in fresh and dried ginger and have been extensively studied using modern technology to evaluate their therapeutic effects. These phenolic compounds demonstrate a wide range of properties, including antioxidant, anti-inflammatory, antidiabetic and anticancer effects, which operate through various mechanisms. Furthermore, researchers have utilised the chemical structures of gingerol and shogaol as templates to develop novel, safer and more effective drugs for treating multiple illnesses. This review article focuses on previous literature assessing the potential efficacy of these compounds as therapies based on their antioxidant, anti-inflammatory, antidiabetic, anticancer and neuroprotective properties.

2. BOOSTING THE VENTROLATERAL PERIAQUEDUCTAL GRAY-VENTRAL TEGMENTAL AREA PATHWAY BY DISINHIBITION OF GROUP II MGLURS ALLEVIATES CHRONIC RESTRAINT STRESS-INDUCED DEPRESSION-LIKE BEHAVIOR IN MICE

(Journal of Psychopharmacology, Volume 39, (2025). Prof Ts Dr Lee Ming Tatt)

Major depressive disorder (MDD) is a prevalent psychiatric illness, significantly contributing to disability and suicide rates. While dysfunctions in neurotransmission, notably monoaminergic transmission, are commonly attributed to MDD, involvement of the glutamatergic system in comorbid depressive disorders suggests its potential as a target for antidepressant therapy. Despite evidence of diminished glutamatergic neuron activity in the midbrain ventrolateral periaqueductal gray (vLPAG) in rodent models of depression - which projects to the ventral tegmental area, a region regulating depression-like behaviours - the precise neurocircuit mechanisms within the vLPAG remain unclear.

COMMUNITY AND PARTNERSHIP

1. AMSA HEALTH DAY 2025

The AMSA Health Day 2025 was organised by the Asian Medical Students' Association at UCSI University under the guidance of Faculty of Medicine and Health Sciences dean, Prof Ts Dr Cheah Shiau Chean, to promote holistic digestive health and preventive care among students and the Kg Paya community, supporting SDG 3. The event addressed the growing public health challenge of digestive disorders, including colorectal cancer, driven by poor nutrition, sedentary lifestyles and low awareness. Consultant Dr Mahadevan Deva Tata delivered a health talk focusing on risk factors, early detection and lifestyle interventions for gut health.

Key activities included a Zumba aerobics session to encourage physical activity, a partnership for free health screenings by Klinik Kesihatan Port Dickson covering blood glucose, blood pressure and BMI assessments as well as three interactive poster booths - "The Gut Microbiome: Your Inner Ecosystem," "Digestive Myths and Facts," and "The Gut-Brain Connection". The posters were intended to engage participants and reinforce health messages. The programme improved practical knowledge on digestive health, early disease prevention and personal accountability. At a broader level, it strengthened community health literacy, fostered engagement with local residents, and contributed to national and global health initiatives. Additionally, the initiative advanced SDG 4, SDG 10 and SDG 11, while highlighting UCSI University's role in promoting inclusive, preventive health outreach.



2. LOWER THE PRESSURE: HOLISTIC WAYS TO MANAGE HYPERTENSION

The Hypertension Awareness Programme was organised by UCSI University Faculty of Applied Science department head, Asst Prof Dr Vaidehi Ulaganathan, and conducted in collaboration with Health Coach International. The programme aimed to raise awareness on hypertension management through lifestyle modification, addressing the growing public health concern of high blood pressure in Malaysia linked to poor diet, sedentary behaviour and stress. Targeting students and the broader community, the initiative promoted preventive health practices in alignment with SDG 3.

Key activities included practical coaching on diet, mindfulness and physical activity, complemented by real-life examples and interactive Q&A sessions for evidence-based guidance. The online session enabled 50 participants to engage effectively while ensuring accessibility. Immediate outcomes included increased understanding of hypertension management, motivation to reduce sodium intake and interest in regular blood pressure monitoring. At a broader level, the programme strengthened community health literacy, encouraged preventive health practices and supported national initiatives to combat non-communicable diseases. The initiative also contributes to SDG 4 by fostering health literacy and informed decision-making, reflecting UCSI's commitment to promoting wellness and preventive care in the community.



3. GOLDEN YEARS, GOLDEN HEALTH: CARE AND CHECK

Golden Years, Golden Health: Care and Check was organised by UCSI and led by Asst Prof Dr Siti Fatimah Kader Maideen and Asst Prof Dr Halyna Lugova from the Faculty of Medicine and Health Sciences. The programme targeted 30 elderly participants and aimed to enhance the health and well-being of senior members by addressing age-related challenges such as falls, chronic conditions and limited access to preventive care, in alignment with SDG 3.

Activities included a welcome briefing for students, an aerobics session to promote physical activity, a tour of the centre's facilities as well as health screenings measuring blood glucose, blood pressure, weight, height, waist and hip circumference. Whereas the health education aspect mainly focused on fall prevention, including hands-on practice of the Timed-up and Go test. Participants gained practical knowledge on physical health, self-monitoring and fall prevention. At a broader level, the programme strengthened university-community engagement, promoted healthy ageing and contributed to national preventive healthcare efforts. The initiative also supports SDG 4 through intergenerational learning and SDG 10 by addressing the health needs of vulnerable elderly populations.



4 QUALITY
EDUCATION

QUALITY EDUCATION

GOVERNANCE AND OPERATIONS

UCSI University advances Sustainable Development Goal 4 (Quality Education) through institutional policies and operational practices that ensure inclusive, equitable and accessible education. The university upholds principles of equal opportunity and non-discrimination, ensuring that access to educational activities and resources is available to all individuals regardless of ethnicity, religion, gender, disability or nationality. These principles guide admissions, teaching practices and student engagement across the university.

To support lifelong learning and future-ready competencies, UCSI integrates sustainability and digital literacy into its academic ecosystem through initiatives such as micro-credential programmes including “Sustainability: Think, Care, Do” and AI literacy modules. In addition, the university offers a wide range of academic programmes through faculties such as the Faculty of Social Sciences and Liberal Arts, which provides education-focused programmes including the Master of Education, Postgraduate Certificate in Education and Postgraduate Diploma in Tertiary Teaching, supporting professional development for educators and lifelong learners.

Through these institutional measures, UCSI strengthens its commitment to accessible, inclusive and future-oriented education aligned with SDG 4.

TEACHING AND LEARNING

1. ENERGY4ME PROGRAMME 2025

On 14 November 2025, IChemE student volunteers from UCSI University participated in the Energy4Me STEM Outreach Programme, engaging Year 6 students through science-based learning activities. The initiative aimed to address limited access to quality STEM exposure at the primary level and inspire early interest in science and sustainability. The programme was delivered through collaboration between UCSI educators, IChemE student volunteers and school teachers.

Activities focused on simplified demonstrations of energy and science concepts to make STEM learning more engaging and accessible. The programme reached primary school students and increased their interest and understanding of scientific principles. Immediate outputs included stronger student engagement and improved awareness of STEM learning pathways. At a broader level, the initiative supports SDG 4 by promoting inclusive STEM education and contributes to SDG 9 by encouraging the development of future innovation and technical skills among young learners.



2. THE ECO-PIONEERS YOUTH POSTER AND VIDEO COMPETITION 2025

On 12 June 2025, UCSI Hotel Kuching hosted the Eco-Pioneers Youth Poster and Video Competition 2025, organised by Regional Centre of Expertise Kuching in collaboration with UCSI University Kuching Campus. Led by the project leader, Alexa Loi Min Wei, Faculty of Business and Management dean, the event aimed to raise sustainability awareness among youth and promote Education for Sustainable Development by encouraging students to become environmental stewards.

The competition featured poster and video presentations from school students across Kuching advocating environmental protection. Winners received cash prizes and education bursaries, and the event included the signing of a Memorandum of Understanding between UCSI University and MATTA Sarawak Chapter to strengthen education-industry collaboration contributing to SDG 17. Immediate outcomes included improved environmental awareness and youth engagement in sustainability initiatives. The programme contributes to SDG 4 and SDG 13 by strengthening sustainability education and encouraging climate-conscious action among young participants.



3. ESG LEARNING FESTIVAL 2025

In April 2025, the ESG Learning Festival 2025, organised by the training company ProQuest in collaboration with UCSI University, was held with the participation of students and staff from UCSI University and the general public. The event aimed to strengthen understanding of Environmental, Social, and Governance principles, addressing the growing need for future professionals to develop competencies in responsible business practices and sustainable decision-making.

The festival featured panel discussions and case-based learning sessions led by industry and academic experts, including Prof Dr Ahmad Ibrahim and Alan Low. These sessions provided practical insights into sustainable investing, corporate responsibility and governance frameworks. Immediate outputs included increased ESG awareness and knowledge among participating audiences. Overall, the initiative contributes to SDG 4 by promoting sustainability-focused education and supports SDG 12 by encouraging responsible business practices and resource stewardship among future professionals.



RESEARCH AND DISCOVERY

1. EFFECTS OF DIGITAL MONITORING AND IMMEDIATE FEEDBACK ON PHYSICAL ACTIVITY AND FITNESS IN UNDERGRADUATES

(Education and Information Technologies, Volume 30, (2025) Prof Ts Dr Tan Wee Hoe)

The study investigated the roles of advanced digital tools in enhancing engagement with physical education among undergraduates. The focus was on the effects of digital monitoring and real-time feedback technologies on increasing physical activity participation and improving physical fitness levels of undergraduates. Throughout the semester, the activity of 8,556 students was observed through a rigorous experimental setup. For data analysis, the study used the Mann-Whitney U test, Kruskal-Wallis H test, Spearman's rho test and generalised linear models. The outcomes indicated a notable uptick in physical activity participation among students who were conscious that their activity was being digitally tracked. Additionally, the provision of instant feedback not only increased students' engagement in their selected sports but also helped maintain their long-term commitment. These technological interventions led to a significant improvement in the physical fitness levels of the students involved. The conclusions drawn from this research offer valuable guidance to educational policymakers and public health officials aiming to promote physical fitness in the youth population. The research suggests continued exploration into refining digital monitoring tools to maximise their effectiveness in physical education settings.

2. ANALYSING FACTORS INFLUENCING UNDERGRADUATES' ADOPTION OF INTELLIGENT PHYSICAL EDUCATION SYSTEMS USING AN EXPANDED TAM

(Education and Information Technologies, Volume 30, (2025) Prof Ts Dr Tan Wee Hoe)

Globally, physical education curricula are progressively integrating intelligent physical education systems, a breakthrough in physical technology. These systems utilise advanced data analytic and sensing technologies, significantly enhancing the interactivity and personalisation of physical activity, thus improving students' athletic performance and health management. However, existing literature primarily focuses on the technological implementation of intelligent physical education systems and lacks sufficient discussion on the behavioural motivations behind students' adoption of these systems. To address this study gap, this study designs a survey questionnaire based on the Technology Acceptance Model and its six extended external variables: self-efficacy (SE), subjective norms (SN), technological complexity (TC), facilitating conditions (FC), knowledge acquisition (KA), and knowledge sharing (KS). This study aims to investigate the key factors that influence undergraduates' use of intelligent physical education systems, particularly in the context of rapid advancements in physical technology. The results indicate that ATU, PU, SE, and KS have direct effects on university students' BI to use intelligent physical education systems. Additionally, PEU, SN, KA, TC, and FC exert indirect effects on students' BI to engage with these systems. This study not only provides deep insights into the adoption factors of intelligent physical education systems for the academic community but also offers robust theoretical and practical support for the implementation of intelligent physical education systems in higher education institutions. Furthermore, the results will serve as a crucial reference for policymakers and educational technology developers, aiding them in better understanding and promoting the application and widespread adoption of intelligent physical education systems in higher education.

COMMUNITY AND PARTNERSHIP

1. THE BOOK NOOK – A COLLABORATIVE SDG-INSPIRED READING CORNER

On 1 September 2025, UCSI University, in partnership with Pavilion Bukit Jalil and KB Colour, launched The Book Nook, a community reading corner located at Level 5 of the mall. The initiative aimed to promote reading, knowledge sharing and lifelong learning while addressing the lack of accessible informal learning spaces for the public.

The space features custom-designed benches handcrafted by students from UCSI's School of Architecture and Built Environment. A collection of books were also donated by UCSI's Faculty of Business and Management and the Institute of Actuarial Science and Data Analytics for visitors to read, exchange and return. The initiative engaged university students, academic staff and the public, encouraging community participation in learning. Immediate outcomes included improved access to reading materials and stronger public engagement with educational resources. This initiative contributes to SDG 4 and SDG 11 by promoting inclusive learning spaces and community-based education.



2. MOTIVATION CAMP AND BAHASA MELAYU EXCELLENCE WORKSHOP – SPM 2025

The Motivation Camp and Malay Language Excellence Workshop – Middle School Public Examination (SPM) 2025 was a UCSI University outreach programme aimed at supporting students preparing for the Sijil Pelajaran Malaysia examination. The programme engaged over 600 students from 15 schools across Kuala Lumpur, Selangor, Johor and Negeri Sembilan, with the support and collaboration from the respective states' education departments. Its objective was to strengthen students' mastery of Bahasa Melayu answering techniques and examination strategies to improve their preparedness for the exam.



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3. BINTANG CEMERLANG 2.0

Bintang Cemerlang 2.0 was launched as a university-supported community education initiative to strengthen foundational literacy and numeracy among selected primary school pupils in Sentul. The launch was officiated by YB Datuk Seri Dr Zaliha Mustafa and involved collaboration between UCSI University, YTL Cement Berhad, Dewan Bandaraya Kuala Lumpur and the Ministry of Education.

The programme, led by Asst Prof Dr Michelle Soo and a nine-member faculty team, provides structured academic support to enhance students' literacy and numeracy skills. Immediate outcomes include improved learning support for pupils and strengthened university-community engagement. At a broader level, Bintang Cemerlang 2.0 addresses urban educational disparities and promotes inclusive learning while fostering multi-stakeholder collaboration, contributing to SDG 4, SDG 10 and SDG 17.



5 GENDER
EQUALITY

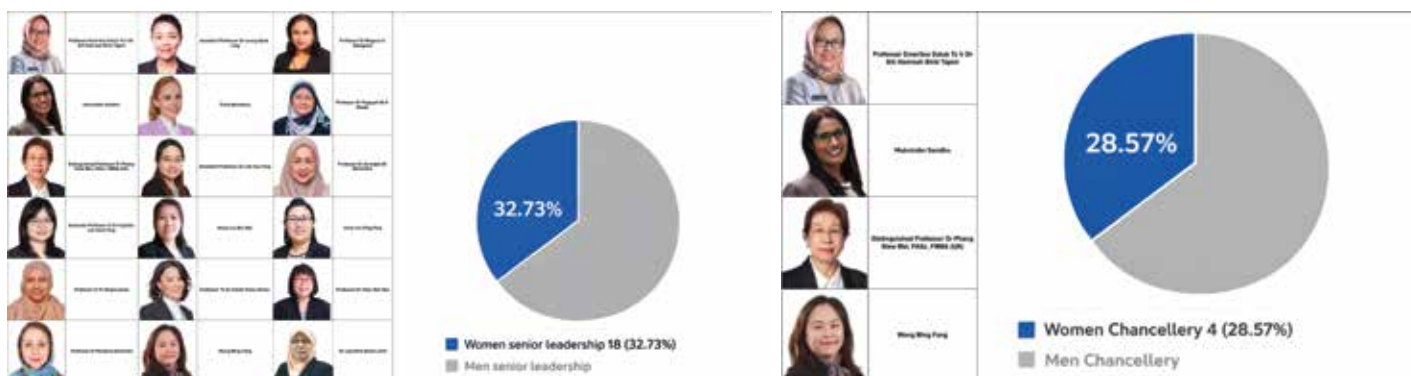

GENDER EQUALITY

GOVERNANCE AND OPERATIONS

UCSI University demonstrates a strong institutional commitment to Sustainable Development Goal 5 (Gender Equality) through policies that promote diversity, equity and inclusion across all levels of the institution. The University implements a formal Policy on Diversity, Equity and Inclusion, which ensures equal opportunity and fair treatment regardless of gender, supporting an inclusive academic and working environment. The policy promotes equitable access to recruitment, career progression, remuneration and professional development for all staff.

Aligned with national labour standards and international best practices, UCSI University upholds the principle of equal pay for equal work, ensuring that remuneration and career advancement are determined by merit, qualifications and performance rather than gender. These commitments are embedded within the University's human resource governance framework.

Gender representation in leadership further reflects UCSI's commitment to inclusive governance. Women currently constitute 32.73% of senior leadership positions and 28.57% of the chancellery, demonstrating meaningful female participation in executive management and institutional decision-making. Through these policies and governance practices, UCSI University promotes equitable participation and inclusive leadership in alignment with SDG 5.



TEACHING AND LEARNING

1. WOMEN IN ENERGY 2.0: WHERE CONVERSATIONS SPARK GROWTH

Women in Energy 2.0: Where Conversations Spark Growth was a university-organised forum by the Society of Petroleum Engineers UCSI Student Chapter at UCSI University, addressing women's underrepresentation in the energy and STEM sectors. The forum engaged students and aspiring professionals, providing an empowering platform to discuss career progression, mentorship and strategies to navigate male-dominated environments, supporting SDG 5.



