

SCIENCE DIPLOMACY ACTION

An Incidental Serial for Rigorous Meeting Syntheses

March 2026



Science Diplomacy for Sustainable Development: Perspectives from the Global South

Malaysian Technical Cooperation Programme (MTCP) Course Diplomats



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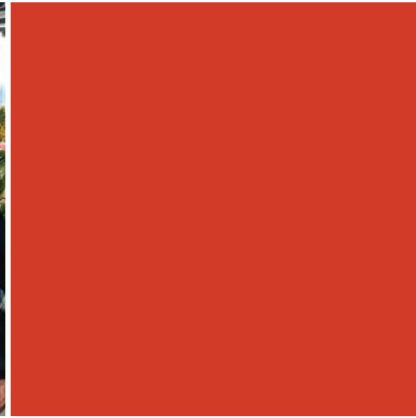
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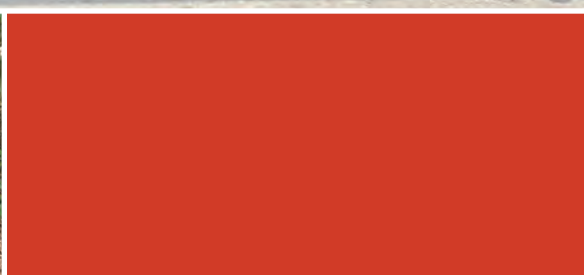
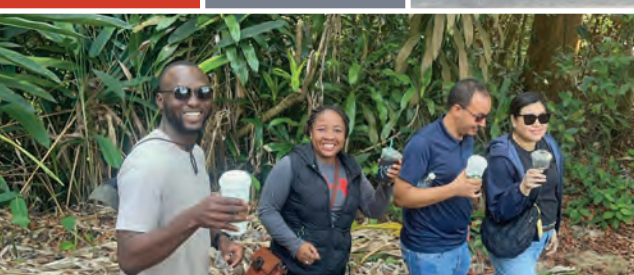
Znanstvena diplomacija može pridonijeti ublažavanju klimatskih promjena

PAUL ARTHUR BERKMAN, PREDSEDNIK CENTRA ZA ZNANSTVENU DIPLOMACIJU FALMOUTH IZ MASSACHUSETTSA.

Paul Arthur Berkman, predsjednik Centra za znanstvenu diplomaciju u Falmouthu, Massachusetts, govori o važnosti znanstvene diplomacije u borbi protiv klimatskih promjena. On ističe da znanstvena diplomacija omogućuje međunarodnu suradnju i razmjenu znanja, što je ključno za rješavanje globalnih izazova poput klimatskih promjena. Berkman ističe da znanstvena diplomacija omogućuje međunarodnu suradnju i razmjenu znanja, što je ključno za rješavanje globalnih izazova poput klimatskih promjena.

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EDUCATION RESEARCH ACTION

SCIENCE DIPLOMACY ACTION

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Synthesis No. 8
(March 2026)

SCIENCE DIPLOMACY FOR SUSTAINABLE DEVELOPMENT: PERSPECTIVES FROM THE GLOBAL SOUTH

MALAYSIAN TECHNICAL COOPERATION PROGRAM (MTCP) COURSE DIPLOMATS^{1,2}

¹This Synthesis is produced by the course diplomats from thirteen nations who participated in the Malaysian Technical Cooperation Program (MTCP) course about *Science Diplomacy for the Global South* that was convened and hosted by the International Institute for Science Diplomacy and Sustainability (IISDS) at UCSI University in Kuala Lumpur, Malaysia, during 19-28 August 2025 (see Appendix 1 – Co-Author List in Alphabetical Order).

²All views expressed are personal and do not reflect the views of any organization, agency or government.

Questions about SCIENCE DIPLOMACY ACTION: Please contact Prof. Paul Arthur Berkman (pab@scidiplo.org)

FOREWORD

Today's global challenges – climate change, biodiversity loss, environmental degradation, emerging technologies, and public health threats - are increasingly complex and interconnected. Addressing these challenges requires stronger links between scientific knowledge, policymaking, and international cooperation. In this context, science diplomacy has become an essential approach to ensure that credible scientific evidence informs negotiations, policies, and collaborative actions among nations. This is particularly important for countries of the Global South, which often face the greatest impacts of global challenges while working to strengthen their capacity to contribute effectively to international solutions.

Recognizing this need, the Government of Malaysia, through the Malaysian Technical Cooperation Programme (MTCP), in collaboration with the International Institute of Science Diplomacy and Sustainability (UCSI-IISDS) at UCSI University, organized the first training course on Science Diplomacy for the Global South, held in Kuala Lumpur from 19 to 28 August 2025. The ten-day programme brought together policymakers, diplomats, scientists, and government officials from fifteen countries, reflecting a shared commitment to strengthening the role of science in sustainable development and international cooperation.

The course adopted a practical and interactive approach. Through expert lectures, case discussions, negotiation simulations, and study visits, including to the Forest Research Institute Malaysia and the Malaysian Palm Oil Board, participants explored how science diplomacy can support policymaking and international negotiations. Discussions also addressed major global issues such as the Sustainable Development Goals, net-zero carbon pathways, plastic pollution, biodiversity conservation, and other cross-cutting concerns including Environmental Social Governance (ESG) frameworks, emerging technologies, and resilience to global risks.

Equally important was the spirit of collaboration that emerged among the participants. The MTCP 2025 cohort represented diverse professional backgrounds and national experiences, yet they shared a common aspiration, to strengthen the use of science in advancing sustainable development across their countries and regions. Through dialogue and teamwork, participants built professional networks that may continue to support cooperation across the Global South.

This publication, Synthesis 8 in the *Science Diplomacy Action* serial, captures the reflections and insights of the MTCP 2025 cohort. Their co-authored synthesis represents more than a record of the course; it is a collective expression of learning and shared perspectives. It also stands as a legacy contribution from the first cohort, demonstrating how participants can work together to identify common interests and explore practical pathways for collaboration.

The synthesis will also serve as a useful reference for future participants of the MTCP Science Diplomacy course. As the programme continues in the coming years, including the next course planned for 2026, such reflections will help strengthen the learning process while contributing to wider efforts to build partnerships across the Global South. In time, initiatives of this nature may also support broader regional cooperation, including potential collaboration toward an ASEAN platform dedicated to advancing science diplomacy.

Malaysia has long supported capacity building and knowledge sharing among developing nations through the MTCP. The introduction of a training programme on science diplomacy reflects the growing recognition that scientific knowledge must play a central role in international dialogue and decision-making.

I would like to express my sincere appreciation to the participants of the MTCP 2025 course for their enthusiasm, commitment, and collaborative spirit. Their reflections in Synthesis 8 illustrate the importance of working together across borders and disciplines to address shared challenges. It is my hope that their contributions will inspire future cohorts and further strengthen the role of science diplomacy in advancing sustainable development for the Global South.

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TABLE OF CONTENTS

FOREWORD.....	ii
TABLE OF CONTENTS	iii
<u>SCIENCE DIPLOMACY FOR SUSTAINABLE DEVELOPMENT: PERSPECTIVES FROM THE GLOBAL SOUTH</u>	1
<u>ABSTRACT</u>	1
<u>KEYWORDS</u>	1
<u>INTRODUCTION</u>	2
<u>GLOBAL AND NATIONAL INSIGHTS</u>	3
<u>CHALLENGES POSED TO SCIENCE DIPLOMACY FOR SUSTAINABLE DEVELOPMENT</u>	7
<u>OPTIONS</u>	9
<u>ACKNOWLEDGEMENTS</u>	9
<u>REFERENCES</u>	10
APPENDICES	
<u>APPENDIX 1: LIST OF CO-AUTHORS</u>	12
<u>APPENDIX 2: MTCP 2025 SCIENCE DIPLOMACY FOR THE GLOBAL SOUTH – FLYER</u>	13
<u>APPENDIX 3: MTCP 2025 SCIENCE DIPLOMACY FOR THE GLOBAL SOUTH – PROGRAMME</u> ..	15
<u>APPENDIX 4: COMMON-INTEREST BUILDING: TRAINING GAME</u>	77

SCIENCE DIPLOMACY FOR SUSTAINABLE DEVELOPMENT: PERSPECTIVES FROM THE GLOBAL SOUTH

ABSTRACT

Science diplomacy has emerged as a strategic conduit for aligning national interests with collective global priorities, particularly in pursuing sustainable development. This study synthesises the perspectives of thirteen collaborators from the Global South who participated in the MTCP–UCSI University short course on *Science Diplomacy for Sustainable Development*. Drawing on country-specific narratives, including those of Angola, Croatia, Guinea, Indonesia, Laos, Madagascar, Morocco, Namibia, Oman, Paraguay, Papua New Guinea, Timor-Leste, and Kazakhstan, this paper demonstrates how science diplomacy operates across diverse contexts to advance renewable energy transitions, environmental governance, disaster preparedness, biodiversity conservation, digital innovation, and transboundary resource management. The findings reveal that countries are increasingly deploying the four recognised dimensions of science diplomacy: science in diplomacy, diplomacy for science, science for diplomacy, and diplomacy in science, to strengthen policy coherence and address complex cross-border challenges such as climate change, marine ecosystem degradation, water scarcity, and technological transformation. Although the Global South is leveraging scientific cooperation to build capacity and foster regional collaboration, significant obstacles persist. These include geopolitical fragmentation, unequal research capabilities, misinformation, the securitisation of technology, and escalating environmental shocks. This paper argues that advancing science diplomacy requires renewed multilateralism, inclusive knowledge partnerships, and stronger integration of Indigenous knowledge systems with scientific research. By foregrounding voices from the Global South, this study contributes to the global discourse on how science diplomacy can act as a catalyst for sustainability transitions and promote equitable international cooperation in an era of unprecedented planetary risk.

KEYWORDS

Science Diplomacy; Sustainable Development; International Cooperation; Interdisciplinary Policy; Capacity Building; SDGs (Sustainable Development Goals)

INTRODUCTION

What is the fundamental denominator that underscores our common interests as humans? To answer this question, we must understand the role of science diplomacy in sustainable development. The UN 2030 Agenda outlines various concepts for bridging science and policy to achieve the 17 Sustainable Development Goals (SDGs). To achieve the SDGs, global cooperation is required to address shared transboundary challenges, such as climate change, biodiversity loss, ocean conservation, and pandemic preparedness. This is only plausible with capacity building and collaboration among nations. The adoption of science as a tool to build trust and reduce geopolitical tensions across regions should not be underestimated. Science diplomacy is instrumental in mobilising technological innovation and research investment to achieve sustainability transitions. In doing so, we must not leave anyone behind. The United Nations agenda promotes the use of science diplomacy to integrate indigenous knowledge with modern science, fostering sustainable growth and development.



Image [Prof. Paul Arthur Berkman facilitating dialogue among participants at the workshop]

As a means to instil the use of science diplomacy and promote our common interest in sustainable development, participants from 13 different countries consisting of diplomats and academics after attending the MTCP short course on Science Diplomacy for Sustainable Development held at UCSI University, in Kuala Lumpur Malaysia embarked on an article write-up to provide their perspectives on how science diplomacy can be used as a conduit to achieve our common interests for sustainability as global citizens. This article is structured thematically; it first explores regional and national viewpoints, then sector-specific applications, and finally future-oriented challenges and innovations. Each section presents narratives from the perspective of each participant on science diplomacy for sustainable development. This synthesis also provides recommendations for strengthening policy decision-making and adds to the body of academic knowledge and research.

GLOBAL AND NATIONAL INSIGHTS

What is Science Diplomacy? As posited by Hamid and Osman (2024), there is no accepted definition, but it can be understood in three primary categories:

- Science in diplomacy: Using scientific knowledge to inform and support foreign policy objectives.
- Diplomacy in Science: Using diplomatic efforts to promote international scientific cooperation.
- Science for Diplomacy: Using Scientific Collaboration to Improve International Relations.

While the above-mentioned are recognised as the three main pillars of what defines science diplomacy, we do have a fourth.

- Diplomacy for Science: Using diplomatic tools, agreements, and political support to enable large-scale scientific cooperation, resource mobilisation, and cross-border research infrastructure.

As participants in the MTCP-UCSI programme, we can agree that science diplomacy can be viewed from different lenses, as our national interests are diverse, but we strive for a common interest, which epitomises our survival as humans. How has science diplomacy been used for sustainable development?

In Angola, the revitalisation of the Lobito Corridor, linking Angola's coast via rail and logistics infrastructure into the interior, is supported by international partnerships that embed research, regulation, and social standards to anchor value chain development and regional trade. This is key to the success of the African Continental Free Trade Area (AfCFTA). Using science to promote and support policy objectives (UNOPS, 2025; Atlantic Council, 2024).

Guinea has used science diplomacy as a practical pathway to strengthen the governance of its mining sector and align resource extraction with the sustainable development goals. By joining a global project led by the United Nations Environment Programme (UNEP) and the Global Environment Facility (GEF), Guinea has transformed its artisanal and small-scale gold mining sector. The introduction of mercury-free technologies, formalising actors, and strengthening dialogue between companies, communities, and regulators is evidence of the use of science diplomacy to improve international relations (UNEP, 2023).

As part of its "Global Maritime Fulcrum" initiative, Indonesia has leveraged maritime diplomacy to promote regional science-based governance of sea routes, resource management, and marine security (Hakiem et al., 2025). Similarly, through frameworks within ASEAN, Indonesia has contributed to science

policy cooperation in the region by sharing research on marine ecosystems, maritime risks, and climate resilience (Mansury, 2024). Considering Indonesia’s vulnerability to rising sea levels due to climate change, diplomacy in science is key to collaboration in the ASEAN Coordinating Centre for Humanitarian Assistance (AHA Centre) and the ASEAN Agreement on Disaster Management and Emergency Response (AADMER). These are institutionalised, scientific evidence-based frameworks for early warning systems, multinational drills, and regional capacity building (Triyana et al., 2022).



Image [MTCP Participant and facilitators' site visit to Forest Research Institute Malaysia (FIRM)]

Similar to Indonesia, the Lao People’s Democratic Republic has adopted “science for diplomacy” by leveraging science diplomacy to advance sustainable development through its engagement in Mekong River cooperation and hydropower governance. As an active member of the Mekong River Commission (MRC), Laos participates in joint scientific monitoring, hydrological modelling, and transboundary environmental assessments that guide evidence-based water resource management and strengthen regional policy coordination (MRC, 2021). Laos also collaborates with international research institutions to apply environmental impact assessments, sediment-flow studies, and sustainability frameworks that improve dam design and mitigate ecological risks. This aligns national energy ambitions with regional environmental commitments (CDRI, 2020).

In Madagascar, science diplomacy has been operationalised to support sustainable development through biodiversity conservation and Indian Ocean collaboration. The country leverages its status as part

of the globally recognised “Madagascar and Indian Ocean Islands” biodiversity hotspot to engage international research networks, civil society organisations, and multilateral donors in ecosystem monitoring, species protection, and capacity-building programmes (CEPF, 2004). Concurrently, Madagascar deepens cooperation through its membership in the Indian Ocean Commission (IOC) and associated scientific-academic frameworks, enabling knowledge exchange in marine science, blue-economy innovation, and regional environmental governance (CAPMAD, 2023). These efforts exemplify how science diplomacy enables Madagascar to align its national ecological priorities with regional and global sustainable development agendas.



Image [MTCP Participants in Malaysian traditional attire]

In Morocco, science diplomacy has become integral to advancing sustainable development through solar energy initiatives and Africa–Europe science partnerships. Through its ambitious solar program, Morocco has positioned itself as a regional hub for renewable energy, collaborating globally on technology transfer and cross-border grid integration, thereby exemplifying “solar diplomacy” in action (GMF US, 2025). Simultaneously, Morocco has deepened science and technology cooperation with the European Union under frameworks such as the European Neighbourhood Policy and the Partnership for Research & Innovation in the Mediterranean Area (PRIMA), enabling knowledge exchange, joint research, and capacity building aligned with sustainable development objectives (European Commission, 2025). These dual tracks illustrate Morocco’s strategic use of science diplomacy to link clean energy transitions with regional science policy integration.

Namibia has been leveraging its natural abundance of sunlight and land to build a green hydrogen industry (Cassidy & Quitzow, 2023). This was achieved through the use of diplomacy in science. By forming strong partnerships and negotiating strategies with countries in the EU, especially Germany and Belgium, to develop the industry. The budding industry is significant for Namibia's Nationally Determined Contributions (NDC). On a regional level, Namibia has also evoked "science for diplomacy" through partnerships with Angola and South Africa to utilise joint scientific research, monitoring, and policy frameworks in the Atlantic fisheries domain and promote ecosystem-based management and sustainable fish stocks (Polejack et al., 2021).

In the Sultanate of Oman, science diplomacy has been strategically employed to promote sustainable development through two interlinked domains: ocean climate governance and digital/AI innovation. In the realm of maritime affairs, Oman hosted the International Science Council (ISC) Muscat Global Knowledge Dialogue, which emphasised the critical importance of ocean research, regional knowledge exchange, and data-driven policy in addressing the climate vulnerabilities of the Indian Ocean (ISC 2025). This is an example of scientific diplomacy. Oman also initiated a National Programme for Artificial Intelligence and Advanced Digital Technologies (2024–26), designed to promote international research collaborations, open-data infrastructures, and digital governance capabilities in alignment with the nation's Vision 2040. This initiative integrates 'science diplomacy' into its AI and digital diplomacy agenda (Oman News Agency 2024).

Paraguay's science diplomacy agenda is deeply integrated with its economic strategy, as evidenced by its achievement of an investment-grade credit rating and its emphasis on attracting foreign direct investment (FDI) for green financing and digital transition. In the environmental domain, initiatives such as the Water Governance Dialogue and policy reviews aim to strengthen multilevel governance systems, whereas participation in the Inclusive Forum on Carbon Mitigation demonstrates Paraguay's role in climate-related global discussions. Concurrently, in biodiversity diplomacy, Paraguay's *The National Biodiversity Strategy* leverages partnerships with global research centres and multilateral frameworks to enhance ecosystem monitoring, conserve endemic species, and align conservation efforts with sustainable-use policies (CBD, 2024). These efforts illustrate how the strategic deployment of scientific evidence in diplomatic venues strengthens natural resource governance and sustainable development outcomes in Paraguay.

Science diplomacy has been strategically deployed in Papua New Guinea (PNG) to support sustainable development through climate adaptation and regional cooperation in the Pacific Islands. This is somewhat similar to Indonesia and Laos, where science diplomacy is used to address rising sea levels and floods, respectively. By partnering with international research institutions, PNG has developed climate-proofing frameworks for maritime and coastal infrastructure, integrating scientific modelling and early warning systems to protect remote island communities from rising sea levels and extreme weather events (Nanyang Technological University, 2022). Furthermore, as a member of the Small Island Developing States (SIDS), PNG is actively participating in Pacific regional science-diplomacy platforms that advance knowledge exchange in ecosystem-based adaptation and transboundary climate resilience. This can be categorised as science for diplomacy in the case of PNG.

The latest and 11th member of ASEAN, Timor-Leste, has increasingly relied on science diplomacy to address the transboundary challenge of plastic pollution, which threatens its coastal ecosystems and

livelihoods. As a participating state in the Intergovernmental Negotiating Committee (INC) developing a global treaty on plastic pollution, Timor-Leste draws on scientific assessments and regional evidence to inform its policy positions and strengthen cooperative action across the Pacific and Southeast Asian regions (UNEP, 2023). From this policy and treaty, we can see how Timor-Leste is applying diplomacy in science to address transboundary pollution, which is a great threat to its coastal ecosystem. Similarly, the country collaborates with partners under the *Pacific Regional Environment Programme* to implement marine debris monitoring, waste-management innovations, and community-based data collection, enabling evidence-driven decision-making that links national sustainability priorities with regional environmental governance (SPREP, 2022). This is a case of science in diplomacy applied by the Timor-Leste government, which uses scientific knowledge to inform and support foreign policy objectives.

The perspective from Kazakhstan shows how the nation is using science in diplomacy to achieve its national objectives aligned with regional and global commitments toward sustainable development. As shared by one of the MTCP participants, Kazakhstan is implementing an extensive national program to increase the country's forest reserves. In line with the directive of the Head of State, the country has committed to planting two billion trees across the State Forest Fund between 2021 and 2027. The program is showing steady progress: between 2021 and 2024, one billion and 150 million trees have already been planted, representing more than half of the planned target. In 2025, Kazakhstan plans to plant an additional 336.5 million trees. The program is being executed through collaborative efforts, with regional executive bodies planting more than 1.5 billion trees, organisations under the Forestry and Wildlife Committee planting 250 million, and nature users and civic initiative groups contributing 210 million. To enhance the effectiveness of afforestation, the country is transitioning to modern technology (Glas Slavonije, 2025). The focus on using science to mitigate the impact of climate change is one of the measures taken by Kazakhstan for sustainable economic growth, which is transboundary in nature, as it supports other regional countries that share a border with Kazakhstan.