Industry professionals Aina Jais, Rajaletchmy Thiagarajan and Zahrah Khir shared their experiences and guidance in a talk moderated by Dr Kalaimani Markandan. The event increased awareness of gender equality, strengthened professional confidence and fostered student–industry connections. By promoting inclusive dialogue and collaboration between academia, students and industry partners, the initiative contributes to SDG 4 and SDG 5.



2. UCSI UNIVERSITY INTERNATIONAL WOMEN'S DAY 2025

International Women's Day 2025 was celebrated by UCSI University on 8 March 2025, engaging students, staff and external stakeholders to advance dialogue on SDG 5. The event aimed to raise awareness on gender disparities and mobilise collective action across education, industry and government to promote inclusive participation in leadership, education and the workforce.

Key participants included local parliament elect Teresa Kok and UCSI vice-chancellor Prof Emerita Datuk Dr Siti Hamisah Tapsir, alongside students and staff. The programme enhanced participants' awareness, advocacy skills and confidence while fostering engagement with gender equality issues. By connecting academia, students and external partners, the initiative supports SDG 4, SDG 5, SDG 10 and promotes multi-stakeholder collaboration aligned with SDG 17.



2. WINGS OF FREEDOM: EMPOWERING WOMEN REFUGEES THROUGH ART

Wings of Freedom was organised by the Institute of Creative Arts and Design in collaboration with Greater Action, led by Dr Elnaz Rostami Gharagozloo. The initiative supported refugee women by providing art education, skill development and social inclusion, empowering participants to express their experiences and reclaim their voices, contributing to SDG 5.



Through workshops and exhibitions, refugee participants gained artistic skills, confidence and recognition, while engaging UCSI students, faculty and visitors in intercultural dialogue. The programme fostered inclusive learning and social and economic empowerment, also advancing SDG 4 and SDG 10.



RESEARCH AND DISCOVERY

1. EVALUATING TECHNOSOCIOPRENEURSHIP AS A STRATEGY TO IMPROVE WOMAN AND COMMUNITY PRODUCTIVITY IN MADURA INDONESIA

(Future Cities and Environment, Volume 11, (2025) Prof Ts Dr Nangkula Utaberta)

The productivity of women entrepreneurs in the Madurese community has been relatively low and is expected to improve following the implementation of the empowerment programme. This study adopts a descriptive qualitative approach, with primary data collected through interviews. Accordingly, the research aims to examine and develop a community empowerment model that can be applied to enhance productivity within the Madurese community.

The findings indicate that women entrepreneurs in Madura, particularly those engaged in food, crafts, clothing, batik and related sectors, have generally adopted basic technosociopreneurship strategies. However, these strategies require further development, as the use of technology is currently limited to promotional and ordering activities.

Moving forward, it is essential for these entrepreneurs to expand their use of technology to support broader aspects of business management, including operations, sales systems, and recruitment processes. This may involve engaging community members as dropshippers or franchise partners.

It is hoped that this study will serve as a foundation for more comprehensive development of technosociopreneurship, ultimately contributing to the empowerment of women and the wider community on the island.

2. A MODERATED MEDIATION ANALYSIS OF THE RELATIONSHIP BETWEEN PSYCHOLOGICAL CAPITAL AND PROFESSIONAL COMMITMENT AMONG TEACHERS

(Scientific Reports, Volume 15, (2025) Prof Dr Mohd Salehuddin Mohd Zahari)

This research aims to investigate the mediating effect of well-being in the relationship between psychological capital and professional commitment, and the moderating role of gender. This research employed a cluster sampling method to select four private junior high schools as research clusters. A total of 671 teachers participated in the survey, completing validated psychological measures including the Psychological Capital Questionnaire, PERMA-Profil Scale and Professional Commitment Scale. Data analysis was conducted using SPSS 29.0 for descriptive statistics and AMOS 24.0 for confirmatory factor analysis. The findings revealed that teachers' psychological capital had a significant effect on professional commitment, with well-being serving as a mediator between psychological capital and professional commitment. Gender moderated both the impact of psychological capital on well-being and the mediating role of well-being. This study confirms the resource conservation theory that different types of resources can be transformed or influenced by each other, and psychological assets can help individuals maintain a positive emotional state, thereby strengthening their commitment to their careers.

COMMUNITY AND PARTNERSHIP

1. 2025 BORNEO ZONE INTERNATIONAL WOMEN'S DAY CELEBRATION

The 2025 Borneo Zone International Women's Day Celebration was a university-supported event held on 8 March 2025 at UCSI Hotel, Kuching, organised in collaboration with the Ministry of Women, Family and Community Development and Sarawak Energy Berhad. The event engaged approximately 500 women from Sabah and Sarawak, aiming to raise awareness of gender-based challenges, empower women across social, economic, and political spheres, and promote SDG 5.

Key participants included the Minister, Datuk Seri Nancy Shukri and Mukvinder Kaur Sandhu. The programme heightened awareness of gender equality, reinforced commitment to eliminating discrimination and celebrated women's achievements. By connecting government, academia, NGOs and the private sector, the initiative advanced SDG 5, SDG 10 and fostered multi-stakeholder collaboration aligned with SDG 17.



2. UCSI UNIVERSITY'S WOMEN EMPOWERMENT CONFERENCE: SHE SHINES

The Women Empowerment Conference: She Shines – A Celebration of Women's Voices was hosted by UCSI University and officiated by Tunku Zain Al-'Abidin Tuanku Muhriz. The conference addressed persistent gender gaps in Malaysia, including low female political representation and barriers limiting women's participation in leadership. Its objective was to promote gender equality by amplifying women's voices, showcasing role models and fostering dialogue on equitable policies, contributing to SDG 5.



Key participants included Tan Sri Dr Rebecca Fatima Sta Maria, Tengku Dr Naufal Tengku Mansor and Mahuran Saro Sariki. The event empowered participants with knowledge, inspiration and advocacy skills. It also strengthened participants' awareness of women's leadership and informed policy discourse. By connecting students, staff, academics and policymakers, the initiative also advanced SDG 10 and SDG 17.

The event attracted healthcare professionals, educators, corporate leaders and mothers from Malaysia and abroad, providing practical guidance on wellness, resilience and advocacy. Immediate outcomes included increased awareness, motivation to adopt healthier lifestyles and enhanced capacity to overcome barriers to well-being. By promoting gender-inclusive health initiatives and connecting experts, participants and communities, the forum contributes to SDG 3, SDG 5 and SDG 10.



3. THE INTERNATIONAL WOMEN'S DAY FORUM: BEYOND BALANCE

Health and Well-Being in a Changing World was held online on 8 March 2025, organised by UCSI University and led by Asst Prof Dr Vaidehi Ulaganathan. The forum addressed gender inequalities in access to holistic health resources, aiming to empower women across physical, mental and social dimensions, supporting SDG 5.





CLEAN WATER AND SANITATION

GOVERNANCE AND OPERATIONS

UCSI University supports Sustainable Development Goal 6 (Clean Water and Sanitation) through responsible water management practices across its campus operations. The university receives treated potable water from the municipal provider, Air Selangor, ensuring compliance with national drinking water quality standards. Water consumption is monitored through facility management systems, enabling the university to track usage and promote efficient water management across campus buildings.

Wastewater generated on campus is discharged through the municipal sewerage infrastructure managed by the national sewerage operator, ensuring proper treatment before release to the environment. The university implements operational controls to prevent pollutants from entering the drainage system, including laboratory chemical handling procedures, maintenance of drainage infrastructure and compliance with environmental health and safety regulations.

Free drinking water is provided through water dispensers and refill stations across campus for students, staff and visitors, encouraging hydration and reducing reliance on single-use plastic bottles. Water conservation is also promoted through awareness campaigns and responsible water usage practices within the campus community.

Through these operational measures, UCSI University contributes to sustainable water stewardship and responsible resource management in alignment with SDG 6.



Rain Water Harvesting



Tap Restrictors



Water Dispenser

TEACHING AND LEARNING

1. ECOENACT CSR INITIATIVE | ALGAE FOR FUTURE ENERGY

The ECOENACT CSR Initiative: Algae for Future Energy was a university-organised sustainability programme held on 13 December 2025 at UCSI University Kuala Lumpur Campus, followed by an online technical talk via Microsoft Teams. Organised in collaboration with the Engineers in Society, it was coordinated by Asst Prof Dr V Ramani Bai under Ir Dr Assoc Prof Deprizon Syamsunur. The initiative aimed to raise awareness of algae-based solutions for wastewater treatment, water reuse and renewable energy generation, addressing SDG 6.

The programme enhanced participants' understanding of sustainable wastewater management and environmental innovation, strengthening interest in water purification and bioenergy. The initiative also contributes to SDG 7 and SDG 13 by improving water quality, promoting biofuel production and demonstrating nature-based climate solutions.



2. WELL WATER DIY WATER FILTER KIT

DIY Water Filter Kit was a university-organised initiative held from 11 to 13 August 2025 at UCSI University, supporting SDG 6. The programme aimed to empower students and community members with practical skills to build low-cost water filters, improving water quality and public health while promoting responsible water usage on campus.

The initiative engaged 215 participants, who learned to construct effective DIY filters validated through laboratory testing, demonstrating improved water safety. Knowledge and awareness of safe water practices increased, with nearly all participants intending to apply and share these practices within their communities. Immediate outcomes included enhanced skills, motivation and understanding of water purification. At a broader level, the programme also contributes to SDG 3 and SDG 12 by improving access to clean water, preventing waterborne illnesses and promoting sustainable, resource-efficient solutions.



3. MEMBRANE TECHNOLOGY INNOVATIONS FOR A SUSTAINABLE FUTURE: FROM LAB TO INDUSTRY

Membrane Technology Innovations for a Sustainable Future - From Lab to Industry was a university-organised event held on 29 July 2025 at UCSI University Kuala Lumpur, addressing water scarcity and pollution through advances in membrane technology, supporting SDG 6. The event aimed to share innovative solutions for water desalination, wastewater treatment and haemodialysis membranes, enhancing water quality and accessibility for industrial and healthcare applications.



Key participants included Prof Datuk Ts Dr Ahmad Fauzi Ismail from Universiti Teknologi Malaysia, UCSI president and vice-chancellor Prof Emeritus Datuk Ts Ir Dr Siti Hamisah Tapsir, academics and postgraduate students. The programme increased awareness of advanced membrane technologies and their practical applications. At a broader level, this event also contributes to SDG 9 and SDG 12 by promoting sustainable water management, technological innovation, and efficient, environmentally conscious resource use.



RESEARCH AND DISCOVERY

1. INTEGRATED ULTRAFILTRATION-LIKE FORWARD OSMOSIS AND NANOFILTRATION FOR NATURAL RUBBER SKIM LATEX CONCENTRATION: DEWATERING PERFORMANCE, FOULING MECHANISM, AND ECONOMIC ANALYSIS

(Separation and Purification Technology, (2025) Asst Prof Dr Sum Jing Yao)

Conventional acid coagulation (AC) of natural rubber skim latex (SL) produces hazardous waste like acidic wastewater. Given the sub-micrometer of rubber particles, pressure-driven ultrafiltration (UF) can dewater SL, but hydraulic compaction accelerates fouling. This study replaced conventional dense polyamide forward osmosis (FO) membrane with UF-like FO membrane to boost flux while pressure-less operation eliminates compaction fouling. A nanofiltration (NF) unit then restored the diluted draw solution (DS) for reuse. Using a 15.90 cm² membrane and 300 mL feed, triglycine-crosslinked graphene oxide membrane (triGly-GO/PES-12) achieved a permeate flux of 2.62 L m⁻² h⁻¹. Over 24 h, it reduced the feed volume by 25% and increased the total solids content (TSC) from 6.33% to 10.94%. Compared with unmodified PES-12, triGly-GO/PES-12 showed a lower flux decline ratio (23.43% vs 27.72%) and higher flux recovery (~100% vs 87.39%) after NaOH cleaning, indicating better fouling resistance. Extended Derjaguin-Landau-Verwey-Overbeek (XDLVO) analysis highlighted hydrophobic interactions primarily drive rubber fouling. NF recovered 93% of the DS conductivity and the regenerated DS yielded a comparable permeate flux (3.46 L m⁻² h⁻¹) to fresh DS in subsequent SL filtration. A techno-economic analysis of a 20 m³ day⁻¹ plant estimated specific concentrate production costs (SCPC) of 1.86 \$ m⁻³ for UF-like FO-NF, compared with 3.13 \$ m⁻³ for standalone FO and 8.26 \$ m⁻³ for AC, with DS regeneration reducing costs by 40%. This work showcases UF-like FO-NF integration as a sustainable, cost-effective alternative to conventional SL treatment, supporting sustainable production while reducing environmental impact and improving economic viability.

2. ULTRASOUND TREATMENT OF CHITOSAN MACROBEADS FOR CRACK FORMATION AND APPLICATION IN COLUMN DYNAMICS SORPTION OF METHYL ORANGE

(International Journal of Environmental Science and Technology, (2025) Assoc Prof EUR ING Ir Dr Yeap Swee Pin)

This study aimed to utilize low-cost and environmentally friendly sorbents for removing textile dyes, particularly methyl orange (MO) from wastewater. Here, continuous adsorption experiments were conducted by using chitosan macrobeads (CS-MB) as the low-cost sorbent. The CS-MB was further treated with ultrasonication for crack and pore formation. The physicochemical evaluation revealed that the sonicated beads (CS-SMB) developed a rougher surface with cracks and pores, creating additional adsorption sites. Column studies showed that the optimized process variables for the continuous adsorption of MO onto the CS-SMB are 10 mg/L initial MO concentration, 400 mm bed height, and 20 mL/min flow rate. The MO removal percentage achieved under these optimized conditions slightly outperformed that of the unsonicated beads (i.e. CS-MB). However, the performance of the CS-SMB and CS-MB converged after 10 min probably due to the reduction in bead size and the presence of trapped bubbles within the beads after sonication. Breakthrough curve modeling showed that the adsorption data of CS-SMB most closely fitted the Yoon-Nelson model. This study demonstrates that ultrasonication can effectively modify the structural properties of chitosan macrobeads, thereby altering their dye removal performance.

COMMUNITY AND PARTNERSHIP

1. MEDICAL OUTREACH PROGRAMME 7.0: SUNSCREEN PROTECTION AND BEACH CLEANING

Medical Outreach Programme 7.0: Sunscreen Protection and Beach Cleaning was conducted on 8 November 2025 at a public beach in Port Dickson, organised by MEDICSA. The initiative addressed coastal pollution and its impact on water quality, ecosystems and community well-being, supporting SDG 6. Its objective was to promote pollution prevention, environmental stewardship and public health awareness.

Medical students led beach cleaning efforts and engaged the public on sun protection, including proper sunscreen usage. Immediate outcomes included improved beach cleanliness and heightened public awareness of environmental hygiene and personal health. At a broader level, the programme also contributes to SDG 3 and SDG 12 by protecting water-related ecosystems, promoting UV-related health education and encouraging sustainable waste management and responsible community behaviour.



2. UCSI STUDENTS CONTRIBUTE TO SUSTAINABLE IRRIGATION SYSTEM PROJECT AT MID VALLEY RIVER 3

The Collaborative Sustainable Irrigation Project was organised by UCSI University, involving Mechanical Engineering students alongside collaborators from two other universities. The initiative addressed water wastage in urban green spaces by designing a sensor-based irrigation system to optimise water usage, contributing to SDG 6.

Facilitated in collaboration with ecosystem restoration activist and Alliance of River Three founder, Kennedy Michael, participants developed preliminary designs and practical recommendations for automated irrigation systems using pipelines and soil moisture sensors.

Immediate outcomes of the project included enhanced technical problem-solving skills, a stronger practical understanding of sustainable engineering, and increased awareness of water conservation strategies. At a broader level, the project supports sustainable urban ecosystem management, promotes responsible water use and also contributes to SDG 14 and SDG 15 by improving vegetation care, habitat sustainability and environmental stewardship.





AFFORDABLE AND CLEAN ENERGY

GOVERNANCE AND OPERATIONS

UCSI University advances Sustainability Development Goal 7 (Affordable and Clean Energy) through institutional strategies that promote energy efficiency, carbon emission reduction and the gradual integration of renewable energy across campus operations. Energy efficiency considerations are incorporated into campus infrastructure management, ensuring that renovation works and facility upgrades prioritise efficient energy use through modern building technologies and optimised mechanical systems.

The University has implemented energy-saving measures across campus facilities, including full LED lighting, motion and occupancy sensors for lighting control, automated energy management systems and high-efficiency chiller systems to reduce electricity consumption while maintaining thermal comfort. Existing buildings are progressively upgraded through improvements to cooling systems, lighting controls and other energy-efficient equipment to enhance operational efficiency.

Operational teams regularly monitor and review campus energy consumption to identify areas of high energy use and reduce energy wastage, supporting the University's carbon management efforts and lowering CO₂ emissions.

To further strengthen its low-carbon transition, UCSI plans to install solar photovoltaic panels on selected campus buildings by 2027, complementing the current use of solar water heaters and increasing the share of renewable energy in campus operations.