CHALLENGES POSED TO SCIENCE DIPLOMACY FOR SUSTAINABLE DEVELOPMENT

The narratives discussed above provide the categorisation and transformative ideals of science diplomacy deployed to address existential threats to mankind. Nevertheless, many challenges distort the manifestation of this ideal approach. First, geopolitical fragmentation and rivalry among major economic powers form a hegemony which limits the likelihood of data sharing and joint scientific research on key platforms for sustainable development. Second, there is a rise in digital sovereignty. Earlier, we referenced the categorisation of Science in Diplomacy into four parts, one of which is Science in Diplomacy. How can this be achieved if scientific breakthroughs in the interest of sustainability are classified as 'national security'? Third, the surge of misinformation and 'fake news' has increased over the past decade. Of course, this is plausible with access to social media. For instance, misinformation on climate science and vaccines slows down evidence-based policies to address critical needs pertaining to our survival. There is also the case of disinformation, which is orchestrated by sceptics and contrarians to perpetuate and preserve their economic and financial interests, which do not align with the ideology of living within planetary boundaries. Fourth, there is unequal research capacity between the global North and South. On a global scale, funding for adaptive measures toward net-zero targets has increased. However, many countries in the Global South

OPTIONS

At the time of compiling this study on science diplomacy for sustainability, many UN countries had sent their delegates to attend COP 30 in B elem (the gateway to the Amazon). Ironically, as preparations were in place to discuss and deliberate on the effects of global warming and climate change, countries in the Caribbean were hit by a hurricane, affecting over 5 million people. Similarly, preceding the natural disaster that hit the Caribbean, countries such as Pakistan and India were hit by devastating floods. There is a scientific consensus that anthropogenic factors are the leading contributors to climate change. While climate deniers claim that the existential threat is in the distant future, to others, it is at their doorstep. There are many targets, indicators, COPs, and treaties where suggestions and recommendations have been raised to address climate change and protect biodiversity, yet the average global temperature has surpassed the 1.5 C target. Hence, we do not propose recommendations but rather offer advocacy and opinion to move the discussions forward and ask questions to spur further dialogue. The authors of this study posed the following questions:

- How is the Global South adjusting to climate change?
- How do we address rising sea levels?
- How effective is climate diplomacy in adaptive and mitigative efforts to address climate change?
- How are we using science diplomacy as a tool to preserve the knowledge and way of life of indigenous people?
- How do we live within planetary boundaries?
- How can we work together to resolve transboundary pollution?
- How can we protect biodiversity and natural habitats?
- What is the most important factor that unites our national interests with our common interests?

We may or may not have solutions to these problems. However, we understand that what is most important is active participation in ensuring that we put sustainability at the forefront of our dialogue and take cogent steps to ensure that our actions do not deprive the next generation of the benefits of our limited natural resources.

ACKNOWLEDGEMENTS

We were privileged to be selected from many applicants for the course, Science Diplomacy for the Global South, hosted by UCSI University under the MTCP course program. Hence, we express our sincere gratitude to the dedicated team at the UCSI University- International Institute of Science Diplomacy and Sustainability and the host, Le Quadri UCSI University Kuala Lumpur. Most especially, our gratitude extends to the Founding director, Distinguished Prof. Tan Sri Dr Zakri Abdul Hamid; Deputy director Prof Dr Mohamad Osman and to our dedicated Course coordinator Ms Hawa Fitriah Hamuzan. We appreciate the efforts taken to ensure that the course was developed and delivered in an organised manner.

Our heartfelt gratitude also extends to all facilitators at the workshop, especially to Prof Paul Berkman, president and founder of the USA Science Diplomacy Centre. We appreciate all your efforts and

thought-provoking questions to guide our discussions on how science diplomacy can be instrumental in our progress toward sustainable development.

We gratefully acknowledge all the institutions and organisations visited during the course. This includes the site visit to Forest Research Institute Malaysia (FIRM), PJ ECO Recycling Plaza, MIGHT, Cyberjaya and the Malaysian Palm Oil Board (MPOB). The knowledge gained and shared was profound and insightful about how Malaysia has used science for its sustainable growth and development. We were privileged to be physically present at the sites.

Lastly, we are grateful to the International Cooperation and Development Division and the Malaysian Technical Cooperation Programme. Without this program, the contributors to this study would not have met and depended on their knowledge of Science Diplomacy. We are sincerely grateful.



Image [UCSI-IISDS and MTCP participants]

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APPENDIX 1
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APPENDIX 2

MTCP 2025 SCIENCE DIPLOMACY FOR THE GLOBAL SOUTH – FLYER

TARGET PARTICIPANTS

The course is open to participants from the African Region, targeting:

- Ministries (Foreign Affairs, Science, Environment, and other relevant ministries)
- Government Officials and Policymakers
- Scientists and Researchers
- Middle- and Senior-Level Diplomats
- Universities and Research Institutions

LEARNING OUTCOMES

At the end of the course, participants will be able to understand and apply the principles of science diplomacy to address global sustainability challenges, accelerate progress towards sustainable development, strengthen South-South and technical cooperation, and contribute to science-informed policymaking. They will gain skills to navigate the science-policy nexus, engage in international collaboration, and leverage scientific knowledge to advance national and regional development priorities. Participants will also appreciate Malaysia's role through the MTCP and UCSI-HSDS in fostering capacity building and promoting science diplomacy in the Global South.

APPLICATION AND ENQUIRIES

Applications should be made using the prescribed MTCP forms available through [https://mtcp.kln.gov.my/mtcptforms/MTCP_APPLICATION_FORM_\(PHYSICAL_COURSE\).pdf](https://mtcp.kln.gov.my/mtcptforms/MTCP_APPLICATION_FORM_(PHYSICAL_COURSE).pdf) application forms can also be obtained from the nearest Malaysian Embassy / High Commission in MTCP recipient countries. Submitted application forms must be accompanied by the following documents:

- Copy of Passport (all coloured pages including blank pages, front & back cover)
- 2 copies Passport sized photo (3.5cm x 5cm) (White background)
- 6 months passport validity
- Medical Report (with clinic's official seal)

All application forms must be duly completed and endorsed by the Ministry of Foreign Affairs of candidates' respective countries and should be submitted only through the diplomatic channel via Malaysian Embassy/ High Commission of Malaysia.

Successful candidates will be duly notified by UCSI University one (1) month before the commencement of the course.

Incomplete and/or unendorsed forms will not be considered.

Application Deadline: 30 June 2025

SCIENCE DIPLOMACY FOR THE GLOBAL SOUTH

(Exclusively for participants from the African region)

Dates: 19 - 28 August 2025
KUALA LUMPUR, MALAYSIA

APPLICATION DEADLINE:
Date: 30 JUNE 2025

COURSE METHODOLOGY

The course will employ a combination of methodologies to ensure comprehensive learning:

- Classroom lectures and expert presentations
- Group discussions and interactive sessions
- Individual and group exercises
- Case studies
- Study visits

COURSE OUTLINE

Topic 1: Introduction to Science Diplomacy
Topic 2: Role of Science in Foreign Policy
Topic 3: International Scientific Cooperation
Topic 4: Science and Sustainable Development Goals
Topic 5: Climate Change Negotiations
Topic 6: Biodiversity and Environmental Diplomacy
Topic 7: Planetary Health Diplomacy
Topic 8: Technology Transfer and Innovation
Topic 9: Science Communication for Diplomats
Topic 10: Strategic Leadership in Science Diplomacy
Topic 11: South-South Cooperation



UCSI UNIVERSITY - INTERNATIONAL INSTITUTE OF SCIENCE DIPLOMACY AND SUSTAINABILITY (UCSI-HSDS) KUALA LUMPUR, MALAYSIA



INTERNATIONAL INSTITUTE OF SCIENCE DIPLOMACY & SUSTAINABILITY

MALAYSIAN TECHNICAL COOPERATION PROGRAMME

FELLOWSHIP / SCHOLARSHIP

Participants will receive support from the Government of Malaysia including:

Accommodation

Participants will be accommodated at a hotel / hostel within the vicinity of the training institute. Participants are strictly not allowed to bring any family members during the course.

Daily Allowance

Participants will be provided with daily allowance.

Meals

Meals will be provided throughout the duration of the course.

Air Fares

A return flight ticket from the capital city of the recipient country to Kuala Lumpur on economy class is provided for participants.

Course Fees

All course fees are borne by the Government of Malaysia.

Dress Code

Participants are required to dress in formal or office attire throughout the class sessions as well as during official visits to Government Ministries/Agencies.

VISA AND VACCINATION

All participants **must** enter Malaysia with Visa With Reference (VWR). Participants for the programme will receive a copy of the approval letter from UCSI. Participants are required to obtain the VWR stamping from the nearest Malaysian Embassy/ High Commission. All costs in relation to obtaining visa to enter Malaysia is to be borne by the participants. Participants from countries listed in are required to take mandatory vaccination for Yellow Fever at least ten (10) days prior to their departure to Malaysia. Yellow Fever Vaccination certificate is required upon landing in Malaysia.

The training programme will be convened by:

UCSI UNIVERSITY-INTERNATIONAL INSTITUTE OF SCIENCE DIPLOMACY AND SUSTAINABILITY (UCSI-IISDS)

The UCSI-IISDS was established in 2022 at UCSI University with the aim to become the leader in science diplomacy and sustainability. Its strategic mission is to produce a group of talented human resources among professionals and youth, diplomats and policymakers, with the right talents and scientific knowledge needed to build science-policy nexus to holistically address the sustainability issues for the betterment of Malaysia, ASEAN and the global community.

WHAT IS SCIENCE DIPLOMACY?

Science diplomacy leverages scientific collaboration to strengthen international relations, tackle global challenges, and foster peace by transcending political divides through shared knowledge while advancing sustainable development. It operates through three key approaches: (1) Using science to build diplomatic ties (e.g., US-Soviet scientific cooperation during the Cold War, or the International Space Station (ISS) as a symbol of post-Cold War unity); (2) Employing diplomacy to enable scientific cooperation (e.g., the Antarctic Treaty, CERN, Paris Agreement, or BBNJ Agreement on ocean biodiversity); and (3) Integrating science into policy (e.g., evidence-based strategies underpinning the Kunming-Montreal Global Biodiversity Framework or ongoing global plastics treaty negotiations). By promoting trust and multilateral problem-solving, science diplomacy addresses global challenges on sustainability and pressing issues - from climate change and pandemics to AI governance and ecosystem protection - and in parallel accelerates progress toward sustainable development.

MTCP BACKGROUND

The Malaysian Technical Cooperation Programme (MTCP) was initiated at the First Commonwealth Heads of Government Meeting (CHOGM) for Asia Pacific Region held in Sydney in February 1978. It was officially launched on 7th September 1980 at the 2nd CHOGRM in New Delhi, India to signify Malaysia's commitment to South-South Cooperation, in particular Technical Cooperation among Developing Countries (TCDC).

The MTCP emphasises the development of human resources through the provision of training in various areas which is essential for a country's development. These areas include diplomacy and diplomatic practices, economy, good governance, education, tourism, environment, social development, halal industry, safety and security as well as technology, among others. As of 31st December 2024, over 38,000 participants from 144 recipient countries have benefited from the various programmes offered under the MTCP.

For more information at MTCP Official Portal: <https://mtcp.kin.gov.my/> and MTCP Official Facebook Page: <https://www.facebook.com/MTCPMalaysia>

OBJECTIVES OF MTCP

- To share development experiences with other developing countries;
- To strengthen bilateral relations between Malaysia and other developing countries;
- To promote South-South Cooperation (SSC); and
- To promote Technical Cooperation among Developing Countries (TCDC)

CONTACT PERSON FOR ENQUIRY:

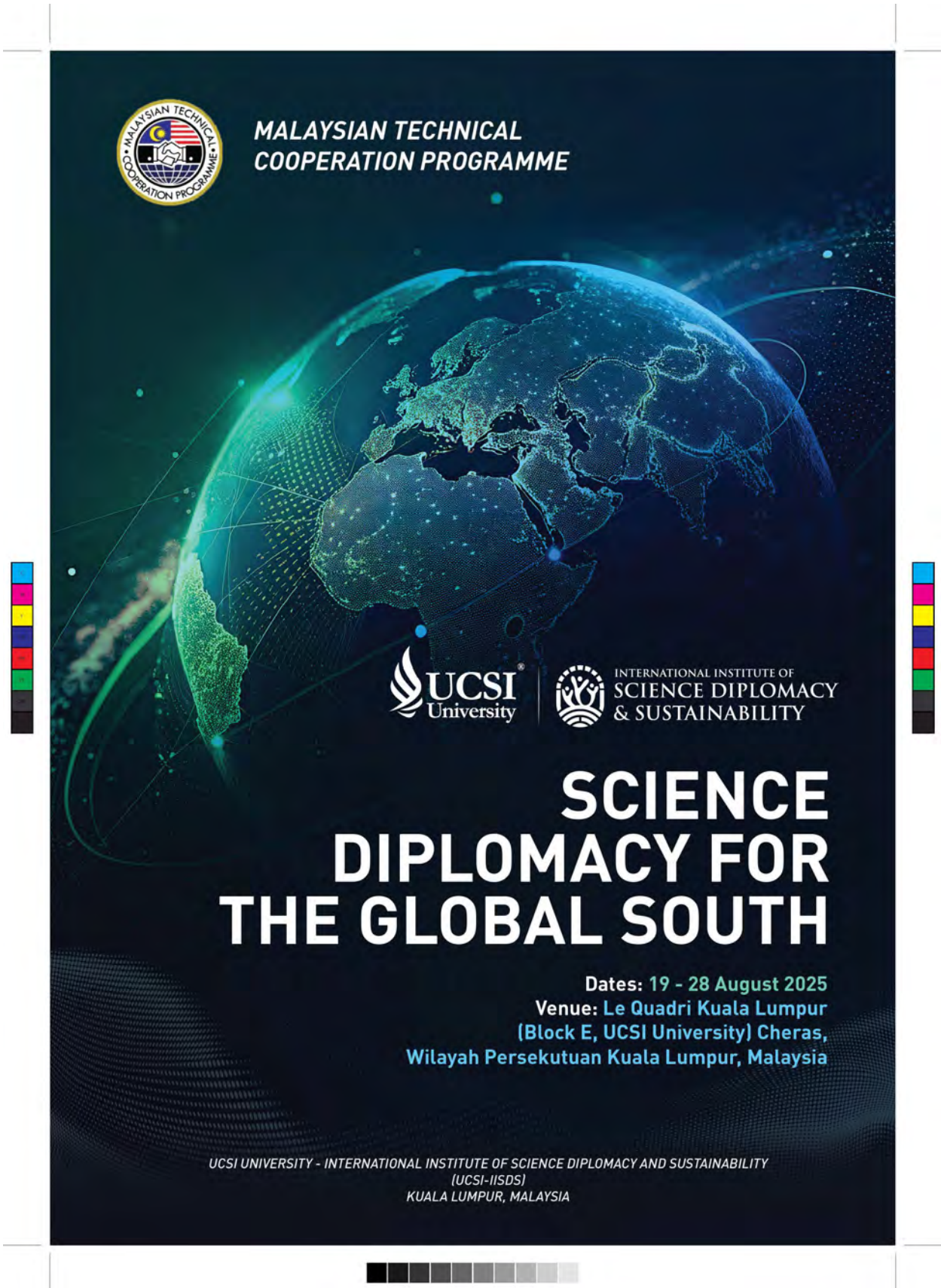
Name: Prof. Dr. Mohamad bin Osman
Deputy Director, UCSI-IISDS
UCSI University, Kuala Lumpur, Malaysia

Phone No: +6012-386 5724

Email: MohamadOsman@ucsiuniversity.edu.my

APPENDIX 3

MTCP 2025 SCIENCE DIPLOMACY FOR THE GLOBAL SOUTH – PROGRAMME



ACKNOWLEDGEMENTS

First and foremost, we extend our deepest gratitude to Prof Paul Berkman, USA Science Diplomacy Centre, founder and president. A thought leader in the field of science diplomacy, he is currently on a Fulbright Fellowship to UCSI-IISDS for his invaluable contributions to our MTCP Course programme.

We are privileged to have engaged with many eminent experts whose insights and interactions have significantly enriched our programme. Our sincere thanks go to the distinguished speakers and moderators including: Prof Dato' Dr Nor Aieni Hj. Mokhtar, former vice-chancellor, UMT; Datuk Dr Nadzri Yahaya; Dato' Dr Saw Leng Guan; Prof Dr Anantha Kumar Duralappah; Dr Gary William Theseira (CGM); Roberto Benetello (MAREA); Prof Dr Mohd Talib Latif (UKM); Dr Elizabeth Philip (FRIM); Assoc Prof Dr Stil Hafsyah Idris (UITM); Prof Dr Fredolin Tangang (UBD); Assoc Prof Dr Liew Ju Neng (UKM); Mohd Nurul Azammi Mohd Nudri (MIGHT); Prof Mohd Zakwan Mohd Zabidi (MIGHT); Ms. Chee Yoke Ling (TWN); Prof Dato' Ahmad Ibrahim, UCSI University, Faculty of Engineering, Technology and Built Environment; Asst Prof Dr Ali Khodi, UCSI University, English Language and Communication

We express our profound appreciation to MOFA and IDFR for their unwavering support: Dato' Sri Amran Mohamed Zin, Ministry of Foreign Affairs secretary-general; Dato' Zainol Rahim Zainuddin, Institute of Diplomacy and Foreign Relations (IDFR) director-general; Mr Devrin Jeck, International Cooperation and Development Division (ICADD) undersecretary, MOFA; Ms Nur Syaheera Adila Zulkifli, ICADD assistant secretary, MOFA; Mr Basil Beginda, MTCP/MOFA; Ms Shanthini Subramaniam; Ms Jasmine Mohamed Jawhar; Ms Farah Dhiba Ahmed @ Salleh and Ms Adela Melati Ahmad Termizi (IDFR)

Our sincere thanks also goes to MOSTI: Shahrizal Shahrudin, MASTIC director, MOSTI and Muhammad Syafiq Dato' Setia Haji Mohammed Khusrin, MASTIC assistant director

To our colleagues at Atri Advisory, we owe a special thanks to: Muhammad Azmil, Muhammad Iqbal and Seri Salina

We would also like to recognise MIGHT: President and chief executive officer Rushdi Abdul Rahim, Aneera Pishal and Natrah Mohd Emran

For the enriching study visits, we thank:
- FRIM: Deputy director general Dr Norwati Muhammad
- PJ ECO
- MPOB: Director general, Datuk Dr Ahmad Parveez
- MIGHT: Ahmad Razif Mohamad

We gratefully acknowledge our dedicated colleagues at UCSI University – International Institute of Science Diplomacy and Sustainability: Founding director Distinguished Prof Tan Sri Dr Zakri Abdul Hamid; Deputy director Prof Dr Mohamad Osman; Deputy director Prof Tan Wee Hoe; Prof Dr Eric Chan Wei Chiang; Prof Dr Mohd. Kushairi Mohd. Rajuddin; Course coordinator Ms Hawa Fitriah Hamuzan; INGSA-Asia Ms Aishwuriya K Kunashankar and Research assistant Ms Nurul Izzatie Zuraimi, TRGS Project on Transboundary Research

Finally, we extend our deepest gratitude to the top management and colleagues of UCSI University: UCSI Group founder and executive chairman Dato' Peter T. S. Ng; Vice-chancellor and president Prof Emeritus Datuk Ts Ir Dr Siti Hamisah Tapsir; Deputy vice-chancellor (Research and Postgraduate) Distinguished Prof Dr Phang Siew Moi; Deputy vice-chancellor (Academic and Internationalisation) Prof Datuk Dr Rohana Yusof; Registrar Khalid Abdullah Abu Bakar; Group Sustainability Office vice-president Leong Sat Sing; Group Corporate Affairs vice-president Richard Lim Ming Jye; Chief finance officer Wong Ming Fang; Joice Leong Tek Kwee; Sharon Tang Yih Shan; Events and community executive Ms Asni Afzah; Operations director-head Irwin Teguh Satya Hidayat; Global Engagement Office director Roland Chan Chih Chien; Global Engagement Office, Emerging Market director Dr Norizan Sulong @ Jamik and Rusfarizan Abdullah

We are especially grateful to the participants from 15 countries whose presence has made this collaboration a reality. May their time and participation here represent a landmark for science diplomacy in the Global South.

Your collective support, expertise and dedication have been instrumental in the success of this programme. We are deeply grateful.

MESSAGE



By the UCSI Group founder and
executive chairman

Dato' Peter Ng, FASc

Welcome to UCSI University. It brings me immense satisfaction to see our institution host this landmark MTCP training course on *Science Diplomacy for the Global South*.

At UCSI, we believe that education must go beyond the classroom - it must respond to global realities. That is why we established the International Institute of Science Diplomacy and Sustainability (IISDS). Under the exceptional leadership of Distinguished Prof Tan Sri Dr Zakri Abdul Hamid, the Institute reflects our belief that scientific expertise and diplomatic skill are indispensable tools in today's complex world.

Your presence here is a clear signal that science diplomacy is no longer a fringe pursuit. It is central to addressing today's challenges from pandemics and climate crises to cyber threats and inequality. More importantly, it is a vehicle for the Global South to take a leading role in shaping global norms.

For over 39 years, UCSI has cultivated thinkers, trailblazers and agents of change. This course continues that tradition, not just by transferring knowledge, but by building bridges between disciplines, countries and cultures.

Let this be a beginning. May your time here spark new ideas, new alliances and a renewed belief in the power of science diplomacy to heal divisions and advance justice.

Thank you for joining us. We are honoured to be part of your journey.