These initiatives support SDG 7.2 and SDG 7.3 by improving energy efficiency and expanding renewable energy adoption.



Roof Solar Panel

TEACHING AND LEARNING

1. APEC SYMPOSIUM ON ENERGY TRANSITION: BATTERIES, FUEL CELLS AND ELECTRIC VEHICLES

Collaborating with APEC on Energy Transition: Batteries, Fuel Cells and Electric Vehicles, the Symposium was held at UCSI University, addressing carbon emissions in transportation and promoting clean energy solutions, supporting SDG 7. The symposium aimed to advance the adoption of Electric Vehicles (EVs) and Fuel Cell Vehicles, foster sustainable urban planning and provide actionable policy recommendations for a low-carbon transport future.

Participants included regional experts, policymakers and academics who engaged in knowledge exchange on EV infrastructure, national energy policies and clean energy integration. Immediate outcomes included enhanced capacity in policy development and sustainable transport planning. By promoting technological innovation, low-carbon mobility and regional collaboration, the initiative also contributes to SDG 9, SDG 13 and SDG 17 through strengthening multi-stakeholder partnerships.



2. SOLAR PV SYSTEMS AND MAXIMUM POWER EXTRACTION

Solar PV Systems and Maximum Power Extraction was an online technical talk organised by UCSI University to address the sustainability challenge of optimising renewable energy generation, supporting SDG 7. The session aimed to equip students and professionals with knowledge on solar PV technologies, system performance and maximum power point tracking (MPPT) techniques to enhance clean energy efficiency.

Delivered by Dr Thanikanti Sudhakar Babu, participants gained insights into PV optimisation, real-world applications and research opportunities. Immediate outcomes included improved technical competency and understanding of sustainable energy solutions among students. At a broader level, the programme contributes to SDG 7 by promoting low-carbon energy adoption and supports SDG 4 by providing inclusive, future-oriented learning opportunities in renewable energy technologies.



3. WORLD FISH'S DEEP DIVE SERIES

Deep Dive Videocast: Seaweed and Algae for Climate and Energy Solutions was organised by UCSI University in collaboration with WorldFish to explore marine biomass as a renewable energy source. The session addressed the need to reduce dependence on fossil fuels by highlighting sustainable aviation fuel and bioenergy derived from seaweed and algae, contributing to SDG 7.



The discussion was led by Distinguished Professor Dr Phang Siew Moi, who shared insights on carbon sequestration, renewable fuel production and the broader benefits of seaweed for ocean ecosystems and livelihoods. Immediate outcomes included increased awareness and understanding of algae-based energy innovation. At a broader level, the initiative also contributes to SDG 13, SDG 14 and SDG 17 as it strengthens cross-institution collaboration.



RESEARCH AND DISCOVERY

1. EV AND PV PENETRATION IMPACT ON GRID WITH CONSERVATIVE VOLTAGE REGULATION AND REACTIVE VOLTAGE COMPENSATION

(ISA Transactions, Volume 158, (2025) Asst Prof Ts Dr Navinesshani Permal)

As global interest grows in renewable energy sources, the impact of combined Electric Vehicle (EV) and PhotoVoltaic (PV) penetration on the power grid stability requires renewed attention to incorporate new technologies to maintain the power quality under operational constraints. Energy-saving techniques such as Conservation Voltage Reduction (CVR) allow the power utilities to transmit voltage at a lower operation limit, increasing the generation margin to absorb the peak load demands. Increased reverse PV penetration results in grid overvoltage while EV charging absorbs the reactive power causing grid instability. Both overvoltage and loss of reactive power in the grid can be reduced by using CVR and reactive power injection techniques. A power electronic secondary var controller (SVC) can dynamically inject reactive power into selected grid buses. This work compares the voltage stability of an IEEE 33 bus system operating with and without CVR. The simulation studies analysed the effects of EV penetration level and PV hosting capacity with SVC compensation paired with and without conservation voltage reduction technique. The analysis results demonstrate that tandem usage of CVR and SVC maintains the grid voltage under operational limits, meets load and EV demand, and increases power efficiency and PV penetration.

2. EFFECTS OF GREEN FAÇADE RETROFITTING ON THERMAL PERFORMANCE AND ENERGY EFFICIENCY OF EXISTING BUILDINGS IN NORTHERN CHINA: AN EXPERIMENTAL STUDY

(Energy and Buildings Volume 335, (2025) Prof Ts Dr Nangkula Utaberta)

In recent years, vertical greenery systems have gradually entered public attention, and more and more people are beginning to know it. This study aims to explore the impact of green façade retrofitting on building thermal performance and building energy consumption under hot summer conditions in northern China and to derive detailed data for future building energy efficiency retrofitting. This article used a comparative experiment to complete this research. Four laboratories of the same structure were constructed in Shandong Province, China. A movable metal frame was installed on the outside of the laboratory and the green façades could be adjusted to direct green façades or indirect green façades according to the need of the experiment. In addition, two different plants were studied. This study was carried out under two experimental conditions: cooling and no cooling. The experiment was carried out from July to August 2024. According to the data obtained from the experiment, the green façade well reduced the surface temperature of the walls around the experimental room and the average temperature level in the room. The most significant temperature drop of 23.1 °C was observed on the surface of the external walls of the room with the indirect green façade covered with Parthenocissus quinquefolia. The data show that the average temperature in several experimental rooms decreased by 1-5 °C. The indirect green façade improves the thermal insulation of the building envelope better than the direct green façade. In the cooling experiments, the room with indirect green façades covered with Parthenocissus quinquefolia has the highest energy-saving rate of 45.75 %. However, the room with direct green façades covered with Humulus scandens only has an energy saving rate of 6.43 %.

COMMUNITY AND PARTNERSHIP

1. FLES 2025 VIDEO COMPETITION

FLES 2025 Video Competition: Sustainable Campus Innovation Challenge was organised by the Future Leaders Empowerment Series (FLES) under UCSI's Youth Beyond Boundaries. The initiative engaged university students in identifying campus sustainability challenges related to energy consumption, carbon emissions and resource use, supporting SDG 7. The objective was to encourage students to propose practical, low-carbon solutions that promote energy efficiency and sustainable campus practices.

Participants produced short videos highlighting sustainability issues and proposing feasible strategies such as sustainable transportation, energy efficiency improvements and responsible resource use. Immediate outcomes included strengthened student awareness of clean energy concepts, systems thinking and sustainability leadership. At a broader level, the competition also contributes to SDG 12 and SDG 13 by promoting energy-efficient solutions, responsible consumption practices and climate action within the university community.



2. COASTAL FLOODING ADAPTATION AND RESILIENCE CHALLENGE 2025

Coastal Flooding Adaptation and Resilience Challenge 2025 was held from 4 to 6 November 2025 during the ICAEW ASEAN Sustainability Summit in Kuala Lumpur. The competition engaged 150 students from 24 universities, including UCSI University, to develop sustainable and financially viable solutions addressing coastal climate risks at Carey Island, supporting SDG 13. The objective was to integrate technical and financial perspectives in climate adaptation planning.

Six finalist teams presented solutions to a judging panel including the Securities Commission Malaysia, SD Guthrie Berhad, NAHRIM, Asian Capital Markets Forum and the World Bank. Immediate outcomes included innovative proposals and enhanced student capacity in sustainability and financial decision-making. This initiative also contributes to SDG 4, SDG 9, SDG 13 and SDG 17 by strengthening cross-sector collaboration.





DECENT WORK AND ECONOMIC GROWTH

GOVERNANCE AND OPERATIONS

UCSI University advances Sustainable Development Goal 8 (Decent Work and Economic Growth) through institutional policies that safeguard employee rights, promote fair remuneration and ensure an inclusive workplace. The University complies with Malaysia's Employment Act 1955, which governs working hours, leave entitlements, wage protection and other statutory employment standards. In addition, UCSI implements structured salary scales that meet or exceed national minimum wage requirements, supporting fair and competitive compensation for academic and administrative staff.

The University recognises and respects labour rights for all employees, including women and international staff, and upholds principles of fair employment in accordance with Malaysian labour legislation. While no formal staff union is currently established, employees may raise concerns through established grievance and appeal mechanisms.

UCSI promotes workplace equality through its Diversity, Equity and Inclusion Policy, which prohibits discrimination based on gender, religion, age, nationality, disability or other personal characteristics. Institutional policies on anti-bribery and corruption, sexual harassment prevention and ethical conduct further reinforce a safe and respectful working environment.

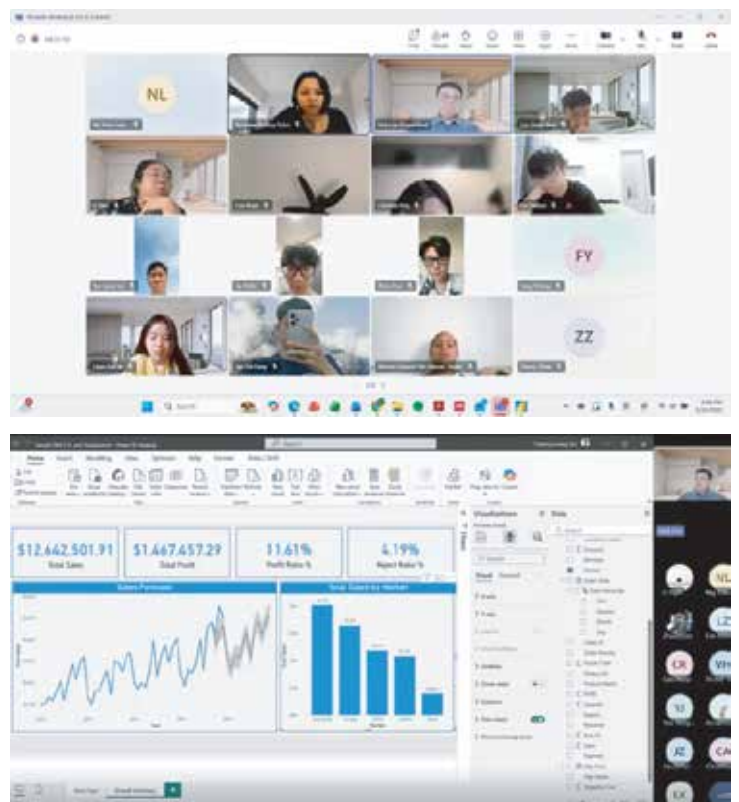
The University also expects contractors and third-party service providers to adhere to equivalent labour and ethical standards, ensuring responsible employment practices across its operations.

TEACHING AND LEARNING (EMPLOYABILITY)

1. POWER BI WORKSHOP

The Power BI Workshop was organised by the IChemE UCSI and held online via Microsoft Teams on 1 November 2025. The session was facilitated by Lee Cheong Loong and aimed to strengthen students' competencies in data analytics and visualisation. The initiative addressed the growing need for digital and data literacy skills essential for employability and productivity, supporting SDG 8.

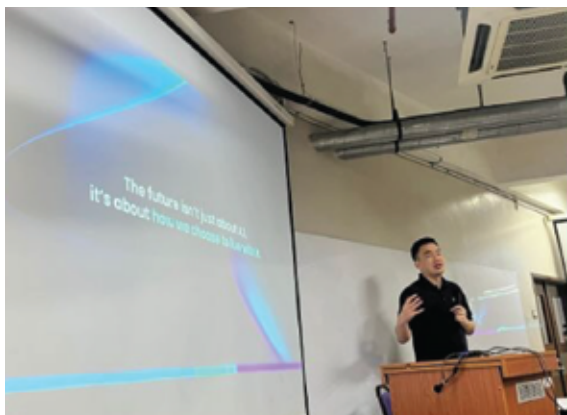
Participants gained practical experience in data modelling, dashboard creation and data-driven decision-making using Power BI. Immediate outcomes included improved analytical skills, stronger confidence in using digital tools and enhanced career readiness. At a broader level, the workshop also contributes to SDG 4 and SDG 9 by strengthening workforce competencies, promoting digital literacy and lifelong learning as well as fostering innovation and technological capability for a future-ready workforce.



2. LIVING WITH AI: A NEW ERA

The “Living with AI: A New Era” technical talk was organised by UCSI University in collaboration with IEEE-HKN UCSI and IET On Campus UCSI to address workforce readiness in the digital economy, supporting SDG 8. The event aimed to enhance understanding of artificial intelligence applications and their implications for employability, innovation and economic participation in technology-driven industries.

The session featured Agmo Group chief executive officer Ts Tan Aik Keong, who shared insights on AI integration, industry trends and real-world applications. Participants gained greater awareness of AI literacy, digital competencies and emerging career pathways. Immediate outcomes included improved understanding of AI-driven innovation and workforce transformation. At a broader level, the initiative contributes to SDG 4 and SDG 9 by strengthening employability skills, promoting digital education and encouraging technological innovation for a future-ready workforce.



3. INTRODUCTION TO ARTIFICIAL INTELLIGENCE WITH MATLAB

The Introduction to Artificial Intelligence with MATLAB workshop was organised by UCSI IET On Campus on 28 December 2025 and delivered by Asst Prof Dr Mohammad Arif Ilyas. The session, attended by 23 participants, aimed to enhance student exposure to emerging digital technologies, addressing the sustainability challenge of limited AI literacy and supporting SDG 8.

The workshop introduced fundamental AI concepts and provided hands-on experience using MATLAB applications. Participants developed practical skills in AI problem-solving and gained foundational knowledge of digital tools. Immediate outcomes included improved technical competency, problem-solving abilities and digital literacy. At a broader level, the initiative contributes to building a digitally capable workforce which also supports SDG 4 and SDG 9 by enhancing employability, promoting AI literacy and practical learning and encouraging technological adoption and innovation in emerging industries.



RESEARCH AND DISCOVERY

1. WHAT SHAPES MOBILE FINTECH CONSUMERS' POST-ADOPTION EXPERIENCE? A MULTI-ANALYTICAL PLS-ANN-FSQCA PERSPECTIVE

(Technological Forecasting and Social Change Volume 217 (2025). Distinguished Chair Professor Ts Dr Ooi Keng Boon, FASc)

Mobile Fintech, known as “mobile financial technology”, is a category of mobile apps that provide various financial services to its customers. In China, the mobile fintech industry has grown into a mature stage, and most consumers have adopted fintech apps to fulfill their daily financial tasks. However, there is still a lack of understanding of the mechanism that shapes the post-adoption experience. Hence, this study aims to explore factors that shape mobile fintech consumers' post-adoption experience in China's market. We particularly investigate how personal attributes, mobile fintech applications' utilitarian value, privacy calculus and network externality foster users' experience response (ER). A triple-stage approach combining Partial Least Squares-Structural Equation Modeling (PLS-SEM), Artificial Neural Network (ANN) and Fuzzy-Set Comparative Analysis (fsQCA) is utilised to detect linear, non-linear and configurational influences of exogenous variables on the users' outcome pattern, with 1022 effective responses obtained from self-administrated questionnaires distributed by China's leading survey platforms. The PLS-SEM and ANN results indicate that mobile self-efficacy (MSE), personal innovativeness (PIIT), task-technology-fit (TTF), structural assurance (SA) and perceived critical mass (PCM) are important predictors of mobile fintech users' post-adoption experience (ER), while perceived privacy security risk (PPSR) is insignificant to ER. The findings inspire both scholars and industrial practitioners to comprehensively pay attention to the personal, technological, social and privacy-related faces that influence consumers' mobile fintech post-adoption experience. In addition, the fsQCA findings revealed five different combinations of the above factors that all lead to ER. The five solutions were further categorised into three types of user decision patterns (i.e., user personas) that assist industry players in establishing a more accurate customer segmentation for user retention.

2. FROM ONLINE TO OFFLINE ATTRACTIVENESS: INVESTIGATING URBAN TOURIST AREA APPEAL AND TOURIST EMOTIONAL FULFILMENT

(Current Issues in Tourism, (2025). Prof Ts Dr Nangkula Utaberta)

Tourist areas mediate the impact of online popularity on offline visitation, thus shaping travel decisions. However, the nonlinear relationship between the built environment and visitors' emotional fulfillment remains complex. This study quantified offline and online visitation using Origin – Destination (OD) data and social media text data, identifying emotional fulfillment through natural language processing. It integrated the coupling coordination model to assess online - offline synergy in visitation and emotional fulfillment, and applied Extreme Gradient Boosting (XGBoost) with SHapley Additive exPlanations (SHAP) to provide nonlinear interpretations from spatial perception and environmental service variables. Findings revealed: (1) online popularity attracts first-time visitors, but their emotional fulfillment depends more on offline experience quality. (2) Coordinating online promotion with offline experiences enhances emotional fulfillment. Core areas show strong synergy, while suburban areas use a ‘resource compensation mechanism’ by improving transport and showcasing high-quality resources. (3) Spatial perception and environmental services exhibit ‘threshold’ and ‘gain’ effects on emotional fulfillment. However, excessive density triggers a ‘double-edged effect’ that ultimately reduces it. These findings provided targeted recommendations for urban tourism planning, contributing to the creation of visitor-friendly urban environments.

COMMUNITY AND PARTNERSHIP

1. SAA INDUSTRIAL VISIT TO SEKINCHAN, SELANGOR 2025

The Industrial Visit to Sekinchan was organised by UCSI University to bridge the gap between theoretical learning and real-world workplace expectations, supporting SDG 8. The programme aimed to enhance students' understanding of industry operations, labour practices and economic activities in Malaysia's local production and agri-based sectors, while strengthening work-readiness and career awareness.

Students participated in guided site visits and briefings by industry practitioners, gaining practical insights into operational workflows, workforce roles and sustainable business practices. UCSI staff members Nurazieefah Nor Hashim and Yeoh Zhao Wei facilitated the visit, ensuring effective engagement between students and industry representatives. Immediate outcomes included improved employability skills and awareness of sector-specific career opportunities. At a broader level, the initiative also supports SDG 4 and SDG 17 by fostering experiential learning, industry collaboration and multi-stakeholder engagement to prepare future-ready graduates.



2. THE CAREER TALK: DISCOVERING CAREER OPPORTUNITIES WITH RHB INSURANCE

The Career Talk: Discovering Career Opportunities with RHB Insurance was organised by UCSI University in collaboration with RHB Group Insurance to address graduate employability and industry readiness, supporting SDG 8. The programme aimed to bridge the gap between academic learning and labour market expectations by exposing students to career pathways in the insurance and financial services sector.

Students gained insights from RHB representatives on professional competencies, career opportunities and pathways from internships to employment. Immediate outcomes included increased career awareness, confidence and preparedness for entry into productive employment. At a broader level, the initiative strengthened university-industry collaboration and talent pipeline development which also supports SDG 4 and SDG 17 by fostering multi-stakeholder engagement, enhancing career readiness and equipping future graduates with relevant skills for inclusive economic growth.



3. LSA X PKFZ INDUSTRIAL VISIT

The LSA x PKFZ Industrial Visit was organised by UCSI University Kuala Lumpur to enhance students' understanding of Malaysia's logistics and trade ecosystem, supporting SDG 8. The programme addressed the challenge of limited industry exposure, which can affect graduate employability and workforce readiness in logistics, trade facilitation and supply chain management.

Participants gained practical insights into professional standards, operational workflows and career pathways within a major free commercial zone, improving their readiness for decent work environments and economic value creation. Immediate outcomes included strengthened awareness of industry practices and workforce expectations. At a broader level, the initiative also supports SDG 4 through experiential, skills-based learning, SDG 9 via exposure to efficient trade operations and SDG 17 by fostering collaboration between academia and industry.





INDUSTRY, INNOVATION AND INFRASTRUCTURE

GOVERNANCE AND OPERATIONS

UCSI University advances Sustainable Development Goal 9 (Industry, Innovation and Infrastructure) through institutional platforms that support research innovation, industry collaboration and knowledge commercialisation. A key mechanism is the Centre of Excellence for Research, Value Innovation and Entrepreneurship (CERVIE), which coordinates research management, value innovation and entrepreneurial development across the University. Through the triple helix model, CERVIE promotes collaboration between academia, industry and government to translate research outputs into practical solutions and potential commercial applications.

Complementing this structure is the Praxis, Industry and Community Engagement (PICE) unit, which connects UCSI researchers, students and staff with industry partners, government agencies and community stakeholders. PICE facilitates collaborative research, consultancy, industry engagement and knowledge transfer activities that strengthen industry–university partnerships and support innovation-driven initiatives.

In 2025, UCSI University further strengthened its innovation ecosystem through externally funded research grants and industry-supported projects. These initiatives expand research infrastructure, enhance interdisciplinary collaboration and contribute to research income from industry while supporting the development of intellectual property and potential university spin-offs.

TEACHING AND LEARNING

1. FOOD AND DRINKS MALAYSIA

UCSI University participated as an exhibitor at Food and Drinks Malaysia by Salon International de l'Alimentation (SIAL) 2025 to strengthen university–industry linkages and promote applied scientific innovation in the food and biotechnology sectors, addressing the challenge of translating research into scalable, industry-ready solutions. The Faculty of Applied Sciences showcased a healthy frozen confection shortlisted in the SIAL Innovation Challenge and demonstrated UCSI's algae-growing expertise for alternative biological resources.

Immediate outcomes included increased visibility of UCSI's research, enhanced industry networking and validation of academic innovation. At a broader level, the participation also supports SDG 12 through sustainable food solutions and SDG 17 by fostering collaboration between academia and industry, contributing to resilient innovation ecosystems and research commercialisation.



2. HACKATHON FLAGHUNT 2025: CYBER CAPTURE CHALLENGE

On 12 November 2025, UCSI University hosted Hackathon FlagHunt 2025: Cyber Capture Challenge, engaging 92 university students in a cybersecurity-focused innovation programme. The event addressed the sustainability challenge of strengthening digital infrastructure and technical expertise, aligning with SDG 9. Participants developed practical cybersecurity skills through interactive problem-solving and competitive challenges, enhancing technical competencies, collaboration and problem-solving abilities. Certificates of participation reinforced achievement and motivation.

At a broader level, the hackathon contributed to national capacity-building in digital security and a skilled, innovative workforce. It also advances SDG 4, SDG 8 and SDG 17 by providing experiential learning, preparing students for future careers, and fostering collaboration between universities, industry and stakeholders in technological development.



3. HUAWEI INTELLIGENCE WORLD 2025

On 7 November 2025 15 selected students from UCSI University, along with Asst Prof Ts Dr Ghassan Saleh Hussein Al-Dharhani, paid a visit to Huawei Technologies (Malaysia) Sdn Bhd. The event addressed the sustainability challenge of developing resilient digital infrastructure and a skilled ICT workforce, supporting SDG 9. Participants gained practical insights into industry trends, ICT applications and career pathways, enhancing technical understanding, motivation and employability awareness.

At a broader level, the visit fostered collaboration between academia and industry, strengthening innovation and preparing students for future technological challenges. It also contributes to SDG 4, SDG 8 and SDG 17 by enhancing experiential learning, developing digital skills, promoting workforce readiness and supporting partnerships that advance inclusive technological growth and sustainable industrial development.





RESEARCH AND DISCOVERY

1. TRANSPARENT AND RELIABLE CONSTRUCTION COST PREDICTION USING ADVANCED MACHINE LEARNING AND EXPLAINABLE AI

(Engineering Science and Technology, an International Journal, Volume 70, (2025). Prof EUR ING Ir Ts Dr Lim Wei Hong)

Accurate construction cost prediction is vital for project management, influencing budgeting, resource allocation and overall success. This study proposes a comprehensive framework that combines machine learning models, uncertainty quantification through Confidence Intervals and explainable AI techniques using SHapley Additive exPlanations (SHAP) to enhance transparency and decision-making. Ten machine learning models, including Ridge Regression, Lasso Regression, Elastic Net, K-Nearest Neighbor Regression and advanced ensemble methods such as XGBoost, CatBoost and HistGradient Boosting, were evaluated on the RSMeans dataset. Among these, HistGradient Boosting achieved the best performance on the testing dataset. Beyond traditional metrics, Confidence Intervals quantified prediction reliability and SHAP identified critical cost drivers like “Formwork” and “Tributary Area,” enabling interpretable and robust prediction. This study highlights the potential of machine learning models to revolutionise construction cost estimation by integrating predictive accuracy, uncertainty analysis and explainability. The proposed framework supports resource efficiency and enables process innovation in cost management. It contributes to the advancement of sustainable building practices, offering a strong foundation for future research and promoting the adoption of machine learning-based solutions with enhanced transparency and confidence.

2. A ROBUST WRAPPER-BASED FEATURE SELECTION TECHNIQUE BASED ON MODIFIED TEACHING LEARNING BASED OPTIMIZATION WITH HIERARCHICAL LEARNING SCHEME

(Engineering Science and Technology, an International Journal, Volume 61 (2025). Prof EUR ING Ir Ts Dr Lim Wei Hong)

Feature selection is a pivotal preprocessing step in deploying machine learning solutions aimed at removing redundant features from datasets while preserving predictive accuracy. Despite the popular use of wrapper-based feature selection techniques with metaheuristic search algorithms (MSAs) such as Teaching Learning Based Optimisation (TLBO), balancing exploration and exploitation in identifying optimal feature subsets remains a fundamental challenge. This paper introduces an advanced wrapper-based feature selection method utilising an enhanced TLBO variant, termed Modified TLBO with Hierarchical Learning Scheme (MTLBO-HLS). MTLBO-HLS incorporates significant enhancements in both teacher and learner phases to better balance exploration and exploitation, thus improving robustness in solving complex problems like feature selection. Specifically, the Multi-Hierarchical Teacher Phase (MH-TP) divides the MTLBO-HLS population into multiple group tiers based on fitness, where learners are guided by superior peers from better tiers. The Dynamic Peers Interaction Based Learner Phase (DPI-LP) enriches the learning process by enabling interactions with single and multiple elite peers and retaining valuable knowledge across dimensions. Extensive simulations demonstrate MTLBO-HLS's superior performance in feature selection, consistently identifying the smallest feature subsets and achieving the highest classification accuracies across various datasets. These results highlight its potential to drive industrial innovation through enhanced machine learning model efficiency and accuracy.

COMMUNITY AND PARTNERSHIP

1. UCSI SIGNS MOA WITH BIGOBJECT

UCSI University signed a Memorandum of Agreement with BigObject, a global innovator in AI-ready open data management to strengthen digital infrastructure and foster innovation in education, supporting SDG 9. The partnership, officiated by Prof Emeritus Datuk Ts Ir Dr Siti Hamisah Tapsir, integrates BigObject's Aralia ecosystem into UCSI's academic and research programmes, providing students and researchers with hands-on experience using authentic datasets, AI tools and open data platforms. Outputs include enriched curriculum content, student projects and applied research in AI and data governance.

Immediate impacts include enhanced technical skills, data literacy and employability, while fostering practical innovation. At a wider level, the initiative also advances SDG 4, SDG 8 and SDG 17 by promoting cross-border collaboration, developing a skilled workforce and strengthening partnerships between academia, industry and global innovation networks.



2. UCSI UNIVERSITY FORGES STRATEGIC PARTNERSHIP WITH ASEM

UCSI University formalised a strategic partnership with the Advanced Semiconductor Academy of Malaysia (ASEM), formerly AI Nusantara, to enhance collaboration in AI and semiconductor education, supporting SDG 9. The MoUs were signed by Prof Emeritus Datuk Ts Ir Dr Siti Hamisah Tapsir and Dato' Syed Haizam Jamalullail, establishing frameworks for industry-academic collaboration and pilot classes to provide students with hands-on experience in emerging technologies.

Immediate outcomes include improved access to industry-standard software, specialised training and practical learning opportunities, equipping students with innovative competencies. At a broader level, the partnership strengthens Malaysia's innovation ecosystem, cultivates a skilled workforce for high-tech industries and fosters global research collaboration. The initiative also advances SDG 4, SDG 8 and SDG 17 by promoting applied learning, employability, technological innovation and strategic partnerships between academia, industry and international networks.

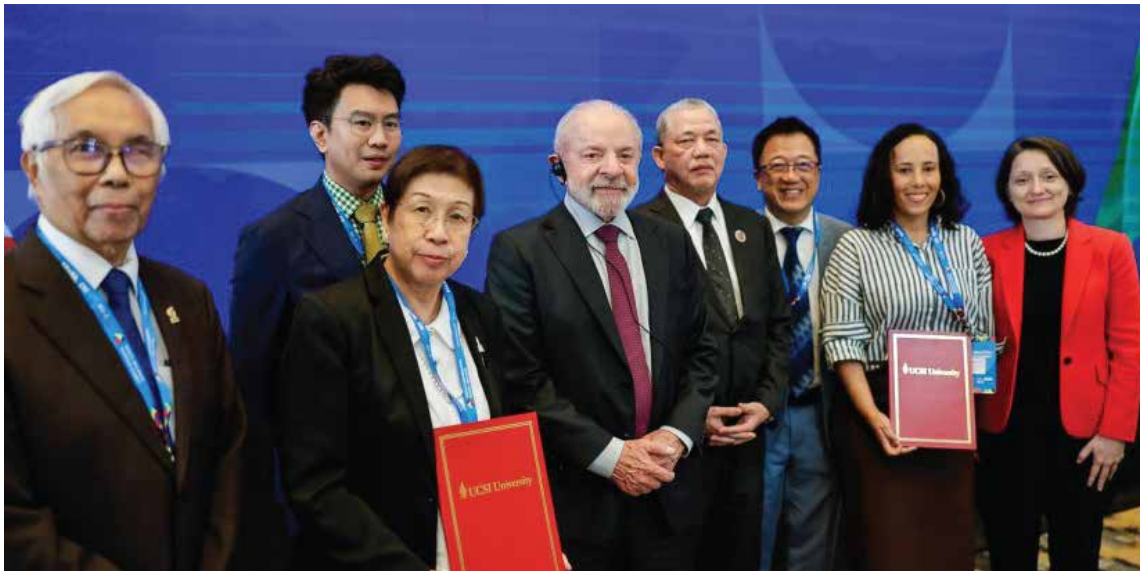


3. UCSI UNIVERSITY-BIO BUREAU BIOTECNOLOGIA MOA SIGNING FOR SUSTAINABLE SEAWEED INNOVATION

UCSI University, in collaboration with Bio Bureau Biotecnologia of Brazil, formalised a partnership through a Memorandum of Agreement witnessed by Brazil President Luiz Inacio Lula da Silva and Malaysia Deputy Prime Minister Datuk Seri Fadillah Yusof. The agreement was led by Chancellor YAM Tunku Zain Al-'Abidin and involved UCSI leadership, Distinguished Prof Tan Sri Dr Zakri Abdul Hamid and Distinguished Prof Dr Phang Siew Moi.

The collaboration aims to sustainably scale the global seaweed industry through technological innovation, high-yield strain development and advanced bioprocessing for products such as bioplastics, nutraceuticals and plant-based feed.

Immediate outcomes include strengthened research collaboration and knowledge exchange, enhancing Malaysia-Brazil scientific ties. At a broader level, the partnership also advances SDG 12, SDG 13 and SDG 17 by promoting sustainable industrial practices, innovation in biotechnology, climate-resilient production and international research partnerships.



10 REDUCED
INEQUALITIES

REDUCED INEQUALITIES

GOVERNANCE AND OPERATIONS

UCSI University demonstrates its commitment to Sustainable Development Goal 10 (Reduced Inequalities) through institutional policies, governance structures and support mechanisms that promote equity, diversity and inclusion across the university community. The University implements a non-discriminatory admissions policy, ensuring equal access to education regardless of gender, ethnicity, socio-economic background or disability. Admissions and student demographic data are monitored to identify and support underrepresented groups, including students from B40 (Bottom 40% income) households and other disadvantaged communities.

To promote inclusive participation, UCSI provides targeted recruitment initiatives, scholarships and financial aid programmes that reduce socio-economic barriers to higher education. Institutional policies on anti-discrimination, anti-harassment and diversity, equity and inclusion further guide the development of a respectful and inclusive campus environment.

The University also maintains dedicated offices responsible for student welfare, accessibility and inclusion, providing mentoring, counselling and peer support programmes. UCSI further ensures accessible campus facilities, disability support services and reasonable academic accommodations for persons with disabilities. Through these coordinated policies and support systems, UCSI promotes equitable access and participation while addressing systemic inequalities in higher education.

TEACHING AND LEARNING

1. ECHOES OF HOPE, MELODIES OF PEACE MUSICAL NIGHT 2025

UCSI University hosted the “Echoes of Hope, Melodies of Peace Musical Night 2025,” a concert and fundraiser supporting the refugee community and addressing social inequalities, directly contributing to SDG 10. The event featured performances by Chancellor Tunku Zain Al-'Abidin, alumni artists Suzanne Ling and Lim Yuet Kim, and storytelling by refugee children, highlighting resilience and lived experiences. Proceeds were directed to refugee welfare, education and empowerment initiatives.

Immediate outcomes included increased awareness, empathy and social responsibility among participants, fostering advocacy and volunteerism. At a broader level, the initiative promotes social inclusion, amplifies marginalised voices and supports national and global efforts to reduce inequalities. The programme also advances SDG 4 by supporting refugee education and SDG 16 by strengthening social cohesion and inclusion.



2. HANDS OF HOPE

Hands of Hope is a university-led outreach programme organised by Chong Che Zhi from UCSI Youth Beyond Boundaries aimed at reducing social and educational inequalities faced by refugee children, directly supporting SDG 10. The initiative provided free academic support classes to address barriers to formal education and promote inclusive learning opportunities.

Immediate outcomes included improved access to supplementary education for refugee pupils and increased awareness among university volunteers of the challenges faced by displaced communities. At a broader level, the programme contributes to reducing educational disparities, fostering inclusive community development and supporting marginalised groups. It also advances SDG 4 by expanding quality education opportunities for children who encounter legal, financial and social barriers to schooling.



3. EMPOWERED WORKSHOP

EmpowerED Workshop is a university-supported outreach programme led by Iris Hii Shiuan Ni and Vianca Faye Wiratama from Youth Beyond Boundaries aimed at reducing social and educational inequalities faced by refugee children, directly supporting SDG 10. The initiative provided structured self-development sessions to enhance confidence, critical thinking and interpersonal skills, addressing barriers to formal education and personal growth.