FOREWORD



By the UCSI University
vice-chancellor and president

Prof Emeritus Datuk Ts Ir Dr
Siti Hamisah Tapsir, FASc

It is my great honour to welcome you to this significant 10-day training course on *Science Diplomacy for the Global South*, hosted by UCSI University's International Institute of Science Diplomacy and Sustainability (UCSI-IISDS) under the Malaysian Technical Cooperation Programme (MTCP). As we gather here in Kuala Lumpur, we unite under a common purpose: to harness the power of science and diplomacy to address the pressing challenges facing our nations.

In an era where global issues like climate change, biodiversity loss and technological disparities transcend borders, the need for science-informed diplomacy has never been more critical. This course presents a unique opportunity for policymakers, diplomats, scientists and government officials from across the Global South to develop the skills necessary to navigate the complex intersection of science and policy. Over the next 10 days, you will engage in classroom lectures, interactive discussions, case studies and study visits designed to deepen your understanding of how scientific collaboration can strengthen international relations and drive sustainable development.

Malaysia is proud to host this initiative as part of our longstanding commitment to South-South cooperation through the MTCP, which has benefited over 38,000 participants from 144 countries since its inception. By expanding this year's focus to include the entire Global South, we reaffirm our belief in collective progress and shared solutions. The comprehensive support provided, including accommodation, daily allowances and return flights reflects our dedication to fostering a new generation of leaders capable of addressing global challenges with innovation and cooperation.

As you embark on this journey, I encourage you to actively participate, share your insights and build lasting connections with your resource persons and peers. The knowledge and networks you gain here will empower you to contribute meaningfully to your nations' development and to the broader global community. Together, we can demonstrate that science diplomacy is not just a tool for crisis management but a foundation for lasting peace and prosperity.

On behalf of UCSI University, I extend my deepest gratitude to the organisers, speakers and participants for making this collaboration possible. May this course inspire and equip you to become ambassadors of change in your respective fields. Welcome to Malaysia and may your time here be both enlightening and transformative.

FOREWORD



It is both an honour and a profound responsibility to welcome you to this 10-day training course on *Science Diplomacy for the Global South*, hosted by UCSI University under the esteemed Malaysian Technical Cooperation Programme (MTCP). As we convene in Kuala Lumpur from 19 to 28 Aug 2025, we do so at a pivotal moment, a time when the intersection of science, diplomacy and sustainability has become the linchpin for addressing the most pressing challenges of our era. This course is a testament to the power of South-South collaboration. Originally envisioned for our African partners, its expansion to encompass the entire Global South reflects a shared recognition: the crises we face from climate change and biodiversity loss to technological inequities know no borders. They demand not only scientific ingenuity but also diplomatic finesse, grounded in solidarity and mutual learning.

Throughout my career from the halls of the United Nations to grassroots sustainability initiatives, I have seen how science diplomacy transforms adversarial narratives into cooperative action. It bridges the gap between data and policy, between laboratories and legislatures. Climate change is no longer just an environmental issue, it is a threat multiplier, exacerbating food insecurity, migration and geopolitical tensions. Biodiversity loss and microplastic pollution silently erode the ecosystems that sustain economies and cultures. Emerging technologies, from AI to biotechnology, present both unprecedented opportunities and ethical dilemmas that require globally inclusive governance. These challenges cannot be solved by nations working in isolation. They require the Global South, home to the most vulnerable yet resilient communities, to lead with innovation, equity and shared purpose.

As the founding director of UCSI-IISDS, I am proud to collaborate with MTCP, a programme that emphasises the development of human resources through the provision of training in various areas which is essential for a country's development. This course is more than a training, it is an investment in collective capacity. Through lectures, case studies and immersive simulations, you will master the tools to translate scientific evidence into policy action, navigate multilateral frameworks such as the Paris Agreement and the Kunming-Montreal Global Biodiversity Framework and forge lasting networks with peers and mentors across continents.

To our participants – policymakers, scientists and diplomats, I urge you to approach this course with curiosity, courage and collaboration. Engage with the complexities of science diplomacy without preconceptions. Challenge assumptions and advocate for evidence-based solutions in your capitals. The relationships you build here will outlast this course, leverage them.

The Global South is not merely a recipient of global solutions, it is a wellspring of innovation. Together, let us prove that science diplomacy is not a luxury but a necessity, one that turns shared knowledge into shared progress. Welcome to UCSI University. May this course ignite ideas, partnerships and actions that resonate far beyond Kuala Lumpur.

FOREWORD



It is with immense pride and enthusiasm that I welcome you to the 10-day training course on *Science Diplomacy for the Global South*, hosted under the Malaysian Technical Cooperation Programme (MTCP) by UCSI University's International Institute of Science Diplomacy and Sustainability (IISDS). On behalf of the Ministry of Foreign Affairs, Malaysia, I extend my deepest appreciation to all participants, facilitators and partners who have made this transformative initiative possible.

In today's rapidly evolving global landscape, the convergence of science and diplomacy has emerged as a cornerstone for tackling shared challenges from climate resilience and food security to equitable technological advancement. The Global South, with its vast potential, dynamism and shared aspirations, stands at the forefront of shaping solutions that are inclusive, innovative and impactful. This course, now expanded beyond the African region to embrace the entire Global South, underscores Malaysia's unwavering commitment to fostering solidarity, knowledge exchange and capacity-building among developing nations.

Malaysia's dedication to South-South cooperation is embodied in MTCP's legacy of empowering over 38,000 professionals across 144 countries. By partnering with UCSI-IISDS, a pioneering hub for science diplomacy - we aim to equip you with the tools to navigate the intricate interplay between scientific expertise and policy formulation. The Institute's focus on environmental diplomacy, global health, and sustainable development aligns seamlessly with MTCP's mission to cultivate leaders who can drive progress in multilateral arenas.

This course is more than a training, it is a platform for collaboration. Over the next 10 days, you will engage with experts, dissect case studies and explore how science diplomacy can amplify your nations' voices in global discourse. The challenges we face whether climate-induced displacement, biodiversity loss or digital divides demand collective action grounded in evidence and empathy. As representatives of the Global South, your role is pivotal: to translate scientific insights into policies that uplift communities and bridge disparities.

To our participants, I urge you to seize this opportunity. Forge connections, challenge conventions, and harness the spirit of science for diplomacy and diplomacy for science. Let this course ignite partnerships that endure beyond these walls, fostering a future where the Global South is not just a participant but a leader in global governance.

My sincere gratitude to UCSI University, Distinguished Prof Tan Sri Zakri and all collaborators for their visionary leadership. Together, we are advancing a world where science diplomacy serves as a beacon of hope and equity.

Welcome to Malaysia, may your journey here be as enriching as the change you will inspire.

FOREWORD



On behalf of UCSI University, the Malaysian Technical Cooperation Programme (MTCP) and our valued partners, I am delighted to extend a warm welcome to all participants to Malaysia for a truly unique opportunity, the 10-day training course on *Science Diplomacy for the Global South*, taking place from 19 to 28 Aug 2025 at Le Quadri Kuala Lumpur.

As the course coordinator, I am proud to present this pioneering initiative, the first of its kind under MTCP with UCSI University, which underscores Malaysia's dedication to fostering meaningful collaboration across the Global South. What began as a capacitybuilding program for African partners has now evolved into an inclusive platform, bringing together participants from developing nations worldwide. This expansion reflects our shared recognition that pressing global challenges from climate change and biodiversity loss to public health crises and technological disparities demand collective, science-driven solutions.

This course has been meticulously designed by UCSI's International Institute of Science Diplomacy and Sustainability (UCSI-IISDS) to bridge the critical gap between scientific knowledge and policy implementation. Established in 2022, UCSI-IISDS aims to lead in science diplomacy and sustainability by nurturing talented professionals, diplomats and policymakers with the expertise to strengthen the science-policy nexus for Malaysia, ASEAN and beyond. Through its Master's programmes in Science Diplomacy, ESG Leadership and Science Policy and Communication, the institute embodies this mission and this training course extends that vision to the Global South.

Participants will engage in expert-led lectures, hands-on case studies, interactive discussions and study visits, all designed to demonstrate how scientific insights can be effectively translated into diplomatic practice and policymaking. Under the guidance of distinguished thought leaders such as Prof Tan Sri Dr Zakri and Prof Paul Berkman, attendees will gain cutting-edge knowledge and access to a global network of professionals committed to sustainable development.

Beyond classroom lectures, this programme offers immersive learning experiences that connect theory with real-world applications, ensuring participants leave with actionable strategies and lasting professional connections. At a time when science-informed policymaking is more crucial than ever, this course equips future leaders with the tools to navigate the complex interplay between academia, research, diplomacy and governance.

Together, we can work towards a future where science and diplomacy combine to create more sustainable and equitable outcomes for all nations of the Global South.

DATUK SERI DR ZAMBRY ABDUL KADIR LAUNCHED UCSI UNIVERSITY'S INTERNATIONAL INSTITUTE OF SCIENCE DIPLOMACY AND SUSTAINABILITY (IISDS)



Datuk Seri Dr Zambry Abdul Kadir launched UCSI University's International Institute of Science Diplomacy and Sustainability (IISDS) in 2023.

Led by Distinguished Prof Tan Sri Dr Zakri Abdul Hamid, the Institute will serve as a think tank that connects the scientific community with policymakers in the ASEAN region and beyond. UCSI's new institute will focus on environmental diplomacy, global health, food security, as well as international trade and finance.

Its mission is to train a new cadre of young diplomats, government officials and corporate leaders in the art of science diplomacy, and eventually for them to apply this knowledge in international relations such as in multilateral negotiations of treaties which have oversight on global issues.

"I sincerely believe that the establishment of IISDS will be at the forefront of promoting scientific dialogues and stimulating discussions among experts, scholars and policymakers," said Datuk Zambry. Datuk Zambry added that the establishment of IISDS is a timely measure as it is important to address the predicaments that the world is currently facing collectively and urgently. He also offered the cooperation from Institute of Diplomacy and Foreign Relations (IDFR) and looked forward to future collaborations with IISDS.

Prof Zakri said that the art of science diplomacy between political leaders, policymakers and scientists has the potential to result in reasonable solutions as he believes that sustainability challenges require multilateral cooperation.

"No country will be able to solve these problems on its own. The tools, techniques and tactics of foreign policy need to adapt to a world of increasing scientific and technical complexity," he said. The launch of the UCSI International Institute of Science Diplomacy & Sustainability is not just an event; it is a testament to our commitment to shaping a sustainable future through diplomacy and scientific advancement. Together, we have embarked on a journey that has the potential to redefine our world.



The first High-Level Dialogue (HLD) on 'Achieving the Sustainable Development Goals through Science Diplomacy'



Astro Awani interview highlighting the growing importance of science diplomacy



The second High-Level Dialogue (HLD) on 'Advising Government on Science' brought together experts to strengthen evidence-based policymaking



A landmark MoU signing with MIGHT, along with the launch of Science Diplomacy in the Global South, marked a new era of strategic collaboration



UCSI-IISDS earned its first international accolade - the 'Award for Excellence in Education: Skill Development Leadership' - presented by CMO Asia in Singapore



UCSI University recognised the Institute's excellence with the 'Best Performing Research Consortium Award'

In celebration of the launch of the new Institute, the UCSI International Institute of Science Diplomacy and Sustainability (IISDS) hosted two landmark events that underscore its commitment to advancing science diplomacy in the Global South.

The first event, the High-Level Dialogue (HLD) on 'Achieving the Sustainable Development Goals through Science Diplomacy,' brought together eminent global leaders from international organisations, governments, academia and the private sector. Distinguished panelists included HE Madam Irina Bokova, former director-general of UNESCO; HE Dr Yongyuth Yuthavong, former deputy prime minister of Thailand; Prof Paul Berkman, Harvard University and founder of the Science Diplomacy Center, USA; and Academician Dato' Lee Yee Cheong, Emeritus Chairman of the International South-South Centre on Science, Technology and Innovation (ISTIC) and former president of the World Federation of Engineering Organisations (WFEO). The dialogue was expertly moderated by Dr Alizan Mahadi of UNDP, Kuala Lumpur.

The second event, an Astro Awani Interview, highlighted the perspectives of HE Madam Irina Bokova, Prof Paul Berkman and Prof Zakri on the increasing importance of science diplomacy.

A Year of Milestones for UCSI-IISDS

In 2025, UCSI-IISDS earned the Best Performing Research Consortium Award from UCSI University and the Sustainability Excellence Award from CMO Asia in Singapore, recognising its leadership in science diplomacy and sustainable development.

Earlier in Feb 2025, the Institute hosted the second High-Level Dialogue on 'Advising Government about Science', featuring HE Karima El Korri, Tan Sri Dato' Seri Dr Syed Hamid Albar, Dato' Seri Mustapha Mohamed and HE Dr Mariyam Shabeena Ahmed. A landmark MoU with MIGHT and the launch of Science Diplomacy in the Global South further strengthened strategic collaborations.

With these achievements, IISDS continues to demonstrate that science diplomacy is not just a concept, it is the key to solving tomorrow's global challenges.

MTCP COURSE ON SCIENCE DIPLOMACY

TARGET PARTICIPANTS

The course is open to participants from the African region, targeting:

- Ministry of Foreign Affairs, Science, Environment, and other relevant ministries
- Government Officials and Policy-makers
- Scientists and Researchers
- Mid-level and Senior Level Diplomats
- Universities and Research Institutions

LEARNING OUTCOMES

At the end of the course, participants will be able to understand and apply the principles of science diplomacy to address global sustainability challenges. Participants will gain skills to navigate the development, through South-South and technical cooperation, and contribute to regional and global policy needs. They will gain in professional collaboration and engage in knowledge to advance national and regional development priorities. Participants will gain appreciation Malaysia's role in capacity building and promoting science diplomacy in the Global South.



UNIVERSITY OF SCIENCE DIPLOMACY & SUSTAINABILITY
MALAYSIAN TECHNICAL COOPERATION PROGRAMME
SCIENCE DIPLOMACY FOR THE GLOBAL SOUTH (African region)
Date: 19 - 28 August 2025
KUALA LUMPUR, MALAYSIA
APPLICATION DEADLINE:
Date: 30 JUNE 2025

APPLICATION AND ENQUIRIES

Applications should be made using the prescribed forms. MTCP forms are available through the following link: <https://www.mtcpsd.gov.my/portal/mtcp-forms>. The forms can also be obtained from the nearest Malaysian Embassy / High Commission in MTCP recipient countries. Submitted application forms must be accompanied by the following documents:

- Copy of Passport (not expired) (scan + soft copy)
- 2 copies of Passport sized photo (3.5cm x 4.5cm) (white background)
- 2 copies of Curriculum Vitae (CV) (scan + soft copy)
- Medical Report (with clinic/office seal)

All application forms must be duly completed and endorsed by the Ministry of Foreign Affairs of candidates' respective countries and should be submitted only through the diplomatic channel via Malaysian Embassy / High Commission of Malaysia.

Successful candidates will be duly notified by UCSI University one to month before the commencement of the course.

Incomplete and/or unendorsed forms will not be considered.

Application Deadline: 30 June 2025

COURSE METHODOLOGY

- The course will employ a combination of:
 - Classroom lectures and expert presentations
 - Group discussions and interactive sessions
 - Case studies
 - Study visit

COURSE OUTLINE

Topic 1: Introduction to Science Diplomacy
 Topic 2: Role of Science in Foreign Policy
 Topic 3: International Scientific Cooperation
 Topic 4: Science and Sustainable Development Goals
 Topic 5: Climate Change and Regional Diplomacy
 Topic 6: Technology Transfer and Innovation
 Topic 7: Health Diplomacy
 Topic 8: Science Diplomacy for Disaster Preparedness
 Topic 9: Science Diplomacy for Digital Transformation
 Topic 10: Science Diplomacy for Sustainable Development
 Topic 11: South-South Cooperation

WHAT IS SCIENCE DIPLOMACY

Science diplomacy leverages scientific collaboration to strengthen international relations, tackle global challenges, and foster peace by transcending political boundaries through shared knowledge, while advancing sustainable development. It operates through three key approaches: (1) using science to build diplomatic capabilities, (2) using science to build diplomatic capabilities, (3) using science to build diplomatic capabilities...

OBJECTIVES OF MTCP

- To share development experiences with other developing countries.
- To strengthen bilateral relations between Malaysia and other developing countries.
- To promote South-South Cooperation (SSC) and Technical Cooperation among Developing Countries (TCDC).

CONTACT PERSON FOR ENQUIRY:

Name: Prof. Dr. Mohamed bin Osman, Deputy Director, UCSI-SSDC, UCSI University, Kuala Lumpur, Malaysia.
 Phone No: +603-2346 5224
 Email: Mohebin@ucsi.edu.my

VISA AND VACCINATION

All participants must enter Malaysia with Visa With Reference (VWR). Participants for the programme will receive a copy of the approved letter from UCSI Malaysia. Participants are required to obtain their entry permit from the nearest Malaysian Embassy/High Commission. All costs in relation to obtaining visa to enter Malaysia is to be borne by the participants. Participants from countries listed in the required to obtain necessary vaccination for their respective countries 100 days prior to their departure to Malaysia. Vaccination information certificate in response upon landing in Malaysia.

FELLOWSHIP / SCHOLARSHIP

Participants will receive support from the Government of Malaysia including:

Accommodation: Participants will be accommodated at a hotel in Kuala Lumpur within the vicinity of the course venue. Participants are strictly not allowed to bring any family members during the course.

Daily Allowance: Participants will be provided with daily allowance during the course.

Meals: Meals will be provided throughout the duration of the course.

Air Fares: A return flight ticket from the capital city of the respective country to a hub airport on economy class is provided for participants.

Course Fees: All course fees are borne by the Government of Malaysia.

Dress Code: Participants are required to dress in formal or semi-formal attire throughout the duration of the course, as well as during social activities.

MTCP BACKGROUND

MALAYSIAN TECHNICAL COOPERATION PROGRAMME

The Malaysian Technical Cooperation Programme (MTCP) was initiated at the First Commonwealth Heads of Government Meeting (CHOGM) for the Asia Pacific Region held in Sydney in Feb 1978. It was officially launched on 7 Sept 1980 at the 2nd CHOGRM in New Delhi, India to signify Malaysia's commitment to South-South Cooperation, in particular Technical Cooperation among Developing Countries (TCDC).

The MTCP emphasises the development of human resources through the provision of training in various areas essential for a country's development. These areas include diplomacy and diplomatic practices, economy, good governance, education, tourism, environment, social development, halal industry, safety and security as well as technology, among others. As of 31 Dec 2024, over 38,000 participants from 144 recipient countries have benefited from the various programmes offered under the MTCP.

For more information at

MTCP Official Portal: <https://mtcp.kln.gov.my/> and

MTCP Official Facebook Page: <https://www.facebook.com/MTCPMalaysia>

OBJECTIVES OF MTCP

- To share development experiences with other developing countries
- To strengthen bilateral relations between Malaysia and other developing countries
- To promote South-South Cooperation (SSC)
- To promote Technical Cooperation among Developing Countries (TCDC)

TARGET PARTICIPANTS

The course is open to participants from the African Region, targeting:

- Ministries (Foreign Affairs, Science, Environment and other relevant ministries)
- Government officials and policymakers
- Scientists and researchers
- Middle- and senior-level diplomats
- Universities and research institutions

LEARNING OUTCOMES

At the end of the course, participants will be able to understand and apply the principles of science diplomacy to address global sustainability challenges, accelerate progress towards sustainable development, strengthen South-South and technical cooperation and contribute to science-informed policymaking. They will develop the skills to navigate the science-policy nexus, engage in international collaboration and leverage scientific knowledge to advance national and regional development priorities. Participants will also recognise Malaysia's role through the MTCP and UCSI-IISDS in building capacity and promoting science diplomacy across the Global South.

COURSE METHODOLOGY

The course will employ a combination of methodologies to ensure comprehensive learning.