Immediate outcomes included increased participation, improved self-confidence and greater engagement in learning and personal development activities among refugee children. At a broader level, the programme contributes to reducing inequalities by providing equitable access to education and mentorship, fostering skill-building and preparing youth for future opportunities. It also advances SDG 4 through inclusive learning and SDG 8 by equipping children with foundational skills for long-term employability and societal participation.



RESEARCH AND DISCOVERY

1. LOAN LOSS PROVISIONS AND BANK VALUE IN THE UNITED STATES: A MODERATION ANALYSIS OF ECONOMIC POLICY UNCERTAINTY

(Economics, Volume 19 Issue 1, (2025). Asst Prof Dr Jeff Lai Wan Fe)

Macroeconomic conditions are often neglected in bank valuation models. We find that economic policy uncertainty significantly reduces bank value by using a panel data regression model with data on the US banks. Economic policy uncertainty also affects bank value through its moderating role in the relationship between loan loss provisions and bank value. The findings remain robust across various endogeneity and robustness tests. This moderating role is particularly significant for small and medium-sized banks, banks with higher levels of non-performing loans and during the financial crisis period. This study contributes to the understanding of a macroeconomic determinant shaping bank valuation models. The moderation analysis offers new insights into economic policy uncertainty that appears to mitigate the impact of loan loss provisions on bank value by advocating stronger risk governance practices when economic conditions are challenging. Policymakers should address the uncertainties stemming from economic policies to bolster the financial stability of banks.

2. COUPLING BETWEEN SUSTAINABLE DEVELOPMENT OF CROSS-BORDER E-COMMERCE AND E-COMMERCE LAW UNDER THE BELT AND ROAD INITIATIVE: EVIDENCE FROM CHINA

(International Journal of Asian Business and Information Management (IJABIM), 16(1), (2025) Huanhuan Ding (UCSI Graduate Business School)

Driven by technological advancements and economic integration, digital trade is reshaping transaction and production paradigms. Amidst the decline in conventional foreign trade, cross-border e-commerce (CBE) is a vital force in China's trade landscape. This paper presents a legal risk analysis model using deep learning to examine key factors affecting the sustainability of CBE within the Belt and Road Initiative framework. Through simulation experiments and grey correlation analysis, it explores the coupling and evolution of legal supervision mechanisms with e-commerce activities. Findings reveal that enhanced regulatory oversight, policy optimisation and information disclosure significantly improve legal supervision. The study shows a stable upward trend in the coupling of legal oversight with CBE, offering theoretical insights to mitigate legal risks and foster sustainable development in cross-border trade under the Belt and Road Initiative.

COMMUNITY AND PARTNERSHIP

1. EMBRACE DIFFERENCES, SHINE TOGETHER

The Inclusive Interaction Programme with Special Needs Children was organised and led by UCSI Faculty of Medicine and Health Sciences Asst Prof Dr Siti Fatimah Kader Maideen to promote social inclusion and engagement for marginalised children, directly supporting SDG 10. The programme aimed to provide interactive, skill-building activities that enhance motor, social and emotional development while fostering understanding and empathy among participating medical students.

Immediate outcomes included increased confidence, happiness and engagement among the children, and improved communication, empathy and teamwork skills among students. At a broader level, the initiative strengthened university-community relationships, promoted inclusive practices and raised awareness of marginalised groups' needs. It also advances SDG 3 by supporting the physical, emotional, and social development of children with special needs and SDG 4 through inclusive learning opportunities.



2. EDUCATIONAL GAMEBOARD FOR CROWDFUNDING IN COMMUNITY ARCHITECTURE INITIATIVES

Students from the Diploma in Architecture and Interior Architecture at UCSI University's School of Architecture and Built Environment (SABE) participated in Community Architecture initiatives led by lecturers from SABE, Noor Fatehah Mat So'o and Ilyana Sujak. The project aimed to support educational facilities for the Myanmar Refugee Learning Centre and KAFA School at Masjid Ibnu Al-Awwam while promoting sustainability and community engagement. As part of the initiative, students designed and produced educational board games using leftover timber as a crowdfunding tool to raise funds for building materials.

The project generated financial support for community infrastructure and resulted in the donation of the board games to the learning centres, extending their educational value for children. The initiative enhanced students' practical design skills, empathy and community awareness. At a broader level, it demonstrates how design education can contribute to social impact, contributing to SDG 10 whilst supporting SDG 4, SDG 9 and SDG 11 through education, innovation and community-focused development.



3. ORPHANS ZOO NEGARA TRIP

Children's Day Out at Zoo Negara was organised by UCSI University's Leo Club on 18 October 2025, bringing together over 100 children from six orphanages, including children from the National Cancer Society Malaysia. The programme aimed to address social inequality by providing marginalised children with recreational and educational experiences, fostering inclusion, well-being and community engagement, directly supporting SDG 10.

Immediate outcomes included enhanced social inclusion, enjoyment and exposure to educational content on wildlife and conservation. At a broader level, the initiative strengthened community engagement, promoted a culture of social responsibility and encouraged informal learning opportunities. The programme also advances SDG 4 by combining recreational enjoyment with educational enrichment for underprivileged children, nurturing awareness and engagement with nature and the environment.





SUSTAINABLE CITIES AND COMMUNITIES

GOVERNANCE AND OPERATIONS

UCSI University supports Sustainable Development Goal 11 (Sustainable Cities and Communities) through policies and operational practices that promote accessible campus spaces, cultural engagement and sustainable mobility. The University provides public access to selected facilities, including libraries, exhibition and gallery spaces, and campus open areas that support learning, cultural exchange and community interaction. Cultural events, exhibitions and performances organised by the University contribute to the local arts ecosystem and strengthen community engagement.

To promote sustainable commuting, UCSI operates a free shuttle bus service connecting the Kuala Lumpur campus to major public transport hubs such as Bandar Tasik Selatan, encouraging the use of shared transport. The campus is also located within walking distance of MRT and bus services, supporting low-carbon mobility and pedestrian access.

The University prioritises walkable campus planning, with pedestrian-friendly pathways connecting academic buildings and residential facilities. Student accommodation located within or near campus supports affordable housing and reduces commuting needs. In addition, campus development follows sustainable building practices and responsible land use, including development on previously developed sites where possible.



Shuttle buses



Free buggy ride in campus

TEACHING AND LEARNING

1. PLOGGING 2025

Plogging 2.0: Go Green around UCSI was organised by Youth Beyond Boundaries in collaboration with UCSI University to promote sustainable urban practices and environmental stewardship. The programme addressed poor waste management and littering in campus areas, fostering community participation in maintaining clean and resilient public spaces, directly supporting SDG 11.

Participants collected a total of 13.5 kg of waste while walking or jogging, raising awareness on proper disposal, waste segregation and sustainable habits. Immediate outcomes included heightened environmental awareness, shared responsibility and adoption of active, eco-friendly practices. At a broader level, the initiative strengthened community engagement in urban cleanliness and supported local sustainability efforts. The programme also contributes to SDG 3 and SDG 12.



2. ICAD X MOTAC: PRECIOUS OF MALAYSIA 2025

ICAD x MOTAC: Precious of Malaysia 2025 was organised by UCSI University in collaboration with the Ministry of Tourism, Arts and Culture at the International College of Art and Design (ICAD), Kuala Lumpur. The event aimed to preserve Malaysia's intangible cultural heritage, particularly traditional batik craftsmanship, amid urbanisation, supporting SDG 11.

The programme showcased contemporary reinterpretations of batik by ICAD lecturers, integrating traditional techniques with innovative design. Outputs included public exhibitions, knowledge sharing and strengthened collaboration between academia and cultural stakeholders. Immediate impacts are increased awareness among students, designers and visitors on cultural sustainability and heritage-based creativity. At a broader level, the event promoted Malaysia's cultural identity, supported creative industries and contributed to sustainable urban cultural development. It also directly advances SDG 4 and SDG 8.



3. COMMUNITY ARCHITECTURE X LANGKAWI

Langkawi Community Engagement Initiative was conducted by UCSI University in Langkawi, Kedah, involving 52 Diploma in Architectural Studies students under the guidance of lecturers Munzir Mahazir, Noor Fatehah, and Amar Muhammad. The initiative aimed to address the lack of inclusive and functional public spaces in tourism-affected areas, supporting SDG 11.

Students collaborated with seven local communities to deliver practical, community-driven interventions, including a pavilion at the Skatebowl, a community mural at the Treehouse Society and a functional dog wheelchair for WOUFF Langkawi. Immediate impacts included improved community facilities, enhanced accessibility and stronger place identity, while students gained hands-on experience in socially responsible design. At a broader level, the initiative promotes inclusive urban development, community resilience and sustainable built environments, also advancing SDG 4 and SDG 10.



RESEARCH AND DISCOVERY

1. MOBILE NETWORKS TOWARD 5G/6G: NETWORK ARCHITECTURE, OPPORTUNITIES AND CHALLENGES IN SMART CITY

(IEEE Open Journal of the Communications Society, (2025) Prof Ts Dr Shayla Islam)

This research examines the dynamic evolution of mobile networks, tracing the progression from 4G to 6G within the context of smart cities. It highlights the distinct roles of 5G and 6G, with particular emphasis on their unique mobility characteristics. Motivated by challenges observed in handover scenarios, especially in urban and high-speed environments such as trains, the study explores the complexities of implementing Distributed Mobility Management (DMM) during inter-handover transitions. The findings reveal a 38% success rate in handover failure recovery under current approaches. A comprehensive analysis is conducted on the message structures of various protocols and their extensions used to address handover challenges. The study not only identifies existing limitations but also proposes innovative protocol schemes to mitigate interhandover link failures and delays. By introducing the novel SRENMO DMM framework, the paper provides a deeper understanding of current research developments and outlines potential future directions, contributing to the advancement of handover management in high-traffic urban environments.

2. A NEW SEGMENT ROUTING WITH NEMO BSP BASED DISTRIBUTED MOBILITY MANAGEMENT APPROACH IN SMART CITY NETWORK

(Journal of Network and Computer Applications, Volume 242, 2025. Prof Ts Dr Shayla Islam)

Due to high hop counts and complex inter-domain handover processing, the existing Distributed Mobility Management (DMM) framework in smart cities suffers from moderate delay and reliability issues during the handoff process in critical environments. These challenges hinder network efficiency, increasing latency, packet delivery costs and reconfiguration requirements. In the present work, we proposed a novel Network Mobility Basic Support Protocol (NEMO BSP) with Segment Routing (SR) approach to enhance the network performance in distributed mobility management environments. The SR is integrated with existing network mobility methods to enhance performance. We also proposed an algorithm NEMO-SR to reduce the hop count for data transmission. In previous research, the authors have reported various routing methods. However, the existing network mobility and routing methods mainly focus on the distributed mobility scheme of routers, which can improve performance to a certain extent. Nevertheless, the segment routing-based distributed network mobility system can improve performance by optimising the number of hop counts. SR enables optimised path selection and minimises the overhead by reducing hop counts and reconfiguration needs. Thus, the proposed method can improve the key performance metrics such as Packet Delivery Cost (PDC), Latency, Tunnel Creation Rate (TCR), and Throughput. The proposed model introduces SR-specific tuning factors, which perform adaptive optimisation and adjust the impact of SR on network metrics according to real-time conditions. This adaptive tuning is instrumental in high-mobility environments and data-intensive networks typical of 5G and Beyond 5G systems. SR minimises signaling overhead and improves resource efficiency by effectively reducing the need for frequent tunnel reconfigurations. The performance of the proposed method is compared with the existing methods to analyse the performance. For the validation, both numerical analysis and simulation results were developed. The results prove that the proposed method supports mobility more efficiently and the performance of the proposed method improves in terms of throughput, latency, PDC and other parameters.

COMMUNITY AND PARTNERSHIP

1. PASAR MALAM CLEANING-LEO CLUB

On 27 March, UCSI Leo Club organised a community clean-up at Taman Connaught Pasar Malam (night market), Kuala Lumpur. This initiative involved student volunteers and staff and it addressed post-market waste accumulation in urban public spaces, directly supporting SDG 11.

Participants collected and segregated litter while engaging with the local community to promote responsible disposal. Immediate outcomes included a visibly cleaner market area, increased environmental awareness, teamwork and civic responsibility among participants. Local traders and residents benefited from a safer, cleaner environment. At a broader level, the programme strengthened community-university collaboration, reinforced sustainable urban practices and demonstrated how collective action can reduce environmental impacts. It also advances SDG 3 and SDG 12 by fostering cleaner, healthier and more sustainable urban public spaces.



2. LET'S RECYCLE 16.0

Lions and Leo's "Let's Recycle" Project took place on 2 November 2025 at PJ Eco Recycling Plaza, organised by UCSI Leo Club in collaboration with the Lions Clubs. The initiative addressed urban waste challenges and promoted sustainable recycling practices, supporting SDG 11.

Participants collected, sorted and delivered recyclables to the facility, gathering a total of 11,904.8 kg, with major contributions from Lions KL, Selangor Empire and Nilai. Immediate outcomes include reduced urban waste, increased environmental awareness and strengthened youth engagement in sustainability. At a wider level, the project fostered community collaboration, promoted responsible consumption and encouraged leadership in environmental stewardship. It directly advances SDG 3, SDG 12 and SDG 17 by supporting cleaner urban environments, responsible recycling practices, safer public spaces and cross-community partnerships for sustainable action.



3. KLANG RIVER FESTIVAL 2022–2026 PROJECT

Klang River Festival 2025 – Community Urban Revitalisation Project was held from 15 to 17 August 2025 along the Klang River in Kuala Lumpur, organised by UCSI University’s School of Architecture and Built Environment. The initiative addressed urban disconnection and environmental degradation, aiming to reconnect communities with the river and promote sustainable urban practices.

Participants contributed to riverside improvements and engaged in environmental awareness activities, supported through partnerships with local government, NGOs and water authorities. Immediate impacts included cleaner, safer and more accessible riverfronts, along with heightened awareness of sustainable urban design. At a broader level, the festival fostered community engagement, multi-stakeholder collaboration and environmental stewardship. It also directly advances SDG 3, SDG 4 and SDG 17 by creating inclusive public spaces, promoting health and outdoor activity, supporting learning on sustainability and strengthening collaborative urban revitalisation efforts.





RESPONSIBLE CONSUMPTION AND PRODUCTION

GOVERNANCE AND OPERATIONS

UCSI University supports Sustainable Development Goal 12 (Responsible Consumption and Production) through institutional policies and operational practices covering responsible procurement, waste management and resource efficiency across its campuses. The University implements procurement guidelines that promote ethical sourcing of food and supplies, requiring campus vendors and food operators to follow responsible sourcing and sustainability considerations.

Additionally, the University established waste management procedures that include the safe handling and disposal of hazardous materials, particularly those generated in laboratories and technical facilities. These procedures comply with national environmental regulations and are implemented through authorised waste contractors and internal operational protocols.

UCSI also implements waste monitoring practices that track the volume of waste generated, recycled and sent to landfill, supported by campus waste segregation initiatives. Furthermore, the university promotes the minimisation of single-use plastics and disposable items, encouraging reusable alternatives and responsible purchasing practices across campus operations.

These sustainability policies extend to outsourced service providers and suppliers, including food operators, equipment vendors, stationery suppliers and building contractors, through procurement and operational requirements. The University monitors waste performance across campus operations, with progress and sustainability initiatives communicated through institutional sustainability reporting.

TEACHING AND LEARNING

1. EDUPALM 2025: SHAPING TOMORROW'S PALM OIL ADVOCATES

EDUPALM 2025 was organised as a sustainability education initiative to address misconceptions and knowledge gaps around palm oil production and consumption. The programme aimed to strengthen understanding of responsible palm oil practices and empower youths to engage critically with sustainability issues. Nearly 70 participants from UCSI University and Universiti Putra Malaysia gained evidence-based knowledge on sustainable palm oil, supply chain responsibility and Malaysia's sustainability commitments.

Immediate outcomes included enhanced sustainability literacy and advocacy capacity, preparing youth to promote responsible palm oil practices. At a broader level, EDUPALM 2025 fosters informed consumption, supports sustainable industry practices and strengthens collaborative learning between universities and campaign partners. It also directly advances SDG 4, SDG 8 and SDG 17 by promoting responsible production and consumption, education, ethical economic practices and multi-stakeholder collaboration.



2. WORLD ECONOMY MODEL NEEDS CHANGING: EMBRACING THE CIRCULAR ECONOMY

The lecture on Circular Economy, organised by UCSI University and delivered by Prof Dato' Dr Ahmad Ibrahim, addressed unsustainable production and consumption patterns while promoting regenerative economic practices. The session aimed to raise awareness of designing products for longevity, repair and reuse, and turning waste into valuable resources to reduce greenhouse gas emissions and support climate action.

Immediate outcomes included increased understanding among participants of how circular economy strategies can mitigate carbon footprint and promote low-carbon solutions. At a broader level, the lecture also contributes to SDG 13 by encouraging sustainable economic practices, fostering climate-conscious behaviours and demonstrating how resource-efficient design can reduce environmental impact.