- Classroom lectures and expert presentations
- Group discussions and interactive sessions
- Individual and group exercises
- Case studies
- Study visits

COURSE OUTLINE

- Topic 1: Introduction to Science Diplomacy
- Topic 2: Role of Science in Foreign Policy
- Topic 3: International Scientific Cooperation
- Topic 4: Science and Sustainable Development Goals
- Topic 5: Climate Change Negotiations
- Topic 6: Biodiversity and Environmental Diplomacy
- Topic 7: Planetary Health Diplomacy
- Topic 8: Technology Transfer and Innovation
- Topic 9: Science Communication for Diplomats
- Topic 10: Strategic Leadership in Science Diplomacy
- Topic 11: South-South Cooperation

MTCP COURSE ON SCIENCE DIPLOMACY FOR THE GLOBAL SOUTH

LE QUADRI,
UCSI UNIVERSITY KUALA LUMPUR
19-28 AUGUST 2025

COURSE PARTICIPANTS & COURSE PROGRAMME

MTCP COURSE PARTICIPANTS

No.	Country	Name of Participant & Affiliation
1.	Angola	Luis Quianica <i>Ministry of Foreign Affairs</i> <i>Email: louisquianicajr917@gmail.com</i>
2.	Croatia	Dr Ina Stasevic <i>Catholic University of Croatia</i> <i>Email: ina.stasevic@gmail.com</i>
3.	Guinea	Barry Thierno Mamadou Alareny <i>Civil officer</i> <i>Ministry Of Foreign Affairs, African Integration And Guineans Abroad</i> <i>Email: mamadoualarenybarry75@gmail.com</i>
4.	Indonesia	Arrozaq Ave <i>Coordinating Ministry For Economic Affairs</i> <i>Email: arrozaq.ave@gmail.com</i>
5.	Lao People's Democratic Republic	Malaxay Khammanichanh <i>Europe-America Department, Ministry of Foreign Affairs, Vientiane Capital</i> <i>Email: malaxayks2709@gmail.com</i>
6.	Madagascar	Ravelomanana Ifanjatiana <i>Ministry of Foreign Affairs</i> <i>Email: ifanjalove2@yahoo.fr</i>
7.	Morocco	Mohamed Aghezaf <i>Ministry of Energy Transition and Sustainable Development of Morocco</i> <i>Email: m.aghezaf@mem.gov.ma</i>
8.	Namibia	Dr Adetunji Anthony Adeyanju <i>International University of Management</i> <i>Email: a.adeyanju@ium.edu.na</i>

No.	Country	Name of Participant & Affiliation
9.	Oman	Tufool Abdullah Alldhah <i>Head of AI Office Ministry of Sultan of Oman Email: tufool.alldhahab@fm.gov.om</i>
10.	Paraguay	Perla García Cristaldo <i>Ministry of Foreign Affairs Email: pgarcia@mre.gov.py</i>
11.	Senegal	Alioune Diagne <i>Ministry of African Integration and Foreign Ministry Email: chiedinguoys335@gmail.com</i>
12.	Tajikistan	Subhon Kurbonov <i>First secretary, Asia Department, Ministry of Foreign Affairs of the Republic of Tajikistan Email: subhondiplomat2008@gmail.com</i>
13.	Timor-Leste	Anibal Antero Soares <i>Specialised technician and assistant for director general Government Ministry Of High Education Science And Culture Email: anibalanterosoares1@gmail.com</i>
14.	Papua New Guinea	Elias Jaromo <i>Senior Foreign Service officer PNG Department of Foreign Affairs Email: elias.jaromo@difa.gov.pg</i>
15.	The Republic of Kazakhstan	Prof Dr Vitaliy Kirillov <i>Deputy chairman of the Board For Research, A.N. Bukeikhan Kazakh Research Institute of Forestry and Agro-Forestry and Wildlife Committee of Minister of Ecology and Natural Resources of the Republic of Kazakhstan Email: vitaliy.kirillov.forest@gmail.com</i>

SCIENCE DIPLOMACY FOR THE GLOBAL SOUTH

MTCP COURSE PROGRAMME

Schedule: 9am – 5pm

Lunch: 1pm – 2pm (Friday: 12pm – 2.30pm)

Coffee Breaks: Morning: 10am – 10.30am

Afternoon: 3pm – 3.30pm (Friday: 3.30pm – 4pm)

Time	Item	Details	Venue / Transport
MONDAY 18 AUG 2025 - ARRIVAL OF COURSE PARTICIPANTS			
	Participants check in at the hotel		Le Quadri Kuala Lumpur, UCSI University
TUESDAY 19 AUG 2025 DAY 1 - INTRODUCTION TO SCIENCE DIPLOMACY			
	OPENING CEREMONY		Senate Meeting Room
0845		Arrival of Participants	
0905		Introduction by Course Coordinator Prof Dr Mohamad Osman Deputy director, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University	
0910		Welcoming Address by Distinguished Prof Tan Sri Dr Zakri Abdul Hamid, FASc Founding director, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University	
0925		Opening Speech by Dato' Peter Ng, FASc Founder and executive chairman, UCSI Group	
0940		Group Photo with Participants	
		End of Opening Ceremony	
1000-1030		Morning Break	

Time	Item	Details	Venue / Transport
Orientation of participants			Chancellery Meeting Room
1030-1100	Ice-breaking and pre-course assessment	Introduction of Course Coordinator, Resource Persons and MTCP Participants Pre-course assessment of participants (conducted before the start of the 10-day programme)	
1100-1145	Lecture 1	Introduction to Science Diplomacy By Distinguished Prof Tan Sri Dr Zakri Abdul Hamid, FASc Founding director, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University	
1145-1230	Lecture 2	Science Diplomacy: Bridging Divides, Building Solutions By Prof Dr Mohamad Osman Deputy director, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University	
1230-1400	LUNCH BREAK		Le Quadri Kuala Lumpur, UCSI University
1400-1530	Lecture 3	Negotiations and Leadership in Science Diplomacy By Distinguished Prof Tan Sri Dr Zakri Abdul Hamid, FASc Founding director, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University Q&A and discussions	Meeting Room 4
1530-1700	Lecture 4	Science Advice to Governments By Prof Dr Tan Wee Hoe Deputy director, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University Q&A and discussions	
END OF DAY 1			
WEDNESDAY 20 AUG 2025 DAY 2 - DIPLOMACY, SCIENCE INTO POLICY, SUSTAINABLE DEVELOPMENT, CLIMATE CHANGE & BIODIVERSITY LOSS			
0900-1030	Lecture 5	Science Into Policy: Global Lessons from Antarctica By Prof Dr Paul Arthur Berkman Founder and president of the Science Diplomacy Center, USA and Faculty Associate with the Programme on Negotiation at Harvard Law School, USA Adjunct Professor, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University	Meeting Room 4
1030-1100	Morning Break		

Time	Item	Details	Venue / Transport
1100-1200	Lecture 6	<p>The 2030 Agenda and the Sustainable Development Goals</p> <p>By Datuk Dr Nadzri Yahaya Former deputy secretary general of Ministry of Natural Resources and Environment Adjunct Professor, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University</p> <p>Q&A and discussions</p>	
1200-1300	Lecture 7	<p>Good Science Directing Solutions to Biodiversity Loss</p> <p>By Dato' Dr Saw Leng Guan Research Fellow, Forest Research Institute Malaysia (FRIM), Kepong</p> <p>Q&A and discussions</p>	
1300-1400		LUNCH BREAK	
1400-1500	Lecture 8	<p>Negotiating the UN Climate Change Treaty</p> <p>Dr Gary William Theseira Director and council member of Climate Governance Malaysia</p> <p>Q&A and discussions</p>	
1500-1700	Breakout Session	<p>Bridging Science and Policy: Collaborative Solutions for Sustainable Development in the Global South</p> <p>In this breakout session, participants will explore how science diplomacy can address pressing global challenges, including climate change, biodiversity loss, and sustainable development in the Global South. Working in two groups, they will discuss strategies to align scientific innovation with policy action, fostering cross-border cooperation to advance the Sustainable Development Goals (SDGs). Through interactive dialogue, participants will share regional perspectives, identify key barriers, and propose actionable solutions to strengthen the science-policy interface for equitable and resilient futures.</p> <p>Discussions : Group 1 & Group 2 Each group selects a leader & rapporteur. Report to Plenary : Group 1 & Group 2</p>	
END OF DAY 2			
THURSDAY 21 AUG 2025 DAY 3 - SCIENCE COMMUNICATION, SDGs, ESG & REGIONAL			
0900-1030	Lecture 9	<p>ASEAN's Transboundary Haze: Why It Keeps Happening and How to Stop It</p> <p>By Prof Dr Mohd Talib Latif Faculty of Science and Technology, Universiti Kebangsaan Malaysia (UKM)</p> <p>Q&A and discussions</p>	Meeting Room 4
1030-1100		Morning Break	

Time	Item	Details	Venue / Transport
1100-1200	Lecture 10	<p>Effective Communication for Science Diplomacy – Bridging Science, Policy, and Global Collaboration in a Divided World</p> <p>By Prof Dato' Dr Ahmad Ibrahim Faculty of Engineering, Technology and Built Environment, UCSI University fellow, International Institute of Science Diplomacy and Sustainability (UCSIISDS), UCSI University</p> <p>Q&A and discussions</p>	
1200-1300	Lecture 11	<p>SDGs and ESG in Diplomacy: Global Goals and National Priorities for a Sustainable Future</p> <p>By Leong Sat Sing Vice president, UCSI Group Sustainability</p> <p>Q&A and discussions</p>	
1300-1400	Lunch Break		
1400-1700	Interactive Session 1	<p>A simulation exercise designed to model multi-stakeholder decisionmaking for the UN's 17 SDGs (established in 2015).</p> <p>The exercise will help participants understand:</p> <ul style="list-style-type: none"> • Complex systems – how economic, social and environmental factors interact. • Negotiation dynamics – how different parties influence policy. • Consensus-building – finding common ground despite conflicting interests. <p>Mechanisms in the exercise:</p> <ul style="list-style-type: none"> • Role-playing – Participants take on different stakeholder roles (e.g., corporate CEO, activist, policymaker). • Resource allocation – Limited budgets require trade-offs (e.g., invest in education or renewable energy). • Conflict resolution – Participants debate and compromise to reach agreements. <p>Moderator: Prof Dr Paul Berkman</p>	
END OF DAY 3			
FRIDAY 22 AUG 2025 DAY 4 - INTERNATIONAL SCIENTIFIC COOPERATION & SUSTAINABILITY			
0900-1030	Lecture 12	<p>Malaysia in the Multilateral Arena: Lessons in Leadership and Negotiation</p> <p>By Director general (TBC) Institute of Diplomacy and Foreign Relations (IDFR) Malaysia</p> <p>Q&A and discussions</p>	Meeting Room 4
1030-1100	Morning Break		

Time	Item	Details	Venue / Transport
1100-1200	Lecture 13	<p>International Scientific Cooperation</p> <p>By Prof Dato' Dr Noraieni Mokhtar Adjunct Professor, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University</p> <p>Q&A and discussions</p>	
1200-1300	Lecture 14	<p>Unmasking the Mind: The Emotional Science of Decision Making for Sustainability</p> <p>By Prof Dr Anantha Kumar Duraiappah, FTWAS, FWAAS Adjunct Professor, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University</p> <p>Q&A and discussions</p>	
1300-1400		Lunch Break	
1400-1530	Lecture 14	<p>Biodiversity And The Environment: An Essential Relationship</p> <p>By Dr Elizabeth Philip Forest Research Institute Malaysia (FRIM), Kepong</p> <p>Q&A and discussions</p>	
1530-1700	Case Study Debates 1 and 2	<p>Case Study 1 (Group 1): Malaysia's Aspiration For Net-Zero Carbon By 2050: Pathways, Challenges, And Opportunities</p> <p>Moderator: Prof Dr Mohamad Osman Deputy director, UCSI-IISDS, UCSI University</p> <p>Case Study 2 (Group 2): Negotiating the Biodiversity Beyond National Jurisdiction (BBNJ) Treaty: Balancing Equity, Conservation, and Global South Interests in Science Diplomacy</p> <p>Moderator: Prof Dato' Dr Noraieni Mokhtar Adjunct Professor, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS)</p> <p>Format:</p> <ol style="list-style-type: none"> 1. Moderator sets the scene (5 mins). 2. Group debate: Arguments for/against (15 mins). 3. Collaborative solution-building (10 mins). <p>Each group selects a leader and rapporteur.</p>	
1800-2200		Course Reception Dinner	Sky Lounge, Level 12, Block G, UCSI University
END OF DAY 4			

Time	Item	Details	Venue / Transport
SATURDAY 23 AUG 2025 DAY 5 - PLANETARY HEALTH			
0700-1300	Study Visit 1	<p>Visit to Forest Research Institute Malaysia (FRIM), Kepong UNESCO World Heritage Site and Forest Skywalk</p> <p>Hosts: Dr Norwati Muhammad Deputy director General (Research), FRIM</p> <p>Dr Elizabeth Philip Head the Climate Change and Forestry Programme, FRIM</p> <p>Q&A and discussions</p>	By bus
1300-1700	Study Visit 2	<p>Visit to One-Stop Learning Center for recycling and drop-off station in Petaling Jaya</p> <p>Hosts: PJ ECO Recycling Plaza, Petaling Jaya</p>	By bus
END OF DAY 5			
SUNDAY 24 AUG 2025 DAY 6			
Free and Easy			

Time	Item	Details	Venue / Transport
MONDAY 25 AUG 2025 DAY 7 - ENVIRONMENT, SOCIAL AND GOVERNANCE (ESG) AND PLANETARY HEALTH			
0900-1030	Lecture 16	<p>The Challenges of Incorporating Environment, Social, and Governance (ESG) in Sustainable Development</p> <p>By Roberto Benetello CEO, Malaysia Recycling Alliance Berhad</p> <p>Q&A and discussions</p>	Meeting Room 4
1030-1100	MORNING BREAK		
1100-1200	Lecture 17	<p>Covid-19 Pandemics: Science Diplomacy in Action</p> <p>By Prof Datuk Ts Ir Dr Siti Hamisah Tapsir, FASc Vice-Chancellor and President, UCSI University</p> <p>Q&A and discussions</p>	
1200-1300	Lecture 18	<p>Science and Diplomacy in Global Treaty-Making, focusing on the Global Plastics Treaty</p> <p>By Assoc Prof Dr Siti Hafsyah Idris Director, Community Network Centre, Office of Industry, Community and Alumni (ICAN), Universiti Teknologi MARA (UiTM), Malaysia</p> <p>Q&A and discussions</p>	
1300-1400	LUNCH BREAK		
1400-1500	Lecture 19 (Online)	<p>Climate Change: Understanding The Key Scientific Findings Of The IPCC Reports And Climate Change Impacts In Global South</p> <p>By Prof Dr Fredolin Tangang Universiti Brunei Darussalam</p> <p>Q&A and discussions</p>	
1500-1600	Lecture 20	<p>Coral Triangle Initiative: Science Diplomacy in Action</p> <p>By Prof Dr Mohd Kushairi Mohd Rajuddin Adjunct Professor, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University</p> <p>Q&A and discussions</p>	
1600-1730	Case Study Debates 3 and 4	<p>Case Study 3 (Group 1): Marine Pollution In Asean – Challenges And Collaborative Solutions</p> <p>Moderator: Prof Dr Mohd Kushairi Mohd Rajuddin Adjunct Professor, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University</p>	

Time	Item	Details	Venue / Transport
1600-1730	Case Study Debates 3 and 4	<p>Case Study 4 (Group 2): Tackling Transboundary Haze In Asean – Collaborative Strategies And On-Going Challenges</p> <p>Moderator: Assoc Prof Dr Liew Ju Neng Faculty of Science and Technology Universiti Kebangsaan Malaysia</p> <p>Format:</p> <ol style="list-style-type: none"> 1. Moderator sets the scene (5 mins). 2. Group debate: Arguments for/against (15 mins). 3. Collaborative solution-building (10 mins). <p>Each group selects a leader and rapporteur.</p>	
END OF DAY 7			
TUESDAY 26 AUG 2025 DAY 8 - STRATEGIC LEADERSHIP IN SCIENCE DIPLOMACY			
0700-1300	Study Visit 3	<p>Visit to Malaysian Palm Oil Board (MPOB), Bangi</p> <p>Hosts: Datuk Dr Ahmad Parveez Hj Ghulam Kadir Director-general of MPOB</p>	By bus
1300-1400	Lunch Break		
1400-1430	Study Visit 4	<p>Visit to MIGHT, Cyberjaya</p> <p>Hosts: Ahmad Razif Mohamad Head of International Partnership, MIGHT</p>	By bus
1430-1530	Lecture 21	<p>Harnessing Foresight and Future Studies to Strengthen Science Diplomacy</p> <p>By Mohd Nurul Azammi Mohd Nudri Director myForesight and senior principal analyst I, (MIGHT)</p> <p>Q&A and discussions</p>	
1530-1700	Lecture 22	<p>Contributions of the Business Sector to STI Diplomacy and Avenues for Engagement</p> <p>By Prof Mohd Zakwan Mohd Zabidi Senior vice president, MIGHT Adjunct Professor, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University</p> <p>Q&A and discussions</p>	
END OF DAY 8			

Time	Item	Details	Venue / Transport
WEDNESDAY 27 AUG 2025 DAY 9 - TECHNOLOGY TRANSFER AND INNOVATION			
0900-1000	Lecture 23	<p>ESG : Reframing Sustainability for the Global South</p> <p>By Prof Dr Eric Chan Wei Chiang International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University</p>	Meeting Room 4
1000-1045	Lecture 24	<p>Sustainability Reporting as a Catalyst for Global South Development: Bridging Science, Policy, and Business Innovation</p> <p>By Leong Sat Sing, Vice president, UCSI Group Sustainability</p>	
1030-1100	Morning Break		
1000-1045	Lecture 25	<p>AI as a Catalyst for Innovation, Equity, Communication, and Governance in the Global South</p> <p>By Asst Prof Dr Ali Khodi Head of Programme, English Language and Communication, UCSI University</p> <p>Q&A and discussions</p>	
1200-1300	Lecture 26	<p>Leveraging AI to Enhance Science, Technology, and Innovation (STI) for Science Diplomacy</p> <p>By Shahrizal Shahrudin Director, Malaysian Science, Technology Information Centre Ministry of Science, Technology and Innovation</p> <p>Q&A and discussions</p>	
1300-1400	Lunch Break		
1200-1300	Lecture 26	<p>Purpose of the Assignment:</p> <ul style="list-style-type: none"> - Apply course concepts to a real or plausible issue relevant to your country, sector or professional background. - Encourage strategic thinking on how science diplomacy can address complex challenges in the environment, economy or governance — or their intersections in the Global South. - Identify a concrete issue, analyse it through a science diplomacy lens and propose strategic, evidence-based and collaborative solutions. - Incorporate international scientific cooperation, policy integration and multilateral diplomacy. <p>Objective: Apply science diplomacy to address a Global South challenge in environment, economy, governance or their intersection.</p> <p>Requirements:</p> <ol style="list-style-type: none"> 1. Topic Proposal – Suggest a relevant issue tied to your country or sector. 2. Written Report – 1,500-2,000 words (Word or PDF), analysing the problem and proposing science-driven solutions. 3. Oral Presentation – A 15-minute PowerPoint presentation summarising key insights. 	
END OF DAY 9			

Time	Item	Details	Venue / Transport
THURSDAY 28 AUG 2025 DAY 10 - SOUTH-SOUTH COOPERATION			
0900-1000	Lecture 27	<p>Strengthening South-South Cooperation</p> <p>By Chee Yoke Ling Executive director of Third World Network</p> <p>Q&A and discussions</p>	Meeting Room 4
1030-1100	Morning Break		
1030-1200	Interactive Session 2	<p>Group 1: INGSA CASE STUDY (Coratesia: Balancing Biodiversity Sustainability & Indigenous Population Interests)</p> <p>Participatory Case Discussion – A collaborative session where participants analyse real-world case studies, share perspectives, and develop problem-solving skills through group interaction.</p> <p>Moderator: Aishwuriya K Kunashankar, INGSA-Asia and Prof Dr Mohamad Osman, UCSI-IISDS, UCSI University</p> <p>Group 2: SIMULATION GAME - GLOBAL BRIDGE BUILDERS</p> <p>A hands-on activity focused on collaboration, resource-sharing and policy coherence, reflecting the key pillars of SDG 17 while addressing real-world challenges faced by Global South countries.</p> <p>Moderator: Prof Dr Mohamad Osman, UCSI-IISDS, UCSI University and Prof Paul Berkman, Adjunct Professor, UCSI-IISDS</p>	
1200-1300	Course Evaluation (Online)	<p>Post-Course Feedback</p> <p>Your feedback is essential to:</p> <ul style="list-style-type: none"> • Improve the curriculum and teaching methods • Enhance future participants' experience • Strengthen science diplomacy in the Global South <p>Please share your honest insights on the course content, delivery and overall impact. Your feedback will help us improve the programme and support the MTCP's mission of fostering international cooperation.</p>	
1300-1400	Lunch Break		

Time	Item	Details	Venue / Transport
CLOSING CEREMONY			Senate Meeting Room
1400		Arrival of Participants and Guests	
1405	Introduction by Course Coordinator	Prof Dr Mohamad Osman Deputy director, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University	
1415	Remarks by	Distinguished Prof Tan Sri Dr Zakri Abdul Hamid, FASc Founding director, International Institute of Science Diplomacy and Sustainability (UCSI-IISDS), UCSI University	
1430	Speech by	Devrin Jeck Undersecretary of International Cooperation and Development Division, Ministry of Foreign Affairs, Malaysia	
1430	Closing Speech by	Distinguished Prof Dr Phang Siew Moi, FASc Deputy vice-chancellor, Research and Postgraduate, UCSI University, Malaysia	
1500		Participants' Testimonials	
1510		Certificate Presentation to Course Participants	
1530		Group Photo with Course Participants	
1545		Refreshments	
1600		End of Closing Ceremony	
END OF THE COURSE			
FRIDAY 29 AUG 2025 - DEPARTURE OF COURSE PARTICIPANTS			
	Participants check out of the hotel		Le Quadri Kuala Lumpur, UCSI University