RESEARCH AND DISCOVERY

1. MODELING THE SIGNIFICANCE OF GREEN MANAGEMENT PRACTICES ON FOOD WASTE REDUCTION INTENTION AMONG SMALL RESTAURANTS

(Mitigation and Adaptation Strategies for Global Change, (2025). Asst Prof Dr Mohammad Nurul Hassan Reza)

Research on food waste away from home, particularly its quantification and environmental impact, has been extensive. However, studies focusing on the willingness of small restaurants to reduce food waste are scarce. Hence, this study aims to fill this gap by examining the impact of green management practices on food waste reduction intentions among small restaurants. Cross-sectional data (N = 802) were collected from small restaurants in various regions of China, using judgment sampling. An integrated approach of partial least squares structural equation modeling (PLS-SEM) and necessary condition analysis (NCA) was employed for data analysis. The results supported all the hypotheses, indicating a significant relationship between various green management practices, including green food procurement, green menu planning and cooking, green packaging for take-out, green cleaning and post-treatment, green kitchen and dining environments, and green management policy and food waste reduction intention. The implications of this study are essential for the owners and managers of small restaurants to improve their environmental performance and reduce food waste. This study suggests that embracing and implementing green management practices significantly impacts food waste reduction intention. The novelty of this study lies in its exploration of green management practices specifically tailored to small restaurants, thus contributing to the limited literature on sustainable practices in the food service industry. The originality of this study lies in its integrated application of PLS-SEM and NCA to simultaneously examine the sufficient and necessary conditions influencing food waste reduction intention, with a specific focus on green management practices implemented by small restaurants.

2. REAL WORLD EFFICACY OF ENRICHED (E)-CINNAMALDEHYDE EXTRACT-INFUSED CELLULOSE ACETATE-BASED ACTIVE PACKAGING FILM ON SELECTED FRESH-CUT FRUITS AND VEGETABLES

(Food Packaging and Shelf Life, Volume 49, (2025). Assoc Prof Dr Wong Chen Wai)

This study aimed to explore the real-world application of cellulose acetate-based active packaging film on fresh-cut fruits and vegetables preservation at room temperature. A total of six different fresh-cut samples were selected, namely 'Fuji' apple, 'Mas' banana, China celery, Iceberg lettuce, mung bean sprout and potato. The enriched (E)-cinnamaldehyde extract from cinnamon bark was the active ingredient incorporated into the active packaging to inhibit enzymatic browning and fungal growth. The active packaging demonstrated effectiveness in preventing browning of fresh-cut samples with low phenolic content (11.53 ± 1.33 – 31.66 ± 2.13 mg GAE/100 g FW), such as China celery, Iceberg lettuce and mung bean sprout for 3 to 5 days. The underlying observation revealed that (E)-cinnamaldehyde acted as a competitive PPO inhibitor, where its effect can be compromised by the presence of high concentration of phenolic substrates. In the meantime, the active packaging was effective to inhibit yeast and mold growth of all the fresh-cut samples by a week. *Aspergillus* spp., *Candida* spp., *Cryptococcus* spp., and *Fusarium* spp. were identified as the spoilage yeast and mold isolated from the selected fresh-cut samples. The validation of the cellulose acetate-based active packaging on fresh-cut fruits and vegetable preservation was corroborated by delaying the browning of low phenolic content samples and inhibiting fungal growth. In addition to reducing food waste, enhancing food safety and promoting sustainable consumption, the active packaging has achieved Technology Readiness Level 5, making it ready for demonstration on supermarket and vendor shelves.

COMMUNITY AND PARTNERSHIP

1. ARCHIVAL OF TRADITIONAL CHARCOAL PRODUCTION

Reimagining Charcoal was led by Collab UCSI to address sustainability challenges in Kuala Sepetang's traditional charcoal industry, balancing cultural heritage with environmental responsibility. The project explored sustainable innovations using local materials such as mangrove bark, dye, vinegar, shells and algae, aiming to reduce carbon footprint, empower the community and enhance value chains, supporting SDG 12.



Immediate outcomes included increase in awareness and capacity among local producers, students and stakeholders to adopt environmentally responsible practices. At a broader level, the project also promotes SDG 8 by supporting sustainable livelihoods in traditional industries and SDG 11 by preserving cultural heritage and fostering resilient, community-centered practices. Outputs included prototype products, knowledge-sharing sessions and strategies for sustainable, locally adapted charcoal production.



2. UCSI RECYCLING DAY: FROM TRASH TO CASH

UCSI Recycling Day is a monthly university-led initiative promoting responsible waste management and sustainable consumption among students, staff and the campus community, addressing challenges of improper disposal and resource inefficiency. Organised in partnership with Riiicycle Tech, the event leverages app-based and IoT-enabled waste tracking to incentivise recycling and demonstrate circular economy practices, supporting SDG 12.

Immediate outcomes included increased awareness and adoption of responsible disposal practices, as well as enhanced understanding of sustainable consumption and digital engagement. At a broader level, the initiative fosters a culture of environmental responsibility, strengthens community participation, and showcases innovative waste management solutions. It also advances SDG 4, SDG 11 and SDG 17 through collaboration between academia, technology providers and the wider community.



3. TOGETHER, WE CELEBRATE: MERDEKA AT PAVILION BUKIT JALIL

The event addressed sustainability challenges in the fashion and creative industries, focusing on overconsumption, waste and cultural heritage preservation. Organised by UCSI University, it aimed to integrate traditional batik with contemporary design, promoting responsible production, sustainable creativity and heritage conservation in line with SDG 12.

Immediate outcomes included enhanced student learning through experiential collaboration, increased public awareness of sustainable fashion and engagement with zero-waste creative practices. Outputs highlighted sustainable materials, heritage-based design and culturally inspired artworks. At a broader level, the initiative fosters sustainable fashion values, supports local craftsmanship and encourages responsible consumption. It also advances SDG 4, SDG 11 and SDG 17 by linking academia, creative industries and community stakeholders in promoting culturally informed, sustainable practices.



13 CLIMATE ACTION



CLIMATE ACTION

GOVERNANCE AND OPERATIONS

UCSI University demonstrates its commitment to Sustainable Development Goal 13 (Climate Action) through institutional climate governance and operational strategies aligned with the Net Zero Blueprint 2030 and the Greenhouse Gas Protocol, with a target to achieve carbon neutrality by 2050. The university conducts carbon accounting and reporting covering Scope 1, Scope 2 and Scope 3 emissions, enabling systematic monitoring of greenhouse gas emissions and informing strategies for emission reduction and climate risk management across campus operations.

Energy consumption is regularly monitored, including the use of low-carbon and energy-efficient technologies, as part of the University's carbon management framework. Operational initiatives such as digitalisation and ticketless systems to reduce paper consumption, energy efficiency improvements and campus tree-planting programmes contribute to lowering emissions and enhancing carbon sequestration.

Beyond campus operations, UCSI University actively supports climate awareness and community engagement through public seminars, sustainability campaigns and outreach programmes that address climate risks, mitigation, adaptation and disaster preparedness. The University also collaborates with government agencies, community groups and non-governmental organisations to advance climate resilience initiatives and promote sustainable practices at the local and regional level.

TEACHING AND LEARNING (CLIMATE LITERACY)

1. WORKSHOP ON CARBON MARKET

The Carbon Market Forum: Malaysia's Path Towards Climate Action was organised in collaboration with Malaysian Industry Group High Technology to address challenges and opportunities in Malaysia's carbon market, emphasising its role in reducing greenhouse gas emissions and supporting climate mitigation, in line with SDG 13.

Participants gained insights into compliance and voluntary carbon markets, carbon credit benefits and regulatory improvements needed for transparency and effectiveness. Immediate outcomes included enhanced understanding of carbon market dynamics and policy frameworks, empowering stakeholders to engage in national climate action. At a broader level, the forum also supports SDG 9 by fostering innovation in climate solutions, market mechanisms and technology-driven approaches for a greener economy, SDG 12 through low-carbon practices and sustainable investments and SDG 17 through the university's partnership with the government agency for a common interest and purpose.



2. CARBON CAPTURE, UTILISATION AND STORAGE: A GATEWAY TO SUSTAINABLE ENERGY

On 21 February 2025, The Carbon Capture, Utilisation and Storage (CCUS) Talk was organised by UCSI University as an online event to address greenhouse gas emissions and promote climate mitigation, supporting SDG 13. Petronas Carigali senior reservoir engineer Azlan Mustafa, shared insights on CCUS technologies, applications and their potential to reduce emissions from industrial and power sectors, enhancing participants' understanding of technical, environmental and policy considerations.

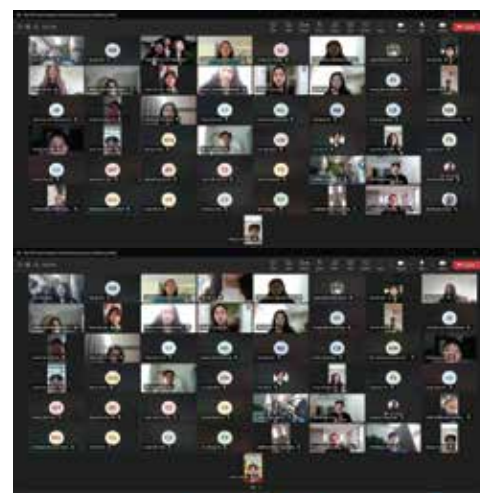
Immediate outcomes included increased awareness and motivation to adopt and advocate for carbon management solutions. At a broader level, the talk also contributes to SDG 7 by highlighting cleaner energy transitions, SDG 9 by promoting innovation in industrial decarbonisation and sustainable carbon management and SDG 17 through the university's partnership with the government-linked company Petronas for a common purpose.



3. ESR DAY FORUM 2025

The Environment and Social Responsibility (ESR) team hosted the Food Rescue and Waste Reduction for Climate Action session to address food waste and its contribution to greenhouse gas emissions, aligning with SDG 13. The session featured Sarah Grasset from The Lost Food Project (TLFP), who shared TLFP's success in rescuing over 8 million kilograms of food since 2016 and highlighted practical strategies for reducing food waste and carbon footprints.

Immediate outcomes included increased participant awareness of the environmental and social impacts of food waste and motivation to adopt sustainable consumption practices. At a broader level, the programme also contributes to SDG 2, SDG 12 and SDG 17 by promoting responsible food management, mitigating emissions, supporting food redistribution and fostering cross-sector collaboration for sustainable solutions.



RESEARCH AND DISCOVERY

1. MODIFICATION OF ACTIVATED CARBON WITH NITROGEN-BASED DEEP EUTECTIC SOLVENTS FOR ENHANCED CO₂ ADSORPTION

(Biomass Conversion and Biorefinery, (2025). Assoc Prof Ir Dr Lee Kiat Moon)

In the past few decades, carbon dioxide (CO₂) concentration in the atmosphere has become a major concern. This research study focused on CO₂ adsorption using coconut shells' activated carbon (AC), modified with deep eutectic solvents (DESs) to improve AC's adsorption efficiency. Nitrogen-based DESs: choline chloride (ChCl):urea (ACDES1), ChCl:polyethylenimines (PEI) (ACDES2) and ChCl:urea:PEI (ACDES3) with different impregnation ratios were investigated. The CO₂ adsorption test was performed in a packed-bed adsorption column at constant temperature (30°C) with initial CO₂ concentration and flow rate of 15% and 200 mL/min respectively. Among the adsorbents investigated, ACDES1 of impregnation ratio 1:2 exhibited the highest adsorption capacity (21.41 mg/g) and the longest breakthrough (18.1 min) and saturation times (23.7 min). Despite the reduction in the specific surface area and pore volume during impregnation, determined through Brunauer–Emmett–Teller (BET) analysis, DES functionalisation introduced active sites that promoted chemisorption and enhanced CO₂ adsorption. Additionally, ACDES1 showed good recyclability with less than 5% reduction in CO₂ adsorption capacity over five cycles. Besides, ACDES1 also showed high thermal stability, collectively suggesting the potential of the ChCl-urea-impregnated AC for CO₂ capture in the industries.

2. PERFORMANCE AND MECHANISM INVESTIGATION OF CO₂ CAPTURE BY NOVEL TERNARY MEA/TERTIARY AMINE/SULFOLANE BIPHASIC SOLVENTS

(International Journal of Greenhouse Gas Control, Volume 146, (2025). Asst Prof Dr Lai Li Sze)

Chemical-physical biphasic absorbents significantly reduce CO₂ capture energy consumption. In this study, four tertiary amines were combined with monoethanolamine (MEA) and sulfolane to form ternary MEA/co-absorbent/sulfolane biphasic solutions for CO₂ capture. The co-absorbents used were N-methyldiethanolamine (MDEA), 1-Dimethylamino-2-propanol (DMIPA), 3-(Dimethylamino)-1,2-propanediol (DMPA), and 3-Diethylamino-1,2-propanediol (DEAP). The dynamic phase separation behavior and properties were examined, the absorption/desorption characteristics were analysed and the phase separation absorption mechanism was explored through ¹³C Nuclear Magnetic Resonance (NMR) Spectroscopy.

Results showed that all four ternary solvents performed excellently, achieving high CO₂ loadings in the upper phases (3.09–3.41 mol/L), strong absorption and desorption efficiencies (over 92.5 % and 85 %, respectively), large cyclic loadings (above 2.67 mol/L) and reduced energy consumption (>45.81 % lower compared to 5 M MEA solution). The addition of tertiary amines improved the absorption performance of MEA/sulfolane solutions. Phase separation was influenced by amine solvent alkalinity and hydrophilicity, leading to the presence of sulfolane in both liquid phases and the selective distribution of MEA and tertiary amines. This research offers promising alternatives for efficient CO₂ capture and provides theoretical guidance on liquid-liquid phase separation absorption mechanisms.

COMMUNITY AND PARTNERSHIP

1. AIRBUS INDUSTRY OUTREACH: ADVANCING SUSTAINABLE AVIATION FUEL (SAF) IN MALAYSIA

UCSI University, in collaboration with Airbus and the Aerospace Malaysia Innovation Centre, organised an outreach to address high carbon emissions in aviation by promoting Sustainable Aviation Fuel (SAF) as a climate action strategy. The initiative aimed to explore SAF feasibility, supply chain optimisation and sustainable aviation pathways while strengthening collaboration between industry, academia and government. Key participants included Distinguished Prof Dr Phang Siew Moi, UCSI Group Sustainability Office vice president Leong Sat Sing and Prof Emeritus Tan Sri Dr Zakri Abdul Hamid.



The event enhanced understanding of SAF potential, decarbonisation strategies and cross-sector innovation. Immediate outcomes included actionable insights for sustainable aviation and technology transfer. At a wider level, the programme also contributes to SDG 7, SDG 9 and SDG 17 by supporting climate mitigation, advancing cleaner energy, fostering industrial innovation and promoting strategic partnerships for sustainable aerospace solutions.

2. GIYSCC LAUNCH, IN SITU LAUNCHING AT UCSI-IISDS

The International Institute of Science Diplomacy and Sustainability (IISDS) hosted the in situ launch of the Global Indigenous Youth Summit on Climate Change 2025 to address climate change and the underrepresentation of indigenous youth in sustainability discourse, aligning with SDG 13. The initiative aimed to foster youth leadership, integrate indigenous knowledge and strengthen climate diplomacy within Malaysia and the Asean region. Key participants included Distinguished Prof Tan Sri Dr Zakri Abdul Hamid, Prof Ts Dr Tan Wee Hoe, Prof D. Mohamad Osman and Prof Paul Arthur Berkman.



3. DISTINGUISHED LECTURE HIGHLIGHTS ROLE OF SCIENCE DIPLOMACY IN PROTECTING SARAWAK'S RAINFORESTS

UCSI University Kuching Campus, in collaboration with IISDS, Ingsa Asia and RCE Kuching, hosted a distinguished lecture by Distinguished Visiting Prof Dr Paul Arthur Berkman, with participation from Prof Ts Dr Tan Wee Hoe and Aishwuriya K Kunashankar. The lecture addressed climate change and rainforest sustainability in Sarawak, emphasising the integration of natural sciences, social sciences and Indigenous knowledge for informed, climate-resilient decision-making, advancing SDG 13.



14 LIFE BELOW WATER



LIFE BELOW WATER

GOVERNANCE AND OPERATIONS

UCSI University supports Sustainable Development Goal 14 (Life Below Water) through the protection and sustainable management of aquatic ecosystems. This can be seen from a combination of education, research, community engagement and institutional sustainability practices that the university implements. The university provides educational outreach and public engagement activities that raise awareness on freshwater ecosystem conservation, sustainable water management, responsible fisheries and aquaculture practices, and the impacts of overfishing and destructive fishing methods. Through environmental campaigns, sustainability forums and community events, UCSI promotes the conservation and responsible use of oceans, rivers, lakes and other aquatic resources. Research conducted by academic staff, particularly in environmental science and engineering, contributes to the monitoring and protection of aquatic ecosystems through studies on water quality, river basin conditions and pollution mitigation technologies. The university also collaborates with local communities, industry and government stakeholders to support ecosystem conservation and sustainable resource management. In terms of campus operations, UCSI implements sustainability initiatives such as plastic waste reduction, responsible waste management and compliance with national water quality and wastewater discharge regulations to minimise pollution and protect surrounding ecosystems. These efforts are complemented by institutional policies and sustainability programmes that encourage responsible environmental stewardship and contribute to broader efforts to safeguard aquatic biodiversity and ecosystem health.