MTCP COURSE SCHEDULE TABLE

Day	Item	Date & Time Slot	Moderator / Speaker/ Host	Lecture Title
Arrival Day	Check-in	18 Aug		
Day 1	Opening Ceremony	19 Aug, 09.05-09.10	Prof Dr Mohamad Osman	
	Ice-breaking	19 Aug, 10.30-11.00		
	Lecture 1	19 Aug, 11.00-11.45	Tan Sri Dr Zakri Abdul Hamid	Introduction to Science Diplomacy
	Lecture 2	19 Aug, 11.45-12.30	Prof Dr Mohamad Osman	Science Diplomacy: Bridging Divides, Building Solutions
	Lecture 3	19 Aug, 14.00-15.30	Tan Sri Dr Zakri Abdul Hamid	Negotiations and Leadership in Science Diplomacy
Day 2	Lecture 4	19 Aug, 15.30-17.00	Prof Dr Tan Wee Hoe	Science Advice to Governments
	Lecture 5	20 Aug, 09.00-10.30	Prof Dr Paul Arthur Berkman	Science into Policy: Global Lessons from Antarctica
	Lecture 6	20 Aug, 11.00-12.00	Datuk Dr Nadzri Yahaya	The 2030 Agenda and the Sustainable Development Goals
	Lecture 7	20 Aug, 12.00-13.00	Dato' Dr Saw Leng Guan	Good Science Directing Solutions to Biodiversity Loss
	Lecture 8	20 Aug, 14.00-15.00	Dr Gary William Theseira	Negotiating the UN Climate Change Treaty
Day 3	Breakout Session	20 Aug, 15.00-17.00	Prof Dr Mohamad Osman	Bridging Science and Policy: Collaborative Solutions for Sustainable Development in the Global South
	Lecture 9	21 Aug, 09.00-10.30	Prof Dr Mohd Talib Latif	ASEAN's Transboundary Haze: Why It Keeps Happening and How to Stop It
	Lecture 10	21 Aug, 11.00-12.00	Prof Dato' Dr Ahmad Ibrahim	Effective Communication for Science Diplomacy - Bridging Science, Policy, and Global Collaboration in a Divided World
	Lecture 11	21 Aug, 12.00-13.00	Leong Sat Sing	SDGs and ESG in Diplomacy: Global Goals and National Priorities for a Sustainable Future
	Interactive Session 1	21 Aug, 14.00-15.30	Prof Dr Paul Berkman	SDGs Simulation: Multi-stakeholder Decision-making Exercise

Day	Item	Date & Time Slot	Moderator / Speaker/ Host	Lecture Title
Day 4	Lecture 12	22 Aug, 09.00-10.30	Dato' Agus Salim Yusof	Malaysia in the Multilateral Arena: Lessons in Leadership and Negotiation
	Lecture 13	22 Aug, 11.00-12.00	Prof Dato' Dr Noraieni Mokhtar	International Scientific Cooperation
	Lecture 14	22 Aug, 12.00-13.00	Prof Dr Anantha Kumar Duralappah	Unmasking the Mind: The Emotional Science of Decision Making for Sustainability
	Lecture 15	22 Aug, 14.00-15.30	Dr Elizabeth Philip	Biodiversity And The Environment: An Essential Relationship
	Case Study 1	22 Aug, 15.30-17.00	Prof Dr Mohamad Osman	Malaysia's Aspiration For Net-Zero Carbon By 2050
	Case Study 2		Prof Dato' Dr Noraieni Mokhtar	Negotiating the Biodiversity Beyond National Jurisdiction (BBNJ) Treaty
Day 5	Course Dinner	22 Aug, 18:00-22:00		
	Study Visit 1	23 Aug, 07.00-13.00	Dr Norwati Muhammad, DDG FRIM	
	Study Visit 2	22 Aug, 13.00-17.00	PJ ECO	
Day 7	Lecture 16	25 Aug, 09.00-10.30	Roberto Benetello	The Challenges of Incorporating ESG in Sustainable Development
	Lecture 17	25 Aug, 11.00-12.00	Prof Datuk Ts Ir Dr Siti Hamisah Tapsir	Covid-19 Pandemics: Science Diplomacy in Action
	Lecture 18	25 Aug, 12.00-13.00	Assoc Prof Dr Stil Hafsyah Idris	Science and Diplomacy in Global Treaty-Making, focusing on the Global Plastics Treaty
	Lecture 19 (Online)	25 Aug, 14.00-15.00	Prof Dr Fredolin Tangang	Climate Change: Understanding The Key Scientific Findings Of The IPCC Reports And Climate Change Impacts In Global South
	Lecture 20	25 Aug, 15.00-16.00	Prof Dr Mohd Kushairi Mohd Rajuddin	Coral Triangle Initiative : Science Diplomacy in Action
	Case Study 3	25 Aug, 16.00-17.30		Marine Pollution In Asean
	Case Study 4		Assoc Prof Dr Liew Ju Neng	Tackling Transboundary Haze In Asean – Collaborative Strategies

Day	Item	Date & Time Slot	Moderator / Speaker/ Host	Lecture Title
Day 8	Study Visit 3	26 Aug, 07.00-13.00	Datuk Dr Ahmad Parveez, DG MPOB	
	Study Visit 4	26 Aug, 14.00-14.30	Ahmad Razif Mohamad, MIGHT	
	Lecture 21	26 Aug, 14.30-15.30	Mohd Nurul Azammi	Harnessing Foresight and Future Studies to Strengthen Science Diplomacy
	Lecture 22	26 Aug, 15.30-17.00	Prof Mohd Zakwan Mohd Zabidi	Contributions of the Business Sector to STI Diplomacy and Avenues for Engagement
Day 9	Lecture 23	27 Aug, 09.00-10.00	Prof Dr Eric Chan Wei Chiang	ESG : Reframing Sustainability for the Global South
	Lecture 24	27 Aug, 10.00-10.45	Leong Sat Sing	Sustainability Reporting as a Catalyst for Global South Development: Bridging Science, Policy, and Business Innovation
	Lecture 25	27 Aug, 11.00-12.00	Asst Prof Dr Ali Khodi	AI as a Catalyst for Innovation, Equity, Communication, and Governance in the Global South
	Lecture 26	27 Aug, 12.00-13.00	Shahrizal Shahrudin	Leveraging AI to Enhance Science STI for Science Diplomacy
	Individual Assignments	27 Aug, 14.00-17.00	Prof Dr Mohamad Osman	Applying Course Concepts
	Lecture 27	28 Aug, 09.00-10.00	Chee Yoke Ling	Strengthening South-South Cooperation
Day 10	Interactive Session 2	28 Aug, 10.30-12.00	Aishwuriya K Kunashankar Prof Dr Mohamad Osman Prof Paul Berkman	Group 1: INGSA Case Study - Coralesia: Balancing Biodiversity Sustainability & Indigenous Population Interests Group 2: Simulation Game on SDG 17 - Global Bridge Builders
	Course Evaluation	28 Aug, 12.00-13.00		
	Closing Ceremony	28 Aug, 14.00-16.00	Certificate Presentation	
Departure Day	Check-out	29 Aug		

LECTURES AND PRESENTATIONS

SYNOPSIS

Sustainability is a dynamic and evolving concept rooted in early environmentalism but now encompassing economic and social dimensions. With the rise of global frameworks like the SDGs, it has become a cornerstone of international development efforts. Key challenges include balancing economic growth with environmental preservation, addressing critiques of the mainstream sustainability paradigm and managing trade-offs between short-term gains and long-term planetary health. The future of sustainability will be shaped by technological innovation, the green economy and the integration of sustainability into governance structures.

At its core, sustainability is the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs. It involves a balanced approach to economic development, environmental protection and social equity. In essence, sustainability focuses on long-term strategies that foster a healthy planet, ensure fair access to resources and promote economic opportunities for all. This concept is crucial for addressing global challenges such as climate change, resource depletion and social inequalities.

INTRODUCTION TO SCIENCE DIPLOMACY

By **Distinguished Prof Tan Sri Dr Zakri Abdul Hamid, FASc**

UCSI University's International Institute of Science Diplomacy and Sustainability founding director

Diplomacy is an ancient practice. It has been termed the art of conversation, where an ambassador is sent abroad to serve the interests of his country. Traditionally, it demanded absolute loyalty to the sovereign and the nation.

In our part of the world, diplomacy has deep historical roots. The sultans of the Malacca Sultanate, for example, sent emissaries to the Ming Dynasty court in the 14th century, seeking protection from the invading forces of neighbouring Ayutthaya. This was the era when the legendary Admiral Zheng He brought his armadas to Malacca and the Chinese emperor gifted the sultan with a bride, his own daughter, Hang Li Po.

When Japan insisted on isolating itself from foreigners, American Commodore Matthew Perry sailed his "black ships" into Edo Bay in 1853 and fired cannon shots. This act of "gunboat diplomacy" paved the way for Japan's reopening after 200 years of self-isolation. While the concept of science diplomacy may seem relatively new, its application built around three key principles has existed for some time. A 2010 report by the Royal Society elaborates on these three dimensions: the role of scientific findings in diplomatic efforts (Science in Diplomacy), how diplomacy supports scientific endeavours (Diplomacy for Science) and how scientific collaborations foster international relations (Science for Diplomacy).

1. Science in Diplomacy – Using scientific knowledge to inform and advise foreign policy decisions. This is evident in negotiations where diplomats work alongside scientists who present facts and data, enabling a clearer understanding of complex issues.
2. Diplomacy for Science – Diplomatic efforts that promote international cooperation on complex mega-projects, achievable only through shared expertise from diverse fields and regions. Diplomats play a crucial role by removing barriers and streamlining procedures.
3. Science for Diplomacy – A diplomatic approach supported by scientists to strengthen international relations. For example, developing a new cure for a disease benefits all parties and can help reconcile differences as shared scientific goals take precedence over political disputes.

In modern times, advances in science and technology have made them indispensable tools in diplomacy. During the Cold War (1947–1991), the Soviet Union and the USA engaged in a nuclear arms race that risked escalating into World War III. Fortunately, scientists from both nations maintained active collaborations, building goodwill and trust that helped ease political tensions and avert catastrophe.

Another example is the demilitarisation of Antarctica. Through the Antarctic Treaty (1959), competing claims among technologically advanced nations were resolved peacefully, turning the continent into a zone of peace for all humanity.

Today, science is seen as a panacea for solving intractable global challenges such as climate change, biodiversity loss and plastic pollution. These multidisciplinary issues demand multilateral solutions, making science diplomacy more relevant than ever.

SCIENCE DIPLOMACY: BRIDGING DIVIDES, BUILDING SOLUTIONS

By **Prof Dr Mohamad Osman**

UCSI University, International Institute of Science Diplomacy and Sustainability deputy director

In an era marked by geopolitical tensions and complex global challenges—from climate change to pandemics—science diplomacy emerges as a powerful, unifying force. Defined as the use of scientific collaboration to strengthen international relations, it originally operated through three key pillars established in 2010: Diplomacy for Science (fostering policies that enable research), Science for Diplomacy (using cooperation to build trust) and Science in Diplomacy (informing policy with evidence). However, recent consultations have introduced a critical fourth pillar - Diplomacy in Science - to address long-overlooked conflicts within scientific ecosystems, such as open-access disputes, dual-use research oversight and North-South research equity. Unlike traditional diplomacy, which often prioritises national interests, science diplomacy thrives on neutrality, shared knowledge and innovation, making it indispensable for sustainability and peace.

The urgency of science diplomacy is clear. No single nation can combat climate change, biodiversity loss or health crises alone. Initiatives like the Paris Agreement and the Antarctic Treaty System demonstrate how science transcends political rivalries, turning competition into collaboration. During the COVID-19 pandemic, rapid vaccine development and distribution were made possible through international scientific partnerships, proving that shared challenges demand shared solutions. Yet earlier frameworks fell short by neglecting the need for diplomacy to mediate science's internal tensions - a gap the new pillar seeks to bridge.

The benefits are profound. For one, informed policies, where evidence-based decisions, such as those guided by the IPCC, ensure effective climate action. Next, a neutral ground where science provides a common language, fostering consensus amid division. There is also innovation, with collaborative projects such as CERN driving breakthroughs while uniting diverse expertise. Finally, peacebuilding, where joint research initiatives create lasting diplomatic ties, as seen in Cold War-era space cooperation.

Yet, the potential of science diplomacy remains underutilised. Misinformation and communication gaps hinder progress, emphasising the need for strategic outreach. Emerging technologies—AI, 6G networks and citizen science—offer new tools to enhance transparency and public engagement. Landmark agreements like the Global Plastic Pollution Treaty and the BBNJ Treaty highlight science's role in shaping equitable, global frameworks.

As Albert Einstein warned, solving today's crises requires new thinking. Science diplomacy is that paradigm shift: a trust-driven, inclusive approach to securing a sustainable future. By embracing all four pillars—including the newly vital Diplomacy in Science - we can address both external challenges and internal fractures within the scientific community. The time to harness its full power is now - because in a fractured world, science remains humanity's universal ally.

SCIENCE ADVICE TO GOVERNMENTS

By **Prof Dr Tan Wee Hoe**

UCSI University, International Institute of Science Diplomacy and Sustainability deputy director

Science advice to governments is increasingly vital in enabling evidence-informed policymaking, particularly in an era marked by complex global challenges such as pandemics, climate change and digital transformation. This lecture provides an integrated overview of science advisory mechanisms—formal and informal—and emphasises the interplay between scientific independence, political receptivity and cultural relevance in shaping impactful advice. Particular focus will be placed on the role of boundary-spanning individuals and institutions, as well as strategies for strengthening national capacities for science advice through international cooperation, such as the Malaysia Technical Cooperation Programme. While drawing from Asian case studies, including Malaysia's multisectoral approaches and cross-ministry engagements, the lecture also critically engages with what science advice is not—namely, it is not about political lobbying or scientific absolutism, both of which can undermine public trust and policy legitimacy. Emerging tools such as evidence synthesis platforms, AI-assisted foresight and deliberative democratic mechanisms will be discussed as promising pathways forward. Ultimately, the session aims to empower participants from African countries to adapt and contextualise science advisory practices within their own institutional settings, fostering more resilient, inclusive and accountable governance frameworks.

SCIENCE INTO POLICY: GLOBAL LESSONS FROM ANTARCTICA

By **Prof Dr Paul Arthur Berkman**

USA Science Diplomacy Centre, founder and president
Harvard Law School Negotiation Programme faculty associate
UCSI University, International Institute of Science Diplomacy and Sustainability adjunct professor

Antarctica, the Earth's most remote continent, stands as a testament to the power of international cooperation and the transformative role of science in shaping policy. Far more than a frozen wilderness of penguins and icebergs, it is a living laboratory where exploration transcends geography, offering profound lessons for global stewardship in an era of ecological and geopolitical challenges. Drawing from decades of immersive experience - from wintering at McMurdo Station in 1981 to teaching interdisciplinary courses like Antarctic Marine Ecology and Policy - this lecture unravels how Antarctica's unique governance model, forged during the 1959 Antarctic Treaty, exemplifies the marriage of science and policy. By examining historical milestones like the International Geophysical Year (1957-1958), we will explore how scientific collaboration dissolved political barriers, turning a contested frontier into a "global commons" dedicated to peace and sustainability. The lecture will highlight Antarctica's ecosystems as microcosms of planetary dynamics, where krill fisheries and ice-core climatology reveal the delicate balance between resource use and conservation. Through case studies like the Antarctic Treaty Searchable Database—a pioneering tool for navigating complex international agreements - we will dissect how interdisciplinary frameworks (blending law, ecology and geopolitics) can inform climate diplomacy and biodiversity protection worldwide. Ultimately, Antarctica's legacy - as a beacon of curiosity-driven science and adaptive governance - offers a blueprint for addressing 21st-century crises, from rising sea levels to transboundary pollution. By reigniting the childlike wonder that fuels inquiry, this lecture invites audiences to rethink policy-making as a collaborative, science-driven endeavour, proving that even the most distant corners of the Earth hold universal lessons for humanity's sustainable future.

THE 2030 AGENDA AND THE SUSTAINABLE DEVELOPMENT GOALS

By **Datuk Dr Nadzri Yahaya**

Ministry of Natural Resources and Environment former deputy secretary-general
UCSI University International Institute of Science Diplomacy and Sustainability adjunct professor

Adopted by all UN member states in 2015, the 2030 Agenda for Sustainable Development is a universal call to action to end poverty, protect the planet and ensure prosperity for all by 2030. At its core are the 17 Sustainable Development Goals (SDGs), an integrated framework addressing urgent global challenges - from climate change and inequality to health, education and sustainable economies.

Unlike their predecessors, the Millennium Development Goals, the SDGs emphasise universality, requiring both developed and developing nations to collaborate. They balance three dimensions of sustainability: economic growth, social inclusion and environmental protection. Key goals include SDG 1 (No Poverty), SDG 13 (Climate Action) and SDG 5 (Gender Equality), reflecting a holistic approach to development.

Progress has been mixed, with advancements in renewable energy and poverty reduction, yet setbacks from COVID-19, conflicts and rising inequalities. Success hinges on multistakeholder partnerships, innovative financing and data-driven policies. Critics highlight gaps in accountability and funding, but the SDGs remain the world's best roadmap for equitable, resilient futures.

The 2030 Agenda isn't just a policy—it's a shared vision demanding urgent, transformative action. With just six years left, accelerating progress requires bold leadership, technology and grassroots mobilisation to leave no one behind.

GOOD SCIENCE DIRECTING SOLUTIONS TO BIODIVERSITY LOSS

By **Dato' Dr Saw Leng Guan**

Forest Research Institute Malaysia research fellow

More than one million species of animals and plants are currently at risk of extinction. This paper focuses on direct factors contributing to biodiversity decline and examines the role of scientific research in addressing these issues, with specific reference to Malaysia. Incorporating scientific understanding into conservation practices may improve the ability to identify and manage the various elements influencing biodiversity loss. Science-based strategies can assist with making informed choices and optimising conservation measures. Using Malaysia as an example, policies guided by evidence can be expanded through global assessments such as Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, which may guide international processes like the Convention on Biological Diversity.

NEGOTIATING THE UN CLIMATE CHANGE TREATY

By **Dr Gary William Theseira**

Climate Governance Malaysia director and council member

The UN Climate Change Treaty, epitomised by the Paris Agreement, represents humanity's collective effort to combat global warming. Negotiations are a complex, high-stakes balancing act, requiring consensus among 196 parties with divergent economic interests, vulnerabilities and responsibilities. Developed nations, historically the largest emitters, face pressure to lead in emissions cuts and climate financing, while developing countries demand support to transition sustainably without sacrificing growth.

Key challenges include setting binding emission targets, ensuring transparency and mobilising the pledged \$100 billion annually in climate finance. The principle of Common but Differentiated Responsibilities remains contentious, as emerging economies like China and India resist stringent obligations, citing equity concerns. Meanwhile, small island states and vulnerable nations push for urgent, ambitious action to survive rising seas and extreme weather.

Diplomatic finesse is critical - success hinges on compromise, trust and enforceable accountability mechanisms. The Paris Agreement's flexibility, allowing nationally determined contributions, was a breakthrough, but implementation gaps persist. As COP summits unfold, geopolitical tensions, economic crises and shifting power dynamics further complicate talks.

The treaty's ultimate test lies in translating pledges into tangible results. With the climate clock ticking, negotiations must accelerate ambition while ensuring fairness - a daunting yet indispensable task for securing a liveable planet.

ASEAN'S TRANSBOUNDARY HAZE: WHY IT KEEPS HAPPENING AND HOW TO STOP IT

By **Prof Dr Mohd Talib Latif**

Universiti Kebangsaan Malaysia, Department of Earth Sciences and Environment chairman

Haze from peat combustions and biomass burning affects large numbers of people in the affected Southeast Asian countries. "Slash and burn" agricultural activities, deforestation and oil palm plantations on peat areas, were identified as the contributing factors to high intensity combustions. The high amount of suspended particulate matter in the haze deteriorates the air quality, causing low visibility. The dry periods caused by the El Niño - Southern Oscillation prolong the duration of poor air quality. The composition of particulate matter in haze samples indicates that haze is dominated by fine particles. Particulate matter collected during haze episodes was dominated by organic substances and secondary inorganic aerosols, mostly originating from biomass burning regions. Haze episodes have contributed to increasing hospital attendees for treatments related to chronic obstructive pulmonary diseases, upper respiratory infections, asthma and rhinitis. Children and senior citizens are more likely to suffer the health impacts. Several ways forward to reduce haze episodes in Southeast Asia and Malaysia have been suggested. These include proper management of peat areas, definitive economic approaches that promote utilisation of the "unwanted" biomass as a source of electrical power generation, comprehensive scientific collaborations on haze composition studies, meteorological and air quality forecasting and health impact assessments.

COVID-19 PANDEMICS: SCIENCE DIPLOMACY IN ACTION

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

UCSI University vice-chancellor and president

The COVID-19 pandemic became a defining test of global scientific collaboration, and Malaysia's Ministry of Science, Technology and Innovation (MOSTI) played a pivotal role in demonstrating how science diplomacy could turn crisis into opportunity. As borders closed and supply chains faltered, MOSTI spearheaded international partnerships to secure vaccine access, sharing critical data and coordinating with global initiatives like COVAX while fostering homegrown research in diagnostics and treatment. This dual approach—combining local innovation with global cooperation—ensured Malaysia could respond swiftly and effectively to the evolving threat.

At the heart of the response was a commitment to evidence-based governance, where real-time scientific data shaped lockdown policies, testing strategies and public health messaging. MOSTI's leadership in coordinating research institutions, tech firms and medical experts led to breakthroughs in AI-driven contact tracing, low-cost ventilator production and vaccine trials. The National Vaccine Development Roadmap not only accelerated immunisation but also positioned Malaysia as a regional leader in health security, strengthening ties with ASEAN and global partners.

Beyond logistics, the pandemic underscored the soft power of science diplomacy - bridging political divides through shared knowledge and equitable resource distribution. MOSTI's transparent communication and crisis-driven innovation built public trust while showcasing Malaysia's capacity for technological resilience.

The legacy of this era is clear: when nations invest in collaborative science, they gain more than solutions - they forge alliances that outlast emergencies. Malaysia's pandemic response proved that in an interconnected world, science is the ultimate diplomatic language.

EFFECTIVE COMMUNICATION FOR SCIENCE DIPLOMACY - BRIDGING SCIENCE, POLICY AND GLOBAL COLLABORATION IN A DIVIDED WORLD

By **Prof Dato' Dr Ahmad Ibrahim,**

UCSI University, International Institute of Science Diplomacy and Sustainability fellow and Faculty Of Engineering, Technology and Built Environment professor

In an era of complex global challenges - from climate change to pandemics - science diplomacy has emerged as a critical tool for fostering international cooperation, de-escalating conflicts and advancing shared human interests. Yet even the most robust scientific evidence fails without effective communication. This lecture unpacks the art and strategy of communicating science across cultural, political and disciplinary boundaries to drive action, build trust and navigate power dynamics. Key themes include why science diplomacy needs unique communication skills, tailoring messages for policymakers, publics and adversaries. Core principles for impact include balancing scientific rigour with accessibility, avoiding pitfalls of jargon, symbolism and unspoken norms as well as building trust through dialogue (not monologue). Tools include using storytelling, visuals and metaphors without oversimplifying. Attendees will gain actionable strategies to translate complex science into policy-ready insights, foster dialogue in low-trust environments and position science as a neutral convening force - even amid geopolitical tensions. In science diplomacy, how you communicate determines whether evidence bridges divides or deepens them.

SDGs AND ESG IN GLOBAL DIPLOMACY: GLOBAL GOALS AND NATIONAL PRIORITIES FOR A SUSTAINABLE FUTURE

By **Leong Sat Sing,**

UCSI Group Sustainability, Office vice-president

The Sustainable Development Goals (SDGs) and Environmental, Social, and Governance (ESG) principles are not just moral imperatives—they are strategic necessities for nations in an interconnected world. The convergence of SDGs and ESG principles is reshaping global diplomacy and national development strategies. International diplomatic efforts can be guided by shared sustainability goals while being implemented through nationally tailored ESG priorities. The role of diplomats, policymakers, and corporate leaders grows in aligning global aspirations with local realities, especially in the face of climate change, social inequality, and governance challenges.

SUSTAINABILITY REPORTING AS A CATALYST FOR GLOBAL SOUTH DEVELOPMENT

By **Leong Sat Sing,**

UCSI Group Sustainability, Office vice-president

As the global push for sustainable development intensifies, the role of transparent and accountable sustainability reporting has become increasingly critical—especially for countries in the Global South. Sustainability reporting can serve not merely as a compliance exercise, but as a strategic tool for driving inclusive growth, attracting responsible investment, and influencing policy reforms. By highlighting localised challenges and opportunities, Environmental, Social, and Governance (ESG) disclosures can empower institutions, uplift communities, and align national development goals.

MALAYSIA IN THE MULTILATERAL ARENA: LESSONS IN LEADERSHIP AND NEGOTIATION

By **Dato' Agus Salim Yusof**

Institute of Diplomacy and Foreign Relations, Centre for Leadership, Negotiation and Public Diplomacy director

Malaysia has carved a distinctive role in multilateral diplomacy, blending principled advocacy with pragmatic engagement. As a founding ASEAN member and current chair in 2025, Malaysia continues to shape regional and global agendas, from trade to climate resilience. Its leadership reflects a commitment to consensus-building, evident in its mediation roles, promotion of moderate Islamic discourse and unwavering support for developing nations.

Central to Malaysia's success is its ability to balance competing interests. In ASEAN, it bridges divides, advancing economic integration while managing great-power tensions. Globally, it champions equitable solutions - whether in UN debates on Palestine or climate finance negotiations. Malaysia's tenure in the Security Council (2015-2016) demonstrated its knack for strategic negotiation, securing compromises without compromising sovereignty.

Soft power remains a key asset. Through humanitarian initiatives, sustainable development advocacy and cultural diplomacy, Malaysia amplifies its influence. Its leadership in the OIC and NAM underscores its role as a voice for the Global South, pushing for fairer global governance.

Yet challenges persist - navigating US-China rivalries, ensuring ASEAN unity and translating rhetoric into tangible outcomes. As ASEAN chair, Malaysia faces the test of steering the bloc through geopolitical turbulence while upholding its neutral stance.

Malaysia's multilateral journey offers a playbook for middle powers: leverage diplomacy, uphold principles and master the art of negotiation. In an era of fragmentation, its approach proves that influence stems not from size, but from strategic vision and steadfast diplomacy.

INTERNATIONAL SCIENTIFIC COOPERATION

By **Prof Dato' Dr Noraieni Haji Mokhtar**

UCSI University, International Institute of Science Diplomacy and Sustainability adjunct professor

Science diplomacy lies at the intersection of science and international relations. International scientific cooperation serves as a valuable platform to foster diplomacy, address global issues and tackle challenges related to economic growth, governance and sustainability. It plays a vital role in enhancing collaboration to achieve various objectives, including capacity building, South–South cooperation, policy and governance, geopolitical positioning as well as sustainability and resilience.

Countries in the Global South often face significant challenges in scientific and technical capacity. International cooperation helps these nations build human resources and infrastructure through partnerships, knowledge sharing and joint research initiatives.

This section of the course provides a general understanding of the institutional framework, bilateral and multilateral agreements, funding mechanisms and international collaborative research and development, along with best practices and successful case studies. Discussions will highlight the competitive roles and opportunities to participate in intergovernmental scientific organisations, as well as international scientific cooperation towards achieving the Sustainable Development Goals. This includes addressing climate change, combating pollution, finding solutions to energy and water challenges, acquiring technology, strengthening disaster preparedness, improving data management and advancing sustainable circular and blue economies.

Science–policy experts in communication, together with impact-focused diplomatic strategists, are essential in addressing key issues such as climate change, biodiversity loss, public health and sustainable development. Increased awareness, knowledge and skills in science diplomacy for the Global South will facilitate international cooperation that empowers nations, strengthens political will, enhances scientific capabilities and promotes sustainable development through collaborative efforts tailored to regional and global challenges.

UNMASKING THE MIND: THE EMOTIONAL SCIENCE OF DECISION MAKING FOR SUSTAINABILITY

By **Prof Dr Anantha Kumar Duraiappah, FTWAS, FWAAS**

UCSI University, International Institute of Science Diplomacy and Sustainability adjunct professor

As we stand on the brink of missing the 2030 Sustainable Development Goals targets, the urgency of our situation becomes clear. Despite the rationality of striving for these goals to better humanity, a more powerful force is at play: our emotions. The work of behavioural economists, including Daniel Kahneman and Dan Ariely, has shown that our actions are often predictably irrational. What fuels this irrationality?

In this lecture, we will examine the profound influence of emotions on decision-making, challenging the notion that rational thought alone determines our choices. By drawing on insights from psychology, neuroscience and behavioural economics, we will reveal how emotions—both conscious and unconscious—shape our judgments, affect our risk perceptions and influence our daily decisions. You will learn how emotions like fear, anxiety, anger, excitement and regret can influence logical reasoning, and how we can harness our emotional intelligence for both personal and professional outcomes.

ESG : REFRAMING SUSTAINABILITY FOR THE GLOBAL SOUTH

By **Prof Dr Eric Chan Wei Chiang**

UCSI University, International Institute of Science Diplomacy and Sustainability

Sustainability is no longer a moral obligation defined by the Global North. It is an economic opportunity the Global South cannot afford to miss. ESG, which refers to Environment, Social and Governance (ESG), is evolving from a reporting framework into a strategic tool for competitiveness, resilience and growth. The Global South, represented by the G77, now stands in contrast to the OECD-led Global North, as multipolarity reshapes technological leadership and green industry. China, India and ASEAN, collectively known as the CIA nations, are at the forefront of this shift. They already dominate solar, battery and electric vehicle production and are rapidly expanding in areas such as carbon markets and bioeconomy innovation. For ASEAN in particular, exceeding basic climate commitments is not a concession. It is an investment. Early leadership in scalable, regionally appropriate solutions such as algae-based carbon capture and regenerative technologies positions ASEAN as a green manufacturing hub, enhances trade resilience under mechanisms such as the EU's CBAM, and unlocks access to global green capital. ESG, when reframed for regional realities, becomes a pathway for the Global South to shape the future of sustainable development and secure both climate credibility and economic prosperity.

BIODIVERSITY AND THE ENVIRONMENT: AN ESSENTIAL RELATIONSHIP

By **Dr Elizabeth Philip**

Forest Research Institute Malaysia

Biodiversity refers to the vast array of life forms on Earth, encompassing everything from the smallest microorganisms to the largest animals, along with the ecosystems they inhabit. It includes variation within species (genetic diversity), among species and between ecosystems. This richness of life is more than just a catalog of species—it is a crucial indicator of environmental health and a key element in maintaining the stability and resilience of our planet's natural systems.

The importance of biodiversity is profound and far-reaching. Ecologically, a diverse range of species ensures the sustainability of ecosystems by enabling them to withstand and recover from disruptions such as disease outbreaks, climate events and human activities. Biodiversity acts as nature's insurance policy, enhancing the ability of natural systems to remain balanced and productive.

Beyond its ecological role, biodiversity holds significant economic value. Industries such as agriculture, medicine and tourism rely heavily on the diversity of life. Countless pharmaceutical compounds are derived from plant and animal sources, and many agricultural systems depend on biodiversity for pollination, pest control and soil fertility. The natural world also provides invaluable ecosystem services like air and water purification, waste decomposition and climate regulation—functions that are essential for human survival.

Biodiversity also has cultural and aesthetic dimensions. Many societies draw deep spiritual, cultural and traditional meaning from the natural environment. Landscapes rich in biodiversity offer not only recreational opportunities but also inspiration and a sense of connection to the Earth.

However, despite its critical importance, biodiversity is increasingly under threat due to human activities. Deforestation and habitat destruction—often driven by agricultural expansion, urban development and mining—are major causes of species loss. Pollution of air, water and soil harms countless organisms and disrupts delicate ecosystems. Climate change is rapidly altering habitats, putting pressure on species that cannot adapt quickly enough. Overexploitation of resources through practices like overfishing and unsustainable logging depletes species populations. Additionally, the introduction of invasive species can unbalance ecosystems by outcompeting or preying on native species.

Addressing these threats requires a multifaceted approach to conservation. Establishing protected areas such as national parks and marine sanctuaries helps to safeguard vital habitats. Environmental legislation and international agreements, such as the Convention on Biological Diversity, provide a legal framework for protecting species and ecosystems. Promoting sustainable practices in agriculture, forestry and fisheries can minimise environmental damage and ensure that natural resources are available for future generations. Equally important is public awareness—educating individuals and communities about the value of biodiversity can inspire more responsible behaviours and active participation in conservation efforts.

In conclusion, biodiversity and the environment are inseparably linked. The survival of all life on Earth, including humanity, depends on the health and balance of the planet's ecosystems. Preserving biodiversity is not only an ecological imperative but also a moral responsibility. By adopting sustainable lifestyles, enforcing protective laws and nurturing a deep respect for nature, we can ensure a thriving, resilient world for generations to come.

THE CHALLENGES OF INCORPORATING ENVIRONMENT, SOCIAL, AND GOVERNANCE (ESG) IN SUSTAINABLE DEVELOPMENT

By **Roberto Benetello**

Malaysia Recycling Alliance Berhad chief executive officer

The integration of Environmental, Social and Governance (ESG) principles into corporate strategy is now widely recognised as a business imperative in addressing the world's most pressing sustainability challenges, including climate change, biodiversity loss and the breach of planetary boundaries as outlined by the Stockholm Resilience Centre.

This session explores how businesses can align with the United Nations Sustainable Development Goals while navigating the complexities of integrating ESG considerations into their operations, governance structures and decision-making processes. It underscores that ESG is not merely a reputational concern or compliance task, but a strategic lever for long-term resilience, value creation and risk management.

In the Malaysian context, ESG adoption is accelerating through regulatory frameworks, reporting standards and market trends, including the Bursa Malaysia's National Sustainability Reporting Framework, which requires listed companies to disclose Scope 1 and 2 GHG emissions. Malaysian Code on Corporate Governance, which encourages boards to integrate sustainability considerations into oversight functions and the Joint Committee on Climate Change, in advancing climate risk assessment tools and transition finance guidelines for financial institutions. As ESG standards become more rigorous, businesses must prepare for deeper disclosures on climate-related risks, sector-specific metrics and alignment with investor-grade data.

The session also unpacks the rise of stakeholder governance, where expectations from employees, regulators, communities and financiers are reshaping corporate accountability. As capital markets increasingly acknowledge the importance of ESG risks, companies are under pressure to demonstrate credible ESG governance structures that go beyond disclosures.

Furthermore, the global trend of ESG litigation and greenwashing scrutiny (e.g. investigations into mislabelled green bonds and exaggerated climate claims in Europe and the U.S.) signals a growing legal and reputational risk for companies failing to ensure data integrity and transparency.

In summary, the integration of ESG into sustainable development is no longer a matter of brand positioning but a core driver of risk management, fiduciary duty and strategic resilience. Malaysian companies must not only align with global frameworks but also localise ESG approaches to reflect sector-specific risks and opportunities, enabling them to contribute meaningfully to sustainable development while safeguarding long-term business continuity.

SCIENCE AND DIPLOMACY IN GLOBAL TREATY-MAKING, FOCUSING ON THE GLOBAL PLASTICS TREATY

By **Assoc Prof D. Siti Hafsyah Idris, Director, Community Network Centre**

Universiti Teknologi MARA, Office of Industry, Community and Alumni, Community Network Centre director

This lecture explores the crucial interplay between international law negotiations and science diplomacy in tackling complex global issues, particularly focusing on the Global Plastics Treaty. In today's interconnected world, effective diplomacy increasingly hinges on scientific understanding and robust legal frameworks.

We will start by examining the core principles of international law negotiations, tracing their evolution and identifying key players like states and international organisations. We will delve into fundamental legal principles such as state sovereignty and good faith and analyse various negotiation strategies that shape diplomatic outcomes.

The second part introduces science diplomacy, breaking it down into three dimensions: "science in diplomacy" (using scientific advice for foreign policy), "diplomacy for science" (fostering international scientific cooperation) and "science for diplomacy" (using scientific collaboration to improve international relations). We will discuss how scientific evidence and expert consensus inform and legitimise policy decisions in critical areas like climate change, global health and resource management, highlighting their vital role in shaping international agreements like the Global Plastics Treaty.

CLIMATE CHANGE: UNDERSTANDING THE KEY SCIENTIFIC FINDINGS OF THE IPCC REPORTS AND CLIMATE CHANGE IMPACTS IN GLOBAL SOUTH

By **Prof Dr Fredolin Tangang**

Universiti Brunei Darussalam

Understanding the scientific basis of climate change is essential for effective climate diplomacy. As a global phenomenon, climate change requires conclusions grounded in reliable and credible information. To address key questions—such as the current state of the climate, the causes of climate change its impacts on natural and human systems, the risks of future climate change, and strategies for mitigation and adaptation—the answers must be developed through a process that is neutral, open, transparent, balanced and comprehensive, drawing from multiple lines of evidence. The Intergovernmental Panel on Climate Change (IPCC), established in 1988 under the World Meteorological Organisation and the United Nations Environment Programme, and subsequently endorsed by the United Nations General Assembly through Resolution 42/187, was created specifically to undertake this task by assessing thousands of published studies. Since its establishment, the IPCC has completed six assessment cycles and has become the cornerstone of the global climate science-policy interface. Through its comprehensive, credible and policy-relevant information, the IPCC enables informed decision making at all levels—from international negotiations to national policies and local initiatives—guiding the world's collective efforts to understand, mitigate and adapt to the challenges posed by climate change. This talk also provides an insight how risk of impacts can be higher in countries of the global south because of their lack of resources to adapt and increase resilience. In fact, despite their minimal contributions to the current and past GHG emissions, some of these countries are projected to have much higher risk in the coming decades.

However, the IPCC also pointed out that the current pace and scale of climate actions are insufficient to tackle climate change. The recent consensus on "transitioning away" from fossil fuels at COP28 is likely not sufficient to limit global warming below 1.5°C.

CORAL TRIANGLE INITIATIVE: SCIENCE DIPLOMACY IN ACTION

By **Prof Dr Mohd Kushairi Mohd Rajuddin**

UCSI University, International Institute of Science Diplomacy and Sustainability adjunct professor

The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security is a partnership of six countries working together to address climate change, overfishing and marine biodiversity. It is composed of three countries from Southeast Asia—Indonesia, Malaysia and Philippines—and three other countries from the Pacific-Oceania region—namely Papua New Guinea, Solomon Islands and Timor-Leste. Encompassing six million square kilometres (2.3 million square miles) of archipelagic waters, the Coral Triangle has the highest coral and reef fish diversity globally and provides vital spawning grounds for whales, turtles, and sharks among other resources.

Despite their immense value, the coral reef ecosystems of the Coral Triangle are among the most threatened in the world, with approximately 95% found to be at risk. Overfishing has impacted nearly every reef in the region, as destructive fishing practices become increasingly commonplace in a bid to match global demands. Meanwhile, land-based pollution continues to grow in scale, where highly unregulated coastal development projects pose constant threats of ecological disasters. It is without a doubt that with the ongoing pressures from global crises such as climate change and ocean acidification, these problems are certain to be exacerbated to unprecedented heights.

The impacts of climate change are a real threat to the Coral Triangle Initiative, and countries have developed a Region-wide Early Action Plan for Climate Change Adaptation as the first deliverable of the CTI-CFF. The plan requires, amongst others, putting in place effective adaptation measures for coastal communities and investing in the ability to conduct climate change vulnerability assessments to improve resilience. One of the CTI goals is to establish a fully functioning and effectively managed region-wide Coral Triangle Marine Protected Area System (CTMPAS). Under the Marine Protected Areas Working Group, significant progress has been made toward advancing common understanding of CTMPAS— how to improve management effectiveness and how to design and establish MPA networks.

The CTI is a living and vivid example of science diplomacy in practice. The member countries each have their own unique cultures and traditions. Although a problem might be the same across member countries, governance approaches differ and each nation tackles such problems differently. In addition to collaboration among member states, external technical expertise and funding are often shared in tackling environmental issues.

In this workshop, participants will learn how science diplomacy plays a significant role in bringing together the governments and peoples of the member countries. Working collaboratively among the countries, together with development partners and non-governmental organisations, the Coral Triangle Initiative has achieved several milestones toward better management and conservation of these valuable ecosystems and resources.

HARNESSING FORESIGHT AND FUTURE STUDIES TO STRENGTHEN SCIENCE DIPLOMACY

By **Mohd Nurul Azammi**

myForesight director and MIGHT senior principal analyst |

Foresight is an approach to developing an understanding about futures. It is a systematic, participatory process, involving future intelligence gathering and building visions for the medium- to long-term future, and aimed at informing present-day decisions and mobilising joint actions. Such knowledge and skills are crucial for diplomats or those involved in science diplomacy initiatives.

Foresight enhances science diplomacy by enabling stakeholders to anticipate global challenges such as pandemics and climate change, and to foster early international coordination. It informs policy and strategy by providing evidence-based insights that integrate scientific knowledge into diplomatic decisions. Through long-term thinking, it builds resilient international networks that promote trust and collaboration. Foresight also helps navigate complex geopolitical landscapes by clarifying the global implications of emerging technologies, and it supports open science and innovation by advocating for inclusive research and equitable access to scientific advancements worldwide.

CONTRIBUTIONS OF THE BUSINESS SECTOR TO SCIENCE, TECHNOLOGY AND INNOVATION DIPLOMACY AND AVENUES FOR ENGAGEMENT

By **Prof Mohd Zakwan Mohd Zabidi**

MIGHT senior vice-president

UCSI University, International Institute of Science Diplomacy and Sustainability adjunct professor

Science diplomacy matters because it provides a vital mechanism for addressing global challenges, promoting international cooperation and advancing national interests. Its historical roots and current relevance underscore its importance in the modern world.

As we face increasingly complex global issues, science diplomacy offers a pathway to collaborative solutions that benefit all of humanity. By fostering scientific collaboration and integrating scientific expertise into foreign policy, science diplomacy can help create a more peaceful, prosperous and sustainable world.

Nowadays, science diplomacy has become somewhat of a buzzword and is used in many ways by different actors. For example, science diplomacy is increasingly used by non-state actors. Those using science diplomacy as a tool to achieve their national and international objectives are typically, but not exclusively, diplomats representing their national governments.

In recent years, there has been an increase in non-state actors, particularly global technology companies, using science diplomacy to conduct their own equivalent of 'statecraft' in support of their company's objectives, which may be distinct from those of any national government.

AI AS A CATALYST FOR INNOVATION, EQUITY, COMMUNICATION AND GOVERNANCE IN THE GLOBAL SOUTH

By **Asst Prof Dr Ali Khodi**

UCSI University, English Language and Communication programme head

Artificial Intelligence (AI) holds immense potential to transform the Global South by fostering innovation, equity, communication and ethical governance. This workshop explores AI's role in addressing regional challenges through scalable, context-specific solutions. It examines how AI can drive innovation by optimising resource-limited environments, with case studies highlighting practical applications. The focus on equity emphasises AI tools, such as localised digital platforms, to bridge access gaps and ensure inclusivity. Effective communication is explored through AI-driven methods like real-time translation and summarisation, enhancing collaboration across diverse stakeholders. Ethical governance is addressed by proposing inclusive AI policies that mitigate risks like bias and unequal access while prioritising data sovereignty. The workshop also underscores the importance of regional and global partnerships to advance AI adoption, balancing automation with human oversight. Through interactive discussions and practical demonstrations, participants will gain insights into leveraging AI for sustainable development. Resources, such as xAI's API, will be shared to support actionable strategies. This workshop aims to empower stakeholders to harness AI for equitable, innovative and responsibly governed outcomes in the Global South, fostering a future of inclusive progress.