TEACHING AND LEARNING

1. PUBLIC AWARENESS ON INVASIVE FISH SPECIES

UCSI University Faculty of Applied Sciences featured Aquatic Science lecturer Dr Lim Keng Chin on Malaysian TV channel RTM1's Selamat Pagi Malaysia to address the threat of invasive fish species in Malaysia's rivers and lakes. The session aimed to raise public awareness of how invasive species disrupt aquatic ecosystems, reduce biodiversity and threaten freshwater and marine health. This measure directly supports SDG 14 by promoting aquatic biodiversity conservation.

Through expert insights and knowledge sharing, viewers gained accessible information on the causes, ecological impacts and management of invasive fish species. The immediate impact was strengthened public understanding and awareness of responsible environmental behaviour. At a broader level, the initiative also contributes to SDG 12 by encouraging sustainable practices that reduce ecological disruption and support responsible management of natural resources.



2. WHAT CAN THE MICROBIOME TELL US ABOUT THE HEALTH OF THE OCEAN?

UCSI University hosted a lecture titled “What Can the Microbiome Tell Us About the Health of the Ocean?” by Visiting Professor Prof Dr Punyasloke Bhadury from the Indian Institute of Science Education and Research Kolkata. The event addressed declining ocean health caused by climate change, pollution and ecosystem imbalance, aiming to highlight the role of marine microbiomes in maintaining ecosystem resilience, directly championing SDG 14 by supporting sustainable marine ecosystem management and research capacity.

Participants gained insights into microbial interactions, climate impacts and biodiversity relevance, strengthening understanding of ocean conservation and sustainable management. The session increased scientific awareness and knowledge dissemination in marine ecology. At a broader level, the initiative also contributes to SDG 12 by raising awareness of human impacts on oceans and encouraging responsible practices that reduce pollution and resource overexploitation.



3. SDG BLUE ECONOMY FORUM

UCSI University, through the Faculty of Applied Sciences, hosted the SDG Blue Economy Forum during the National Climate Governance Summit 2025 to address ocean sustainability challenges, including overfishing, coral reef degradation and governance gaps. The forum aimed to promote sustainable management of marine resources and advance knowledge in line with SDG 14, particularly Targets 14.2 and 14.7.

Distinguished experts, including Prof Dr Dato’ Ahmad Ibrahim, Prof Dr Eric Chan Wei Chiang, Dr Mohd Kushairi Mohd Rajuddin and Ts Dr Sathiabama T. Thirugnana, shared insights on sustainable ocean use, climate impacts and regional governance. The forum strengthened national and regional collaboration, informed evidence-based policymaking and generated actionable recommendations for marine conservation. It also directly advances SDG 12 by promoting sustainable resource use and reducing overexploitation and SDG 13 by addressing climate impacts on oceans.



RESEARCH AND DISCOVERY

1. A CRITICAL REVIEW OF MICROPLASTICS AND NANOPLASTICS IN WASTEWATER: INSIGHTS INTO ADSORBENT-BASED REMEDIATION STRATEGIES

(Environmental Pollution, Volume 382, (2025). Assoc Prof Ir Dr Lee Kiat Moon)

This review aims to provide a comprehensive overview of the current state of research on the removal of microplastics and nanoplastics, with a focus on adsorption-based solutions. The presence of plastic particles in the environment is a growing concern due to their widespread distribution across aquatic, terrestrial and atmospheric systems. To address this environmental issue, researchers have explored various removal technologies, including coagulation, sand filtration, membrane filtration and adsorption. A bibliometric analysis of 7641 keywords from 771 publications reveals that adsorption is the most widely studied removal technique. Thus, this has led to a deeper exploration of various adsorbents and their mechanisms, including their interactions with plastic particles and how they can be optimised for higher removal performance. The main adsorption mechanisms involve electrostatic interactions, hydrogen bonding, π - π interactions, and hydrophobic effects. Chemisorption is the primary interaction in the adsorption process, while physisorption is affected by the size and surface properties of plastic particles. A trend analysis indicates that carbon-based and metal-based adsorbents dominate the research landscape, with higher publication rates compared to biopolymer-based adsorbents. However, from an environmental perspective, biopolymer-based adsorbents are preferable due to their biodegradability, low toxicity, and renewable nature. This review discusses the mechanisms of these adsorbents, evaluates the limitations of current removal technologies, and outlines future research directions aimed at developing advanced and sustainable adsorbents to address the growing challenge of plastic pollution (including in oceans and rivers).

2. METABOLOMIC AND PHYSIOLOGICAL ANALYSES OF TWO PICOCHLOROPHYTES FROM DISTINCT OCEANIC LATITUDES UNDER FUTURE OCEAN ACIDIFICATION AND WARMING

(Marine Environmental Research, Volume 208, (2025). Distinguished Professor Dr Phang Siew Moi, FASc, FMBA (UK))

Phytoplankton are cosmopolitan marine photosynthetic organisms that are vital to biogeochemical cycles and marine ecosystems. The current rise in atmospheric CO₂ and surface ocean temperatures are poised to disrupt the ecological niches of phytoplankton. Picochlorophytes, a broad taxon of small green eukaryotic phytoplankton, have been shown to perform well under future rising oceanic CO₂ and temperature scenarios. This study investigates the acclimation responses of cosmopolitan picochlorophytes from the Chlorella-lineage under high CO₂ (1000 p.p.m.) and a rise of 4 °C (8 °C – polar picochlorophyte; 32 °C, tropical picochlorophyte). In order to determine how the future ocean warming and acidification might affect picochlorophytes, a polar strain of Chlorella and a tropical Parachlorella were selected, and their physiology and GCMS-based metabolomics were investigated. Growth rate and cellular dimensions (diameter, volume, and surface area) of Chlorella significantly increased in all environmental future scenarios compared to Parachlorella. Photosynthetic parameters of the picochlorophytes studied showed acclimation, with high temperature and high CO₂ triggering the adaptation of Fv/Fm, NPQ_{max}, and E_k of Chlorella and Parachlorella, respectively. High CO₂ induced the most changes in the Chlorella metabolome, altering the levels of metabolites related to amino acids and their derivatives, glutathione production, carbohydrates, and photochemical quenching. Combined high CO₂/temperature altered Parachlorella's metabolome, though with a small number of biomarkers detected. This study provided evidence to support the hypothesis that picochlorophytes could thrive in a more acidified and warmer ocean.

COMMUNITY AND PARTNERSHIP

1. OCEAN SCOUTS: EXPLORING AQUATIC FLORA AND LOCAL CULTURES IN SERIBU ISLAND

UCSI University participated in the Ocean Scouts 2025 Summer Course: Exploring Aquatic Flora and Local Cultures in Seribu Island from 7 to 18 July 2025, hosted by IPB University, Bogor and Seribu Island, Indonesia. The programme addressed marine ecosystem degradation and biodiversity loss while strengthening youth capacity in ocean conservation, contributing directly to SDG 14, particularly goals 14.2 and 14.a.

UCSI was represented by Aminath Zana Shiraz and Ashiyath Layan Ahmed, with support from Assoc Prof Dr Wong Chen Wai. Participants gained scientific knowledge and practical skills in marine conservation, producing outputs such as mangrove and seagrass restoration, seaweed sampling and research projects that received national recognition. The programme strengthened cross-border collaboration, supported sustainable marine management as well as promoted SDG 4 through experiential learning and SDG 13 by fostering ecosystem resilience to climate impacts.



2. FIELD TRIP TO L'TUR CAVIAR STURGEON FARM

On 1 August 2025, UCSI University students from the BSc (Hons) Aquatic Science and Diploma in Aquaculture with Entrepreneurship programmes participated in an educational field trip to the L'TUR Caviar Sturgeon Farm in Tanjung Malim. The visit aimed to enhance students' understanding of aquaculture practices and sustainable aquatic resource management, supporting SDG 14. Industry representatives AJ Lim and Chan shared insights into sturgeon farming, including breeding, hatching processes and aquaculture operations.

The field trip provided students with practical exposure to commercial aquaculture systems and strengthened their understanding of aquatic species management and industry practices. The experience enhanced technical knowledge, industry awareness and interest in sustainable aquaculture careers. At a broader level, the initiative contributes to capacity-building in marine and aquatic resource stewardship, while also supporting SDG 4 and SDG 8 by promoting experiential learning and preparing students for future roles in the aquaculture sector.



15
LIFE
ON LAND

LIFE ON LAND

GOVERNANCE AND OPERATIONS

UCSI University supports Sustainable Development Goal 15 (Life on Land) through the conservation, restoration and sustainable use of terrestrial ecosystems guided by institutional policies, campus operations, educational programmes, research and community partnerships. The university organises and supports activities such as tree planting, biodiversity awareness campaigns, ecological fieldwork, reforestation programmes and conservation workshops that promote protection of forests, wildlife habitats and natural ecosystems.

Biodiversity considerations are incorporated into campus planning, landscaping and environmental management practices. UCSI University promotes the use of native plant species, responsible land stewardship and measures to reduce ecological disturbance, including efforts to minimise the impact of alien species. The university also implements operational practices and policies related to sustainable food sourcing, plastic waste reduction, hazardous waste management and water quality protection to safeguard ecosystems, wildlife and human health.

In addition, UCSI University works directly with local communities, NGOs, industry and government agencies to maintain and restore shared land ecosystems through outreach, environmental education and collaborative conservation initiatives. These efforts demonstrate the university's commitment to biodiversity protection, ecosystem management, sustainable land use and institutional responsibility in advancing SDG 15: Life on Land.

TEACHING AND LEARNING

1. PLANT AND EXPLORE – ECO ADVENTURE AT TAMAN TUGU

UCSI University, through the Society of Petroleum Engineers Student Chapter, organised Plant and Explore – Eco Adventure on 8 February 2025 at Taman Tugu Nursery, Kuala Lumpur, addressing land degradation, biodiversity loss and low public awareness of terrestrial ecosystem protection. The programme aimed to cultivate environmental stewardship and promote forest conservation, directly supporting SDG 15.



Participants engaged in tree planting and experiential learning on ecosystem restoration and biodiversity. Immediate outcomes included increased awareness of terrestrial ecosystem protection, stronger appreciation for native species and enhanced commitment to conservation efforts. At a broader level, the initiative contributes to ecosystem restoration, fosters environmentally responsible behaviour and encourages community involvement in conservation, while also advancing SDG 4 by providing hands-on learning experiences.

2. LIFE WORTH LIVING

UCSI University organised the Life Worth Living Retreat on 25 February 2025 at Garden Spring Cheras for students enrolled in the Religions in Malaysia course, in partnership with Yale University, Blue Ribbon Global and Rumah Empati. This three-hour workshop directly supports SDG 15, as it aimed to cultivate reflective leadership, ethical awareness and values-driven decision-making. These efforts address the broader sustainability challenge of nurturing socially responsible individuals who contribute to environmental stewardship.



3. COMMUNITY-LED REFORESTATION AT SUNGAI BESI FOREST RESERVE

The Community-Led Reforestation at Sungai Besi Forest Reserve was organised by The Blue Ribbon on 12 April 2025, with participation from 14 Accenture AIOCM staff and five UCSI University UniTrust students. The initiative addressed land degradation and biodiversity loss caused by urbanisation, aligning with SDG 15, as it aimed to restore native forest ecosystems, enhance biodiversity and foster collaborative environmental action among community, corporate and higher education stakeholders.



RESEARCH AND DISCOVERY (ECOSYSTEM HEALTH)

1. PARAMETRIC VISUALISATION, CLIMATE ADAPTABILITY EVALUATION, AND OPTIMISATION OF STRATEGIES FOR THE SUBTROPICAL HAKKA ENCLOSED HOUSE: THE GUANGLUDI CASE IN MEIZHOU

(Buildings, Volume 15, (2025). Prof Ts Dr Nangkula Utaberta)

Hakka traditional vernacular dwellings embody regionally specific climatic adaptation strategies. This study takes the Meizhou Guangludi enclosed house as a case study to evaluate its climate adaptability with longevity and passive survivability factors of the Hakka three-hall enclosed house under subtropical climatic conditions. A mixed research method is employed, integrating visualised parametric modeling analysis and on-site measurement comparisons to quantify wind, temperature, solar radiation/illuminance and humidity, along with human comfort zone limits and building environment. The results reveal that natural erosion in the Guangludi enclosed house is most pronounced during winter and spring, particularly on exterior walls below 2.8 m. Key issues include bulging, spalling, molding and fractured purlins caused by wind-driven rain, exacerbated by low wind speeds and limited solar exposure, especially at test spots like the E8-E10 and N1-N16 southeast and southern walls below 1.5 m. Fungal growth and plant intrusion are severe where surrounding trees and fengshui forests restrict wind flow and lighting. In terms of passive survivability, the Guangludi enclosed house has strong thermal insulation and buffering, aided by the Huatai mound; however, humidity and day illuminance deficiencies persist in the interstitial spaces between lateral rooms and the central hall. To address these issues, this study proposes strategies such as adding ventilation shafts and flexible partitions, optimising patio dimensions and window-to-wall ratios, retaining the spatial layout and Fengshui pond to enhance wind airflow and reinforcing the identified easily eroded spots with waterproofing, antimicrobial coatings and extended eaves. Through parametric simulation and empirical validation, this study presents a climate-responsive retrofit framework that supports the sustainability and conservation of the subtropical Hakka enclosed house.

2. ASSESSING SEASONAL RAINFALL EROSION VARIABILITY IN EAST MALAYSIA: A TREND ANALYSIS APPROACH

(Theoretical and Applied Climatology, Volume 156, (2025). Asst Prof Ir Dr Lee Jin Chai)

Rainfall erosivity is defined as the parameter that measures the potential impact of rainfall causing soil erosion. Soil erosion is a major global hazard that often results in landslides, infrastructure damage and high mortality rate. It is crucial to consider both the temporal and spatial rainfall distribution because this will assist the professional bodies in improving soil conservation planning to mitigate soil erosion risk. Therefore, this research aims to analyse the temporal and spatial trend of seasonal rainfall erosivity in East Malaysia between 1989 and 2018. The Man-Kendall (MK), Modified Mann-Kendall (MMK) and Sen's slope methods were utilised to compute the temporal trends of rainfall erosivity, whereas Ordinary Kriging (OK) and Thiessen polygon were employed to interpolate the spatial trend of rainfall erosivity. The result showed that the majority of rainfall stations exhibited an upward trend during the northeast monsoon, southwest monsoon and first intermonsoon. Contrarily, East Malaysia experienced a downward trend in rainfall erosivity during the second intermonsoon. The spatial trend of rainfall erosivity revealed that the highest rainfall erosivity was concentrated in the southern and central regions of Sarawak during the northeast monsoon. The findings of this paper highlight that East Malaysia is susceptible to landslides, especially during northeast monsoon. Therefore, the implementation of effective erosion control is crucial in reducing landslide hazards.

COMMUNITY AND PARTNERSHIP

1. 502 INDIGENOUS SAPLINGS PLANTED IN SABAL FOREST RESERVE CONSERVATION DRIVE

UCSI University, in collaboration with the Forest Department Sarawak and the UCSI Leo Club, organised a large-scale conservation drive to address deforestation and biodiversity loss in Sarawak. The initiative aimed to promote forest restoration, environmental stewardship and youth engagement, directly supporting SDG 15.

Over 100 participants, including students, lecturers and community volunteers from the Lions Club, contributed to planting 502 indigenous tree saplings and gained exposure to sustainable forest management practices. Immediate impacts included increased awareness of ecosystem protection, biodiversity conservation and sustainable environmental practices. At a broader level, the programme restored degraded forest areas, enhanced carbon sequestration and strengthened regional conservation efforts. The initiative also advances SDG 4 through experiential learning, SDG 13 and SDG 17 by fostering multi-stakeholder collaboration in forest conservation.



2. UCSI UNIVERSITY AND COLLEGE COMPLETION OF SUNGAI BESI REFORESTATION PROGRAMME

UCSI University, in collaboration with the Department of Environment, CSR Majlis Penghijauan Malaysia and WWF-Malaysia, concluded the three-year Sungai Besi Reforestation Programme, addressing deforestation, habitat loss and ecosystem degradation. The initiative aimed to restore biodiversity, enhance carbon sequestration and promote sustainable land management, aligning with SDG 15.

Participants, including students, staff, community partners and government representatives, contributed to reforestation efforts and biodiversity monitoring, gaining experiential learning on ecosystem stewardship. Immediate impacts included increased awareness of forest conservation, hands-on student engagement and strengthened multi-stakeholder partnerships. At a broader level, the programme restored degraded lands, enhanced urban greenery and promoted climate resilience. It also advances SDG 4, SDG 13 and SDG 17 by fostering collaboration between universities, NGOs and governmental agencies in support of sustainable ecosystems.





PEACE, JUSTICE AND STRONG INSTITUTIONS

GOVERNANCE AND OPERATIONS

UCSI University demonstrates its commitment to Sustainable Development Goals 16 (Peace, Justice and Strong Institutions) by promoting inclusive governance, social harmony and multi-stakeholder engagement within the university and the wider community. Through academic programmes, research initiatives and public dialogue platforms, the university encourages collaboration among policymakers, academics, students and civil society to support transparent decision-making and strengthen institutional integrity.