LEVERAGING AI TO ENHANCE SCIENCE, TECHNOLOGY AND INNOVATION (STI) FOR SCIENCE DIPLOMACY

By **Shahrizal Shahrudin**

Ministry of Science, Technology and Innovation,
Malaysian Science and Technology Information Centre director

This presentation explores how Artificial Intelligence (AI) can be a catalyst for advancing science diplomacy in ASEAN and beyond. AI enhances foresight, supports real-time collaboration and enables inclusive knowledge sharing through tools like multilingual NLP and high-performance computing. Regional initiatives such as the ASEAN-KISTI partnership demonstrate the potential of shared infrastructure for addressing global challenges including climate risks to pandemics. Key recommendations include establishing an ASEAN AI-STI Science Diplomacy Hub, developing ethical AI frameworks and strengthening capacity-building for diplomats. By leveraging AI, ASEAN can lead in shaping a sustainable, inclusive and collaborative global future.

STRENGTHENING SOUTH-SOUTH COOPERATION

By **Chee Yoke Ling**

Third World Network executive director

In an increasingly multipolar world, South-South Cooperation (SSC) has emerged as a vital framework for fostering development, resilience and shared prosperity among nations of the Global South. Unlike traditional North-South aid, SSC is rooted in solidarity, mutual benefit and the exchange of knowledge, technology and resources between developing countries. From trade and infrastructure to climate adaptation and digital innovation, this collaborative model empowers nations to leverage their strengths while addressing common challenges.

The potential is immense. Emerging economies like China, India, Brazil and South Africa have already driven transformative partnerships—through initiatives such as the BRICS New Development Bank and the Belt and Road Initiative - that prioritise sustainable growth. Meanwhile, regional blocs like ASEAN and the African Union amplify collective bargaining power in global governance. Yet, challenges persist: financing gaps, institutional fragmentation and geopolitical rivalries can hinder progress.

To strengthen SSC, nations must deepen policy coordination, expand digital and green investments, and establish robust monitoring mechanisms. Peer learning - such as Brazil's agricultural expertise or India's digital public infrastructure - can accelerate progress. Moreover, integrating SSC with the UN's Sustainable Development Goals ensures alignment with global priorities.

As the Global South reshapes the international order, SSC is not just an alternative - it's a necessity. By fostering equitable partnerships, it can redefine development, making it more inclusive, innovative and self-determined. The future of cooperation lies not in dependence, but in solidarity.

ABOUT SPEAKERS



Prof Emeritus Datuk Ts Ir Dr Siti Hamisah Tapsir, FASc

UCSI University vice-chancellor and president

A luminary in higher education and public service, Prof Emeritus Datuk Ts Ir Dr Siti Hamisah Tapsir brings over three decades of transformative leadership to her role as the fourth vice-chancellor of UCSI University, appointed on October 1 2021. A distinguished civil servant, she has shaped national policies across higher education, science, technology and innovation, serving under six ministers with unparalleled dedication.

Her pivotal role as Ministry of Science, Technology and Innovation secretary-general saw her spearheading Malaysia's National Immunisation Programme, achieving an 80% adult vaccination rate by September 2021 - a testament to her strategic acumen. Her exceptional leadership earned her a six-month service extension beyond her initial retirement.

Earlier, as MESTECC secretary-general (2019), she drove policies on climate change, renewable energy and STEM advancement, reinforcing Malaysia's sustainability agenda. Her tenure as Ministry of Higher Education director-general (2017-2019) was marked by groundbreaking reforms, including the Malaysia Education Blueprint 2015-2025, iCGPA, CEO@Faculty and the MyQuest rating system, elevating private higher education standards.

A trailblazing engineer-academic, she holds a PhD in Civil Engineering (University of Leeds) and served as Universiti Teknologi Malaysia deputy vice-chancellor, fostering global academic excellence. Now at UCSI University, she champions industry-academia collaboration, research commercialisation and holistic education, positioning UCSI as a global leader in innovation.

Under her stewardship, UCSI is poised for unprecedented growth, merging academic rigour with real-world impact. A visionary, mentor and nation-builder, Datuk Dr Siti Hamisah continues to inspire, ensuring Malaysia's ascent on the world stage.

DISTINGUISHED PROF TAN SRI DR ZAKRI ABDUL HAMID, FASc

*UCSI University, International Institute of Science Diplomacy
and Sustainability founding director*



Prof Zakri, from Malaysia, is one of the founding negotiators of the Convention on Biological Diversity (CBD), established between 1990 and 1992. He was the first chair from Asia of the CBD's Subsidiary Body on Scientific, Technical and Technological Advice (1997-1998). He served as at the Millennium Ecosystem Assessment as co-chair (2001-2005) and at the Intergovernmental Platform on Biodiversity and Ecosystem Services as founding chair (2013-2016). He is one of the International Network for Government Science Advice (INGSA) founder (2014) and is currently patron of INGSA-Asia. He is a Senior Fellow of the Academy of Sciences Malaysia, former vice-president of The World Academy of Sciences and one of 66 founding fellows of the International Science Council. He also sits as a member of the Board of Trustees of ALAM to date.

Prof Zakri was called to serve the nation as the Prime Minister of Malaysia's science adviser, while also being selected as one of the leading scientists on UN secretary-general Ban Ki-moon's Scientific Advisory Board. He was also appointed United Nations University Institute of Advanced Studies director in Tokyo.

He is the recipient of the MERDEKA Award, Zayed International Prize for the Environment, Midori Prize for Biodiversity, and ASEAN Biodiversity Hero, among many other accolades and accomplishments.

Currently, Prof Zakri as well as UCSI University, International Institute of Science Diplomacy and Sustainability founding director.



PROF DR MOHAMAD OSMAN

*UCSI University,
International Institute of Science Diplomacy and Sustainability
deputy director*

Prof Dr Mohamad Osman is a distinguished agricultural scientist and educator with a career that spans several decades, marked by significant contributions to the fields of agriculture, genetics and plant genetic resources. His academic journey has seen him hold professorships at some of Malaysia's most prestigious institutions, including Universiti Kebangsaan Malaysia, International Islamic University Malaysia, Universiti Teknologi MARA, and Universiti Putra Malaysia, where he has played a pivotal role in advancing research and education in agricultural sciences.

Prof Mohamad is also a seasoned negotiator with extensive experience in international environmental agreements, particularly the Convention on Biological Diversity. His expertise in biodiversity and sustainable development has been recognised globally, and he continues to influence policy and practice through his role as ATRI Advisory Consultancy senior fellow. In 2022, he further expanded his impact by joining the International Institute of Science Diplomacy and Sustainability at UCSI University as the deputy director, where he is dedicated to bridging the gap between science and policy, particularly in the context of sustainable development.

During this ten-day course on Science Diplomacy, Prof Mohamad's wealth of experience in both scientific research and international negotiations will provide participants with valuable insights into the role of science in global diplomacy. His sessions will focus on the critical intersection of agriculture, biodiversity and sustainability, offering a comprehensive perspective on how scientific expertise can be leveraged to address some of the most pressing challenges in global diplomacy today.

PROF DR TAN WEE HOE

*UCSI University,
International Institute of Science Diplomacy and Sustainability,
deputy director*



Prof Dr Tan Wee Hoe is an academic and expert in science diplomacy, educational innovation and digital technology. He currently serves as the deputy director of the International Institute of Science Diplomacy and Sustainability at UCSI University. With an extensive background that spans science communication, educational leadership and game-based learning, Prof Tan is a key advocate for bridging the gap between scientific research and policy-making.

His work is particularly focused on the integration of scientific knowledge into governmental decision-making processes across the ASEAN region. As International Network for Government Science Advice - Asia chair, Prof Tan plays a pivotal role in facilitating evidence-based policy development, ensuring that scientific insights are effectively utilised to address pressing regional challenges. His contributions to science governance extend to strategic advisory roles, where he provides guidance on the role of science in shaping public policies, particularly in complex and dynamic socio-political environments.

In addition to his work in science diplomacy, Prof Tan is highly respected in the fields of education and digital innovation. He has been instrumental in driving interdisciplinary research, integrating game design principles and digital tools into educational reform, and enhancing learning outcomes. His innovative methodologies have gained recognition nationally and internationally, positioning him as a thought leader in both educational technology and sustainable policy development.

During this ten-day course on Science Diplomacy, Prof Tan will share his deep expertise in both science communication and creative educational strategies. His sessions will offer participants valuable insights into the intersection of science, policy and education, particularly within the ASEAN context. By leveraging creative and technological solutions, Prof Tan's approach fosters more effective communication and collaboration, helping future diplomats understand the critical role of science in governance and sustainable development.



PROF DR ERIC CHAN WEI CHIANG

*UCSI University,
International Institute of Science Diplomacy and Sustainability*

Dr Eric Chan Wei Chiang is a professor at the International Institute on Science Diplomacy and Sustainability, UCSI University, Kuala Lumpur, Malaysia. Holding a Ph.D. in natural product chemistry from Monash University, his research integrates bioprospecting, ecological restoration and sustainable bio-based innovation, particularly within mangrove and forest ecosystems. He is a life member of the International Society for Mangrove Ecosystems, Okinawa, and the Malaysian Society of Marine Sciences, reflecting his enduring engagement with the conservation and sustainable management of forested coastal environments. He also served at the OFWG 10 2020A for the APEC Sustainable Coastal Cities Symposium (November 24–26, 2021) as project overseer, contributing to regional dialogues on nature-based solutions and climate resilience. His research output includes over 123 SCOPUS-indexed publications with more than 3,555 citations (h-index: 26). He has been ranked among Stanford University's World's Top 2% Scientists for 2019–2024. Dr Chan's work in green chemistry and forest-based innovation has earned multiple recognitions, including being a Top 5 Finalist in the Elsevier Green and Sustainable Chemistry Challenge (2015), and medal wins at ITEX (Gold, 2020; Silver, 2021–2022) and the Malaysia Technology Expo (Gold, Silver, and Special Awards, 2022). His current research interests include bioprospecting of mangrove and tropical forest species, waste valorisation and circular bioeconomy, and green chemistry approaches supporting forest and coastal ecosystem sustainability.

PROF DATO' DR AHMAD IBRAHIM

*UCSI University,
Faculty Of Engineering, Technology and Built Environment and
International Institute of Science Diplomacy and Sustainability fellow*



A distinguished scientist and visionary leader, Prof Dato' Dr Ahmad Ibrahim has dedicated over five decades to advancing Malaysia's scientific, technological and industrial growth. His illustrious career began in 1973 at the Rubber Research Institute of Malaysia, where he pioneered research on waste treatment systems for rubber processing effluents, specialising in anaerobic filters, aerobic ponds and rotating bio-discs. His groundbreaking work earned him a PhD in Wastewater Engineering from the University of Newcastle-upon-Tyne, UK (1978).

Expanding his expertise, he collaborated with the Palm Oil Research Institute of Malaysia (PORIM) on palm oil mill effluent treatment, further solidifying his reputation in environmental engineering. In 1985, he was awarded the prestigious Fulbright Hubert Humphrey Programme scholarship for post-doctoral studies at Cornell University, USA, enhancing his global perspective.

Transitioning into leadership, he served as Techno-Economics director and PORIM's technical advisory service (1991–1994), before joining the Malaysian Palm Oil Promotion Council (MPOPC) as director of market promotions (1994–2003). For nearly a decade, he championed Malaysian palm oil globally, countering misconceptions and promoting its benefits.

Post-MPOPC, he held key roles at Technology Park Malaysia, SIRIM (as vice-president of research and technology), and the Malaysia University of Science and Technology. In 2011, he became Academy of Sciences Malaysia chief executive officer, shaping national science, technology and innovation (STI) policies.

Today, as UCSI University Chemical Engineering professor and Malaysia's Fraunhofer senior adviser, he continues to drive STI advancements while advocating for public awareness through media contributions. A true nation-builder, his legacy spans R&D, environmental sustainability, industrial promotion and policy development, cementing his status as a pillar of Malaysian scientific progress.



LEONG SAT SING

UCSI Group Sustainability Office, vice-president

Leong Sat Sing has a natural flair for speaking in front of a crowd and capturing attention. Over the past 30 years, his training activities have been impactful and significant, despite not being in the training business full-time. They have allowed him to pursue his passion for making a difference through his talks and speeches. Certified as a professional trainer by IPMA and accredited by HRDCorp, he is ready to effect further change, particularly in the fields of SDG and ESG.

Leong has begun to oversee the United Nations SDG awareness drive and implementation for UCSI Group since 2018. With the rise of the need to understand and comply with ESG, Leong was among the earliest trainer that have adopted its principles by creating related policies and implementing various measures in the Group's operations.

Helming as the UCSI Group Sustainability Office, vice-president, his principal objective is in developing, overseeing and implementing sustainable policies and practices at his workplace in collaboration with the key stakeholders. He monitors regulatory trends, overseeing and organising sustainability projects, managing strategic relationships with internal and external stakeholders, fostering cultural and behavioural change within the organisation and promoting inclusion of sustainability in the Group's processes and decision-making.

Prior to this, Leong served UCSI Group as the vice-president of Group Corporate Affairs for 10 years and was responsible for enhancing its brand identity and marketing strategies. He has organised and revitalised the Group's brand equity, ensuring consistency across the organisation and spearheading initiatives that deliver the brand promise to the public. Sales and revenue have continued to grow through initiatives strategically designed for targeted audiences.

With more than 37 years of experience in the education industry, Mr Leong first made his mark by pioneering the marketing and public relations department of a leading Malaysian higher education provider. He also spearheaded the institution's franchising and collaboration initiatives.

PROF DR MOHD KUSHAIRI MOHD RAJUDDIN

*UCSI University,
International Institute of Science Diplomacy and Sustainability
adjunct professor*



Prof Dr Mohd Kushairi Mohd Rajuddin is a distinguished coastal ecologist and environmental scientist with extensive experience in regional marine resources conservation and sustainable management. He has served Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) executive director based in Manado, where he was a scientist and a diplomat, leading efforts to safeguard one of the world's most critical marine ecosystems across six countries: three Southeast Asian nations—Indonesia, Malaysia and Philippines—and three Pacific-Oceania countries—Papua New Guinea, Solomon Islands and Timor-Leste. His work involved coordinating regional policies, fostering international collaboration and promoting sustainable management practices to ensure the long-term health and productivity of the Coral Triangle.

Prof Kushairi has worked closely with various governments, international organisations and NGOs to address complex challenges related to marine resource conservation and food security. His leadership in integrating science into policymaking has been instrumental in advancing regional cooperation on natural resources and ecosystem sustainability.

He was one of the panel speakers in the forum 'Framing the Future for Nature' in preparation for the ASEAN-UK partnership dialogue ahead of the UN Climate Change Conference in Glasgow, 2021. He was invited as a panel speaker for the discussion entitled "Fisheries: Innovations to Close the Sustainability Gap," organised by The Economist's 2nd Asia Pacific World Ocean Summit 2022. He presented a briefing on CTI-CFF's work in the Coral Triangle to the Bloomberg Group at the Our Ocean Conference in Palau, 2022. He led CTI-CFF's Regional Secretariat in co-hosting two events, together with CORDAP, ICRI, the Government of Monaco, CFA, KfW Bank Germany, the UK Government, GFRC, IUCN, and UNDP, entitled "United for a Decade of Conservation Action #ForCoral" and "Innovative Finance for Coral Reefs" during the CBD COP15 UN Conference on Biodiversity in Montreal, Canada, 2022. In 2023, Prof Kushairi was invited as a panel speaker by the Government of Panama at a high-level discussion on "Ecological Connectivity, Governance, Finance and Economy" at the Our Ocean Conference in Panama.

Prof Kushairi spearheaded the establishment of the Coral Triangle regional trust fund, with the assistance of CFA Washington, the Wildlife Conservation Society, KfW Bank and USAID. He was the CTI-CFF's Regional Conservation Trust Fund, Board of Directors founding chair. He has also successfully initiated and led a chapter entitled "CTI-CFF - Toward the SDGs in the Coral Triangle" in the book 'A Better World, Vol. 9, Special Edition,' which was published in London and launched in conjunction with the UN SDG Summit 2023 in New York.

During this ten-day course on Science Diplomacy, Prof Kushairi will draw on his deep expertise in science diplomacy and regional environmental governance. His sessions will focus on real-world applications of science diplomacy, including case studies on marine pollution and the Coral Triangle Initiative.



PROF DR PAUL ARTHUR BERKMAN

*USA Science Diplomacy Centre, founder and president
Harvard Law School Negotiation Programme faculty associate
UCSI University,
International Institute of Science Diplomacy and Sustainability
adjunct professor*

Paul Arthur Berkman is a science diplomat, polar explorer and global thought leader applying international, interdisciplinary and inclusive processes with informed decision making to balance national interests and common interests for the benefit of all. Paul wintered in Antarctica when he was twenty-two, SCUBA diving throughout the year under the ice, and then taught a course on science into policy as a visiting professor at the University of California Los Angeles. He co-convened and chaired the Antarctic Treaty Summit in Washington, DC, producing the first book on Science Diplomacy as well as a Congressional Resolution adopted with unanimous consent by the United States House of Representatives and United States Senate. Among other events, he co-convened and chaired the first dialogue between the North Atlantic Treaty Organisation and Russia regarding security in the Arctic. Prof Berkman has been honoured with awards in the United States, United Kingdom, Russian Federation, Norway, New Zealand and Japan. He now trains science diplomacy with the United Nations Institute for Training and Research as well as with national diplomatic academies.

DATUK DR NADZRI YAHAYA

*Ministry of Natural Resources and Environment
former deputy secretary-general
UCSI University
International Institute of Science Diplomacy and Sustainability
adjunct professor*



Dato' Dr Nadzri Yahaya is a distinguished expert in environmental management and sustainable development with an extensive career in both academia and public service. He holds a Ph.D. in Environmental Management and has been a prominent figure in shaping Malaysia's environmental policies and sustainability initiatives. He has also served as the Department of National Solid Waste Management as director-general and Ministry of energy, Green Technology and Water as deputy secretary-general, where he played a pivotal role in shaping solid waste governance and formulation and implementation of national environmental and Energy related policies.

His career is marked by significant contributions to the advancement of sustainable development goals in Malaysia, particularly through his involvement in international environmental negotiations and his leadership in various national committees on environmental governance. Dr Nadzri is also a respected academic, contributing to the field through research, publications and teaching, focusing on the integration of environmental science into policy-making.

Currently, Datuk Dr Nadzri continues to engage in various advisory roles, offering his expertise on environmental governance and sustainability. His insights at the science diplomacy course will provide participants with a deep understanding of the 2030 Agenda for Sustainable Development and the challenges and opportunities in incorporating environmental, social and governance considerations into diplomatic and policy frameworks.



ROBERTO BENETELLO

Malaysia Recycling Alliance Berhad
chief executive officer

Roberto Benetello is the Malaysia Recycling Alliance Berhad (MAREA) chief executive officer, Malaysia's first voluntary, industry-led Extended Producer Responsibility platform. MAREA, a not-for-profit organisation, is dedicated to tackling consumer packaging waste, increasing recycling rates and promoting the use of secondary raw materials.

A recognised corporate sustainability expert, Roberto helps businesses accelerate the transition to a circular economy by integrating EPR, recycling and sustainability strategies into corporate operations. His expertise lies in general management and navigating complex stakeholder environments, offering tools, methodologies, training and capacity-building solutions.

Roberto is also Business Council for Sustainable Development Malaysia Berhad founder and board member, a partner of the World Business Council for Sustainable Development. With over 30 years of experience, he has held senior management and consulting roles in Fortune 500 companies and start-ups across Europe and Southeast Asia, gaining extensive expertise in diverse business environments.

Roberto holds an MBA from SDA Bocconi (Italy) and an MA from Lincoln University (UK).

PROF DATO' DR NORAIENI HAJI MOKHTAR

UCSI University
International Institute of Science Diplomacy and Sustainability
adjunct professor



Prof Dato' Dr Noraieni Haji Mokhtar is an accomplished academic, researcher, thought leader and administrator with over 44 years of distinguished service in higher education, ocean governance and national policy development. Her illustrious career spans leadership roles in academia, government and international organisations, marked by transformative contributions to marine science, sustainable development and institutional excellence.

Beginning her academic journey in 1980 at Universiti Teknologi Malaysia, she rose to become a full professor, specialising in coastal engineering, hydraulics and environmental policy. Her pioneering research led to the patented "Sine-Slab" coastal protection system, showcasing her innovative approach to solving critical environmental challenges. She also played a pivotal role in UTM's research commercialisation, serving as ISI Ventures chief executive officer and driving technopreneurship initiatives.

From 2008 to 2014, she served at the National Oceanography Directorate under MOSTI as director/undersecretary, where she shaped Malaysia's oceanographic research framework, established the National Oceanographic Data Centre, and championed the National Ocean Policy. Her international influence grew as Malaysia's focal point for UNESCO's Intergovernmental Oceanographic Commission, where she later served at WESTPAC as vice chair and contributed to global marine scientific research and capacity building.

In 2015, she made history as the first woman to be appointed Universiti Malaysia Terengganu (UMT) vice-chancellor, steering the university to global recognition in marine science and sustainability. Under her leadership, UMT advanced in THE and QS rankings, aligned academic programmes with the UN Sustainable Development Goals, and expanded international collaborations, including with the World Maritime University.