A key institutional initiative is the Harmoni-Mesra Campus Programme, which promotes unity, diversity and mutual respect across the campus community. Guided by the principles of Malaysia's Rukun Negara (National Principles), the programme integrates values of harmony, inclusivity and ethical responsibility into teaching, research, student activities and community engagement.

UCSI further advances these principles through initiatives such as Harmoni-Mesra Week, forums and cultural engagement programmes that create platforms for dialogue and intercultural understanding among students, staff and external stakeholders.

By embedding the Harmoni-Mesra philosophy into institutional practices and community engagement, UCSI University strengthens inclusive institutional culture, social cohesion and participatory dialogue, contributing to the objectives of SDG 16.

TEACHING AND LEARNING

1. UCSI UNIVERSITY ALUMNI AND LEADERSHIP ENGAGEMENT

The UCSI University Alumni and Leadership Engagement Session 2025 was held on 18 October 2025 to strengthen institutional networks, promote ethical leadership and foster collaboration between academia, alumni and industry stakeholders. The initiative addressed the sustainability challenge of building accountable and inclusive institutions, aligning with SDG 16.

Participants included university leadership, faculty, deans, alumni and students, who engaged in knowledge-sharing, mentorship and leadership discussions. Immediate outcomes included enhanced alumni engagement, strengthened institutional collaboration and reinforcement of shared governance values. At a broader level, the session supports the development of accountable and inclusive institutions, promotes responsible leadership ecosystems and advances lifelong learning. The initiative also contributes to SDG 4 by fostering mentorship, skills development and knowledge exchange among students and alumni.



2. UCSI CHINESE NEW YEAR CULTURAL CELEBRATION 2025

The UCSI Chinese New Year Cultural Celebration 2025 was held on 10 February 2025 at UCSI University to promote unity, inclusivity and intercultural understanding among students and staff. The programme addressed limited cross-cultural engagement on campus, aligning with SDG 16 by fostering social cohesion and peaceful interactions.

Participants included students and staff from diverse backgrounds of different nationalities who engaged in cultural performances and collective activities that encouraged dialogue and shared learning. Immediate outcomes included increased cultural awareness, strengthened peer relationships and a greater sense of belonging. At a broader level, the event reinforced inclusive institutional culture, promoted social harmony and supported national unity, while also advancing SDG 4 by nurturing inclusive, equitable learning environments that cultivate collaboration, social skills and intercultural understanding.



3. INTERNATIONAL CULTURAL NIGHT 2025

The International Cultural Night 2025 at UCSI University was organised to promote intercultural understanding, inclusivity and social cohesion among students, staff and guests. The event addressed challenges of limited cross-cultural engagement in globalised educational settings, directly supporting SDG 16.

Participants from diverse backgrounds and nationalities engaged in cultural performances and interactive activities that fostered dialogue, mutual respect and shared learning. Immediate outcomes included increased intercultural awareness, strengthened social networks and heightened student engagement in promoting inclusive campus practices. At a broader level, the event reinforced the university's commitment to nurturing tolerant, peaceful and inclusive communities. By fostering collaboration, cross-cultural understanding and experiential learning, the initiative also advances SDG 4 supporting equitable opportunities that develop social, cultural and interpersonal competencies alongside academic growth.





RESEARCH AND DISCOVERY

1. PROTECTIVE SHIELDING, POTENTIAL HARM: A HERMENEUTIC PHENOMENOLOGICAL STUDY OF THE CYBERBULLYING EXPERIENCES OF YOUTH WITH VISUAL IMPAIRMENT

(Behaviour & Information Technology, volume 44, (2025). Prof Dr Chan Nee Nee)

Cyberbullying was explored through the 'lived experiences' of youth with visual impairment (VI) and their schoolteachers in this study. A hermeneutic phenomenological design was used to reveal the rich details of how the 29 youth and five schoolteachers (n = 34) experienced cyberbullying in their different lifeworlds. Interviews and focus groups were conducted over a period of seven months. Three themes emerged: Sites of Cyberbullying, Coping Mechanisms and Sources of Help and Cybersecurity Awareness. Most youth with VI experienced traditional bullying in their school lifeworlds from school mates and teachers while in their cyber worlds, verbal bullying in the form of insults and body shaming from outsiders was common. Interestingly, most youth with VI participated in playing games on their mobile phones and in multiplayer games with sighted individuals. All 29 Malaysian youth participants demonstrated high anxiety towards cyberbullying and any potential threat, illuminating their lack of preparedness and training towards such threats. Protective policies by schools and parents designed to shield youth with VI may inadvertently yield the opposite results. Hence, this study further develops the theorisation of cyberbullying, and further research could include the perspectives of parents, police and school administrators.

2. ONLINE CLASSROOM STUDENT ENGAGEMENT ANALYSIS BASED ON FACIAL EXPRESSION RECOGNITION USING ENHANCED YOLOV5 FOR MITIGATING CYBERBULLYING

(Measurement Science and Technology, (2025). Prof Dr Keoy Kay Hooi)

The rapid expansion of online education has heightened concerns about cyberbullying in virtual classrooms. This paper presents a comprehensive approach for detecting cyberbullying by analyzing students' engagement and emotional responses in online classrooms. Due to the influence of camera resolution and surrounding light in online classrooms, students' facial expressions are often blurry, and the changes in facial features may not be significant. Moreover, most current recognition algorithms utilize larger models, which may not be suitable for real-time detection in online environments. To address these challenges, this study introduces a student facial expression recognition (SFER) method based on an enhanced YOLOv5 (you only look once version 5) model, termed SFER-YOLOv5. Firstly, the improved soft-non-maximum suppression (NMS) is employed to replace the original NMS, effectively enhancing training efficiency. Then, the coordinate attention module is incorporated into the backbone network to improve detection accuracy, particularly in classroom settings with multiple students or when students are at a considerable distance from the camera. Next, the efficient intersection over union (EIoU) loss function is utilized. EIoU calculates width and height losses separately based on complete-IoU, replacing the aspect ratio. Finally, focal loss is introduced to address sample imbalance issues. The comparative results show that SFER-YOLOv5 achieves an mAP@0.5 of 78.4% on the facial expression recognition-2013 dataset, 98.1% on the CK+ dataset, and 88.9% on our self-constructed dataset student facial expressions in classroom (SFEC). These results underscore the effectiveness of SFER-YOLOv5 in enhancing the accuracy of SFER. The proposed method detects reduced engagement, offering a preventive strategy for mitigating cyberbullying in virtual learning environments.

COMMUNITY AND PARTNERSHIP

1. HARMONI MESRA WEEK 2025

UCSI University's Harmoni-Mesra Week 2025, officially launched by Malaysia's National Unity Minister YB Datuk Aaron Ago Dagang, aimed to promote national unity, cultural understanding and social cohesion among students, staff and the wider community. The initiative addressed challenges of social fragmentation and limited cross-cultural engagement, directly supporting SDG 16.

Participants engaged in diverse cultural and creative activities that fostered dialogue, mutual respect and collaborative learning. Immediate outcomes included increased awareness of Malaysia's cultural diversity, strengthened interpersonal connections and enhanced appreciation for inclusive community engagement. At a broader level, the programme reinforced national unity, nurtured socially responsible global citizens and strengthened multi-stakeholder collaboration between the university, government and community partners, advancing SDG 17. The initiative also contributes to SDG 4 by promoting experiential, inclusive learning that develops social, cultural and civic competencies.



2. ROUNDTABLE ON SCIENCE DIPLOMACY: COMMUNICATING SCIENCE ACROSS BORDERS

UCSI University hosted the roundtable "Communicating Science to the Public" to address the challenge of translating scientific knowledge into accessible information for policymakers and society. The event aimed to strengthen dialogue between academia, government and public leaders, promoting evidence-based governance and effective science communication, directly supporting SDG 16.



Distinguished Professor Tan Sri Dr Zakri Abdul Hamid moderated discussions with Prof Dato' Dr Ahmad Ibrahim, former Minister of Health Khairy Jamaluddin, and Prof Dr Paul Arthur Berkman. Key outcomes included the intention to develop the "Communicating Science through Diplomacy" initiative, enhancing participants' capacity to apply science diplomacy and communicate research for policy impact. At a broader level, the roundtable reinforces transparent, knowledge-driven governance, fosters multi-stakeholder collaboration and advances SDG 17, while also contributing to SDG 4 by equipping participants with practical skills in science communication, policy engagement and sustainable development.



PARTNERSHIPS FOR THE GOALS

GOVERNANCE AND OPERATIONS

UCSI University demonstrates its commitment to Sustainable Development Goal 17 (Partnerships for the Goals) through active collaboration with government agencies, international organisations, NGOs, industry partners and community stakeholders. The university contributes expertise and research evidence to support the development and implementation of sustainability-related policies and initiatives at national and regional levels. Academic staff and research centres engage with governmental bodies and partner organisations to identify sustainability challenges, support policy strategies and contribute to monitoring and reporting frameworks that inform sustainable development planning.

UCSI also facilitates cross-sector dialogue on the SDGs by organising conferences, policy forums and workshops that bring together stakeholders from government, industry, non-governmental organisations (NGOs) and academia to exchange knowledge and develop collaborative solutions. Through international research partnerships and academic networks, the university contributes to global sustainability research, data sharing and the development of best practices for addressing SDG challenges.

The university collaborates with NGOs and community partners through student volunteering programmes, research initiatives and educational resource development. Sustainability is integrated into academic programmes through dedicated courses and interdisciplinary learning opportunities. UCSI also conducts outreach activities for the wider community and evaluates students' sustainability literacy to ensure graduates are equipped to contribute to sustainable development.

TEACHING AND LEARNING

1. MASTERCLASS ON SCIENCE DIPLOMACY: COMMON INTERESTS BUILDING

The "Masterclass on Science Diplomacy: Common Interests Building" was co-hosted by Ingsa-Asia, the International Science Council Regional Focal Point for Asia and the Pacific, Malaysian-Industry Government Group for High Technology (MIGHT) and UCSI's International Institute of Science Diplomacy and Sustainability from 2 to 3 September 2025 at the MIGHT Partnership Hub, Cyberjaya. The event aimed to strengthen the integration of scientific evidence in policymaking and diplomacy to tackle global sustainability challenges, equipping participants from academia, government and industry with science diplomacy skills for evidence-based decision-making and collaborative solutions, which advances SDG 17.



2. HIGH-LEVEL FORUM ON MALAYSIA'S JOURNEY TOWARDS A CIRCULAR ECONOMY

The forum Malaysia Towards a Circular Economy: The Critical Role of Research and Technology was held at UCSI University to address the challenge of advancing a circular economy in Malaysia, where limited collaboration between government, industry and academia slows the translation of research into practical solutions. The event aimed to foster multi-stakeholder partnerships to accelerate sustainable production, resource efficiency and technological innovation, supporting SDG 17.



3. MALAYSIA REAFFIRMS COMMITMENT TO SCIENCE DIPLOMACY AT UNESCO GLOBAL MINISTERIAL DIALOGUE

Malaysia participated in the Unesco Global Ministerial Dialogue on Science Diplomacy on 28 March 2025 in Paris, France, to strengthen international collaboration in addressing global sustainability challenges. The Malaysian delegation was led by Minister of Science, Technology and Innovation, Chang Lih Kang, with representatives from Malaysian-Industry Government Group for High Technology, including UCSI International Institute of Science Diplomacy and Sustainability director Distinguished Prof Tan Sri Dr Zakri Abdul Hamid and Rushdi Abdul Rahim. The dialogue aimed to enhance partnerships between governments, scientific institutions and industry to tackle issues such as climate change, technological advancement and public health, advancing SDG 17.



RESEARCH AND DISCOVERY

UCSI University demonstrates a strong collaborative research ecosystem aligned with SDG 17, supported by externally funded grants and multi-institutional partnerships with leading universities, government agencies, and industry partners. These collaborations span key research areas including renewable energy, environmental sustainability, biomedical sciences, and policy development, contributing to national and global sustainable development priorities. These projects were secured between 2023 and 2026 and remain actively ongoing in 2025, reflecting sustained engagement in partnership-driven research.

In renewable energy, the National Algae Culture Collection for Renewable Energy led by Distinguished Professor Dr Phang Siew Moi (RM724,218), funded by Petronas Research Sdn. Bhd., supports microalgae-based energy solutions and biodiversity resources. The project involves Universiti Malaya, Universiti Malaysia Terengganu, and Universiti Sains Malaysia, strengthening national capacity in bioresource innovation.

In biomedical research, Asst Prof Dr Low May Lee (RM49,000) collaborates with Université Toulouse III – Paul Sabatier (France), Monash University Malaysia, and International Medical University on antibacterial and anticancer compounds. Asst Prof Dr Cheong Kok Whye (RM137,250) works with Shanghai Jiao Tong University, Institute for Medical Research Malaysia, and AGTC Genomics Sdn. Bhd. on cancer research, while Assoc Prof Dr Baskaran Gunasekaran (RM104,200) partners with National University of Singapore, Universiti Kebangsaan Malaysia, and IMU University on cardiovascular and liver health.

In environmental sustainability, Asst Prof Dr Chew Li Lee (RM103,274) collaborates with Monash University (Australia), Universiti Kebangsaan Malaysia, and Universiti Malaya on marine ecosystems, while Assoc Prof EUR ING Ir Ts Dr Yeap Swee Pin (RM90,600) works with Universiti Malaya, Universiti Sains Malaysia, and Universiti Tunku Abdul Rahman on hydrogen energy materials for low-carbon innovation.

In the social sciences, Prof Dr Chan Nee Nee (RM128,472) collaborates with Universiti Utara Malaysia, Sunway University, and the Free University of Berlin (Germany) on cyberbullying interventions. Distinguished Professor Tan Sri Dr Zakri Bin Abdul Hamid (RM184,000) leads transdisciplinary research involving Universiti Teknologi PETRONAS, Universiti Teknologi MARA (UiTM), Sunway University, and Multimedia University, supporting policy and nation-building.

Through these externally funded, multi-partner projects, UCSI advances knowledge co-creation and innovation-driven solutions, reinforcing its role in advancing sustainable development through SDG 17 partnerships.

COMMUNITY AND PARTNERSHIP

1. CYBERJAYA CONVERSATIONS SUMMIT 2025

The Cyberjaya Conversations Summit 2025 was organised to advance multi-stakeholder collaboration in science, technology and innovation, addressing the challenge of fragmented engagement across government, industry, academia and civil society. The summit aimed to strengthen cross-sector partnerships that support inclusive, future-ready development aligned with national and Asean STI agendas, directly contributing to SDG 17.

Participants included representatives from MIGHT, the Ministry of Science, Technology and Innovation, and the Academy of Sciences Malaysia. UCSI International Institute of Science Diplomacy and Sustainability director Distinguished Prof Tan Sri Dr Zakri Bin Abdul Hamid delivered his keynote, “Bridging Nations through Science: Shaping Future Diplomats for an Interconnected World.” Key outputs included the identification of the Malaysia-Indonesia Grand Challenge as a pilot model for partnership-driven innovation. The event strengthened networks, improved alignment between policy, research and industry priorities as well as promoting knowledge exchange, while advancing SDG 4 through capacity-building and lifelong learning opportunities across diverse stakeholders.



2. MIGHT LAUNCHES INNOVATION CENTRES TO BOOST RAIL AND SMART CITY TECHNOLOGIES

The Malaysian Industry-Government Group for High Technology, under the Ministry of Science, Technology and Innovation, hosted the official launch of the Industrial Technology Innovation Centre (and Smart City Experience and Next Generation Innovation Centre to advance local technology development in rail and smart city sectors. The initiative addressed the challenge of deploying home-grown solutions for operational efficiency, infrastructure safety and sustainable urban development, with a keynote by UCSI International Institute of Science Diplomacy and Sustainability director Distinguished Prof Tan Sri Dr Zakri Abdul Hamid, emphasising multi-stakeholder collaboration in innovation and policy alignment, supporting SDG 17.



3. MTCP COURSE ON SCIENCE DIPLOMACY FOR THE GLOBAL SOUTH

The Malaysian Technical Cooperation Programme (MTCP) - sponsored by the Ministry of Finance - in collaboration with UCSI University, launched the Science Diplomacy for the Global South course. This programme brought together 15 participants from various countries including Angola, Croatia, Guinea, Indonesia and Morocco, advancing SDG 17. The programme addressed the need to integrate scientific knowledge into international policy and diplomacy, focusing on areas such as climate negotiations, biodiversity diplomacy and strategic leadership. UCSI International Institute of Science Diplomacy and Sustainability director Distinguished Prof Tan Sri Dr Zakri Abdul Hamid and UCSI founder and executive chairman Dato' Peter Ng contributed to the programme.



Participants gained insights into science-informed diplomacy, strategic leadership and sustainability policy, fostering cross-border collaboration and knowledge exchange. The course strengthened negotiation skills and produced actionable recommendations for global challenges. At a broader level, it also supports SDG 4 by enhancing inclusive learning and leadership capacity, equipping emerging leaders to apply science-based solutions for complex sustainability issues.





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