Beyond academia, she is a passionate advocate for gender equity, ocean literacy and community empowerment. She founded the CTICFF Women Leaders Forum, leads BERKAT (a professional women's welfare association), and advises coastal conservation initiatives like ECOSWED. Currently, INOS-UMT and Maritime Institute of Malaysia distinguished research fellow, she drives interdisciplinary research on blue economy strategies, marine spatial planning and climate resilience.

Recognised globally, she was appointed to the UN Ocean Decade Advisory Board (2021–2023), advising on sustainable ocean science. Her enduring legacy lies in bridging science, policy and societal well-being, fostering innovation and inspiring future leaders in marine conservation and sustainable development.



**PROF DR ANANTHA KUMAR
DURAIAPPAH, FTWAS, FWAAS**

*UCSI University
International Institute of Science Diplomacy and Sustainability
adjunct professor*

Anantha Duraiappah was once the Mahatma Gandhi Institute of Education for Peace and Sustainable Development inaugural director, a UNESCO Category 1 Research Institute in the Asia Pacific since 2014. He also co-chaired the Biodiversity Synthesis Group in the Millennium Ecosystem Assessment and co-chaired the International Science and Evidence-based Education Assessment. He is a fellow of The World Academy of Sciences and the World Academy of Arts and Science. He is currently working on a book on Education for Human Flourishing and plays kendu to maintain his peace of mind.



DR GARY WILLIAM THESEIRA

*Climate Governance Malaysia director and
council member*

Dr Gary Theseira is a prominent figure in climate governance and sustainability, currently serving as Climate Governance Malaysia director and council member. With a robust academic background in environmental science and policy, Dr Theseira has dedicated his career to advancing climate action and sustainable development in Malaysia and internationally.

Dr Theseira has held key positions in government and international organisations, where he has shaped climate policies and strategies. His work includes significant contributions to Malaysia's climate change initiatives, particularly in developing national policies to reduce carbon emissions and enhance climate resilience. He is known for his expertise in climate governance, carbon management and integrating scientific research into public policy.

In his current role, Dr Theseira advocates for effective climate governance through advisory bodies and international networks. During the science diplomacy course, Dr Theseira's expertise in climate science and policy will offer participants critical insights into global climate treaty negotiations and the role of strong governance frameworks in meeting climate targets. His sessions will be essential in equipping young diplomats with the knowledge and tools to tackle urgent climate challenges.



PROF DR FREDOLIN TANGANG

*Universiti Brunei Darussalam professor
Academy Of Sciences Malaysia fellow*

Prof Dr Fredolin Tangang is a leading climate scientist and expert in atmospheric science, with a distinguished career focused on advancing the understanding of climate change and its impacts. He currently serves at Universiti Brunei Darussalam as a Climate Change and Adaptation professor. Previously, he was working at Universiti Kebangsaan Malaysia as a Climatology professor until his retirement in 2023. He briefly served Bank Negara Malaysia as a climate policy strategist in 2023 after his retirement from UKM. He is a fellow of the Academy of Sciences Malaysia and has also served as a key contributor to various climate-related initiatives at both the national and international levels. Prof Tangang is wellknown for his extensive work with the Intergovernmental Panel on Climate Change (IPCC), where he has contributed as vice-chair of the IPCC WG1 and a member of the scientific community that informs global climate policies. He champions the regional climate change modelling over the Southeast Asia through the regional consortium of CORDEX Southeast Asia which he founded and led from 2013 to 2023. He earned a PhD from the University of British Columbia, Canada, in 1997 where he developed a model to forecast the El Nino – Southern Oscillation. His research spans climate modelling, regional climate projections and the analysis of extreme weather events, providing critical insights into how climate change will impact Southeast Asia and beyond. Prof Tangang’s expertise is widely sought after in the development of climate policies, adaptation strategies and disaster risk reduction frameworks. During the ten-day course on science diplomacy, Prof Tangang will deliver a lecture on “Climate Change: Understanding The Key Scientific Findings of the IPCC Reports and Climate Change Impacts in the Global South.” His session will delve into the fundamental scientific findings presented in the IPCC assessments, offering participants a deep understanding of the evidence behind climate change and its implications for policy-making. He is also addressing the impacts of climate change in the Global South. His insights will be invaluable for young diplomats—especially those from the Global South—seeking to understand the science underpinning international climate negotiations and the global drive for climate action, while ensuring that countries in the region are not disproportionately affected by the catastrophic impacts of climate change in the coming decades.

DATO' DR SAW LENG GUAN

*Penang Botanic Gardens former curator
Forest Research Institute Malaysia (FRIM) research fellow*



Dato' Dr Saw Leng Guan is a preeminent botanist and biodiversity expert with over 40 years of groundbreaking contributions to tropical plant taxonomy, forest ecology and conservation in Malaysia. A Chevening scholar, he holds a PhD from the University of Reading (1994) and a Master's in Plant and Fungal Taxonomy, underpinning his authority in Southeast Asian flora. He served as the Forest Biodiversity Division director at FRIM (1982–2015) and later Penang Botanic Gardens curator (2017–2021). Dr Saw pioneered seminal projects like the Flora of Peninsular Malaysia (12 volumes) and Tree Flora of Sabah and Sarawak (8 volumes), describing 67 new plant species. His leadership in drafting the Penang Botanic Gardens Special Area Plan (2019) exemplifies his fusion of science and policy. Honoured with the Royal Botanic Garden Edinburgh Medal (2016) and named Academy of Sciences Malaysia fellow (2013), Dr Saw's expertise spans palm taxonomy, forest ecology and botanic garden development. Five species, including *Begonia lengguanii*, bear his name. His acclaimed books, such as *Wild Orchids of Peninsular Malaysia*, which won the National Book Award in 2012, reflect his dedication to public science communication. Now a research fellow at FRIM and private consultant, he remains a pivotal figure in global biodiversity governance, having served on the IPBES Multidisciplinary Expert Panel (2015–2022) and as Malaysia's delegate to the Convention on Biological Diversity. His workshop participation will illuminate the critical role of taxonomy and ecology in shaping science-driven environmental diplomacy.



SHHRIZAL SHAHRUDIN

*Ministry of Science, Technology and Innovation,
Malaysian Science and Technology Information Centre director*

A dynamic and accomplished executive with over 15 years of cross-sector expertise in Domestic Trade and Consumer Affairs, Oil and Gas, ICT Services and Science and Technology Strategy, Shahrizal Shahrudin combines sharp analytical skills with a deep understanding of government policies, HR regulations and foresight technology. Currently serving as Malaysian Science and Technology Information Centre director under the Ministry of Science, Technology and Innovation, he drives innovation by managing emerging technologies and fostering strategic collaborations. Holding a Master of Science in Facility Management from the International Islamic University of Malaysia and a Degree in Laws (Hons) from Universiti Teknologi MARA, Shahrizal blends legal acumen with technical proficiency. His career spans pivotal roles—from serving EPF as assistant manager to AMBank as legal compliance to leadership positions to leadership positions in Domestic Trade and Consumer Affairs and Malaysian Administrative Modernisation, where he championed digital government transformation. Adept in data analysis, policy formulation and stakeholder engagement, Shahrizal excels in aligning organisational objectives with national technological advancement. His vision for evidence-based decision-making and future-ready strategies positions him as a key influencer in Malaysia's innovation landscape.

ASSOC PROF DR SITI HAFSYAH IDRIS

*Universiti Teknologi MARA, Office of Industry,
Community and Alumni,
Community Network Centre director*



Assoc Prof Dr Siti Hafsyah is an accomplished environmental scientist and policy expert serving as Universiti Teknologi MARA, Department of Research and Industrial Linkages deputy dean. Her work focuses on the intersection of environmental governance, sustainability and international environmental negotiations. Dr Siti Hafsyah has been deeply involved in research and advocacy related to plastic pollution, with particular emphasis on the global impact of microplastics and waste management strategies.

With extensive experience in negotiating international environmental agreements, Dr Siti Hafsyah is an active participant in discussions surrounding the United Nations Global Plastic Pollution Treaty. Her research and policy insights contribute to shaping Malaysia's position in global negotiations and advancing solutions for mitigating plastic pollution. Her role at Universiti Teknologi MARA also involves fostering collaboration between academia, industry and government to address pressing environmental challenges.

During the ten-day course on science diplomacy, Dr Siti Hafsyah will share her expertise on the complexities of negotiating the UN Global Plastic Pollution Treaty. Her session will provide participants with a comprehensive understanding of the treaty's significance, the science behind plastic pollution and the challenges of reaching consensus in international negotiations. Her insights will be crucial for those interested in the role of science diplomacy in addressing one of the most urgent environmental issues of our time.



PROF MOHD ZAKWAN MOHD ZABIDI

*Malaysian Industry-Government Group for High Technology (MIGHT)
senior vice-president
UCSI University
International Institute of Science Diplomacy and Sustainability
adjunct professor*

Prof Mohd Zakwan brings together consolidated skills and knowledge acquired over 27 years of different management roles. He is also involved in a wide range of programmes and initiatives which includes National Blueprints and Roadmaps, Innovation Model and Framework, Policy and Strategy Development, Foresight and Technology Audit, Business Strategy Development and Science Diplomacy.

His accomplishments includes securing and delivering key projects and studies from various Ministries and agencies by working together in partnership with MIGHT members and partners. He was also the lead author for key national policy documents, blueprints, roadmaps and has published in key international journals.

He was also seconded to the Prime Minister's Office, serving as special officer to the science adviser. During his decade at there, he was involved in science diplomacy and science advice to multiple government initiatives which includes Commonwealth Chief Science Adviser, APEC Chief Science Adviser, Foreign Ministries Science and Technology Advisers Network and International Network for Governmental Science Advise.

He holds an Advanced Diploma in Business Administration majoring in Transport from MARA Institute of Technology and undertook further studies in MBA at University of Salford, UK. He is also currently Chartered Institute of Logistics and Transport corporate member in United Kingdom.

DR ELIZABETH PHILIP

*Forest Research Institute Malaysia,
Climate Change and Forestry Programme head*



During her 24 years of tenure, Dr Elizabeth Philip has spearheaded more than ten projects dealing from plant resources documentation, arboriculture, environmental and forestry issues. She is a plant physiologist and specialises in environmental physiology.

She is directly involved in the preparations of the National Communications and Biennial Update Report to UNFCCC. In addition, she is also charged with developing the National REDD+ Strategy and coordinates the national initiatives. She is also a certified arborist by the International Society for Arboriculture.

Dr Philip has actively participated in many discussions relating to climate change, biodiversity and arboriculture both at home and abroad. She sits in a number of national, regional and international technical committees.

The awe of the natural ecosystem is close to her heart. In her growing years, she observed the beauty through her lifelong mentor and decides to keep it at its best. Her passion is to understand the links between environment and the interactions with ecological functions. The potential impacts of climate change on forest and natural ecosystems are of concern to her and she endeavours to synthesis this complex subject matter into simple understanding so that nature is preserved at its best.



PROF DR MOHD TALIB LATIF

*Universiti Kebangsaan Malaysia,
Faculty of Science and Technology,
Department of Earth Science and Environment chairman*

Mohd Talib Latif is a professor of atmospheric chemistry and air pollution at the Department of Earth Sciences and Environment, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, and a fellow of the Malaysian Academy of Science. He completed his BSc in Chemistry and MSc in Environmental Chemistry (Air Pollution) at Universiti Kebangsaan Malaysia and his PhD at the School of Environmental Science, University of East Anglia, United Kingdom. Currently, he is the as the Malaysian Association for Aerosol and Air Quality Research president. He was the Sustainable Resources, Environment, and Smart Living, IDEA Centre UKM chairman (2020-2023); Faculty of Science and Technology postgraduate deputy dean (2018-2020), Institute for Environment and Development deputy director (LESTARI, UKM) (2015-2018), Institute for Climate Change, Centre for the Tropical Climate Change System head (2013-2014) and Environmental Science Programme head (2010-2013). In 2014, he did his sabbatical leave at the Centre for Atmospheric Science, Department of Chemistry, University of Cambridge. His main research work involves the composition of atmospheric aerosols from various sources, including the sea surface microlayer. He also works on the composition of gases, primarily focusing on surface ozone and volatile organic compounds in the atmosphere. His research group collaborates closely with government agencies in Malaysia, including the Malaysian Department of Environment and the Malaysian Meteorological Department (MetMalaysia). At the international level, he is actively involved with the research community within the Asian continent through the International Global Atmospheric Chemistry-Monsoon Asia project. From 2018 to 2023, he was appointed to one of the scientific steering committees for the Surface Ocean Lower Atmosphere Study. He is currently a member of the Task Force Bureau on the National Greenhouse Gas Inventories, the Intergovernmental Panel on Climate Change. In 2018, he received the Top Research Scientist Award from the Academy of Sciences Malaysia for his research and publications.

ASSOC PROF DR LIEW JU NENG

*Universiti Kebangsaan Malaysia,
Faculty of Science and Technology,
Department of Earth Science and Environment associate professor*



Dr Liew Ju Neng's research interests encompass various aspects of regional climate dynamics over the Southeast Asia region with a specific focus on inter-annual and long-term climate change time scales. In addition, he is also interested in the issue of regional air quality and its association with regional meteorology. He has worked closely with various agencies in Malaysia e.g. Department of Environment, Malaysia Meteorological Department and Drainage and Irrigation Department. He is actively participating in regional research collaborative work. He is a technical team member of the World Climate Research Program Coordinated Regional Climate Downscaling Experiment – Southeast Asia Domain, currently, run and lead by Universiti Kebangsaan Malaysia. Together with colleagues from Southeast Asia and other international agencies, they run regional climate models to provide high-resolution projections of future Southeast Asia climate for various regional users as well as IPCC's assessment.



MOHD NURUL AZAMMI

*myForesight director and
Malaysian Industry-Government Group for
High Technology senior principal analyst I*

Mohd Nurul Azammi's working experience began with the Malaysian Industry Government Group for Technology (MIGHT) in 2002 as a researcher under the Malaysian Aerospace Council, where MIGHT serves as the secretariat. The scope of his work involved conducting industry intelligence and formulating initiatives to support industry growth in line with the National Aerospace Blueprint. In 2005, he was involved in the team tasked with setting up and operationalising the Technology Depository Agency, which was responsible for managing the Offset programme as part of the Government procurement initiative. In 2007, the Institut de l'Aéronautique et de l'Espace offered him a grant funded by the French Aerospace Industries Association to further his studies in MBA Aerospace in Toulouse, France. Until 2009, he rejoined MIGHT and transferred to the Consultancy Division as project manager for the ECER study on Kemaman Heavy Industries Park and Shipbuilding and Ship-repair Park in Terengganu. Upon completion of the study, he was assigned as the Prime Minister's special officer to the science adviser. Later, in 2012, he transferred to the Malaysian Foresight Institute, which was newly established to support its operations. He attended Foresight Methodology Training at the Manchester Institute of Innovation Research, UK, in 2012. That same year, he led a research team to deliver several foresight initiatives, including Future Rail 2030: The National Rail Industry Roadmap, the National R&D Prioritisation Area with the National Science and Research Council and the Iranian ICT Foresight Scoping project. In 2013, he worked with KeTTA on Green Technology Foresight 2030. In 2014, he contributed to the National Aerospace Blueprint and The Future of the Malaysian Public Service Beyond 2020.

In 2017, he provided strategic leadership in developing Malaysia's Industry4WRD Policy Framework, which set the national direction for embracing Industry 4.0. In 2019, he led the formulation of the New Industrial Master Plan, a comprehensive strategy to future-proof Malaysia's industrial sector. Both initiatives were carried out for the Ministry of International Trade and Industry, positioning Malaysia for long-term competitiveness and innovation.

ASST PROF DR ALI KHODI

*UCSI University,
English Language and Communication programme head*



Dr Ali Khodi is a distinguished scholar in applied linguistics, specialising in the integration of artificial intelligence (AI) and technology in language education. He holds a PhD in English Language Teaching from the University of Tehran, Iran, and serves as programme head for the Bachelor of Arts (Hons) in English Language and Communication at UCSI University, Malaysia. Dr Khodi's research focuses on harnessing AI and technology to advance language testing, computer-assisted language learning and innovative pedagogy. With over 20 publications and 327 citations, his work explores AI-driven assessment tools, such as automated evaluation systems, and technology-enhanced learning platforms for vocabulary acquisition. As an editor, he shapes scholarly discourse in applied linguistics, upholding rigorous standards in peer-reviewed journals. His contributions emphasise equitable, technology-driven language education, addressing diverse learner needs through innovative approaches. Dr Khodi's expertise in AI applications and curriculum design establishes him as a leader in fostering inclusive and effective language education worldwide, driving advancements in teaching methodologies and digital learning environments.



CHEE YOKE LING

Third World Network executive director

Chee Yoke Ling is a distinguished lawyer and Third World Network executive director, a Malaysia-based international nonprofit advocating for sustainable development, social justice and equitable globalisation. With degrees from the University of Malaya and University of Cambridge, she has shaped global policies since the 1992 Rio Earth Summit, focusing on trade, public health, ecological agriculture and farmers' rights. A vocal critic of corporate seed patenting, she champions developing nations in UN forums like the UNFCCC and WTO. She also serves on boards for International Women's Rights Action Watch Asia-Pacific and Friends of the Earth Malaysia, blending legal acumen with grassroots activism.

CASE STUDIES

The case studies in this programme are designed to:

1 BRIDGE SCIENCE AND POLICY

- Help participants translate scientific knowledge into actionable diplomatic strategies

2 STRENGTHEN SOUTH-SOUTH COOPERATION

- Foster collaborative problem-solving among nations, reflecting the MTCP's goals of technical cooperation.

3 SIMULATE REAL DIPLOMACY CHALLENGES

- Prepare participants for multilateral scenarios (e.g., biodiversity treaties, technology transfer) through hands-on analysis.

4 ENHANCE NEGOTIATION SKILLS

- Train participants to advocate for science-informed policies in international forums.

Each case study narrative includes starter questions to guide your analysis. Feel free to explore further and add your own questions for deeper insights.

CASE STUDY 1:

MALAYSIA'S ASPIRATION FOR NET-ZERO CARBON BY 2050 – PATHWAYS, CHALLENGES AND OPPORTUNITIES

MODERATOR:

PROF DR MOHAMAD OSMAN

UCSI University International Institute of Science Diplomacy and Sustainability deputy director

Malaysia's commitment to achieving net-zero carbon emissions by 2050 is a bold step towards addressing climate change and contributing to global sustainability efforts. This goal aligns with the nation's obligations under the Paris Agreement and positions Malaysia as a regional leader in the transition to a low-carbon economy. However, reaching this ambitious target requires comprehensive strategies, significant policy shifts and the involvement of diverse stakeholders across society.

The journey towards net-zero has broad implications for Malaysia's economy, natural ecosystems and its people. Transitioning away from fossil fuels, which currently dominate the energy mix, will be crucial. This shift involves promoting renewable energy, enhancing energy efficiency and advancing technological innovations. Additionally, maintaining energy security during the transition is a key challenge that must be addressed.

Forest conservation is central to Malaysia's net-zero strategy, as its extensive forest cover acts as a vital carbon sink. Preserving these natural ecosystems not only supports carbon sequestration but also safeguards biodiversity. Sustainable practices in key industries, particularly in agriculture and palm oil production, are also essential. By improving land management and adopting greener technologies, Malaysia can reduce emissions while ensuring continued economic growth.

Public engagement and behavioural change will play critical roles in achieving net-zero. Raising awareness and encouraging sustainable practices among the populace, from reducing energy consumption to supporting green products, are integral components of this transformation. Equally important is the role of non-governmental organisations and civil society, which can drive advocacy and accountability while fostering community involvement in environmental stewardship.

At the policy level, both federal and state governments must collaborate to create a regulatory environment that incentivises green investments and supports the development of a sustainable energy infrastructure. This includes introducing policies that attract foreign direct investment in green technologies and ensuring that environmental regulations are effectively enforced.

While Malaysia faces significant challenges, such as the high cost of transitioning to renewable energy and the need for technological advancements, there are substantial opportunities as well. A shift towards a green economy is expected to create new jobs, spur economic innovation and improve public health by reducing pollution. International cooperation, technical support and financial assistance from global partners will also be critical in helping Malaysia achieve its net-zero aspirations.

In conclusion, Malaysia's path to becoming a net-zero carbon nation by 2050 is a complex but achievable goal that demands coordinated efforts across all levels of society. The journey involves balancing economic growth with environmental sustainability, transforming key industries and fostering a culture of sustainability among its people. Through strategic actions, innovative solutions and strong governance, Malaysia can realise its net-zero ambition, contributing to both national development and global climate goals.

QUESTIONS:

1. How can Malaysia leverage the latest IPCC climate science to design a just and equitable phase-out of fossil fuels without destabilising its economy and what diplomatic strategies can it use to align this transition with global frameworks like the Paris Agreement?
2. Given Africa's similar struggles with balancing economic growth and deforestation, how can Malaysia collaborate with African nations through South-South partnerships to develop scalable solutions for sustainable palm oil and forest conservation?
3. If Malaysia faces resistance in global biodiversity talks over its palm oil industry, how should it negotiate a compromise that satisfies both environmental critics and its own economic priorities?
4. In a simulated UN climate summit, how can Malaysian delegates persuasively argue for increased technology transfer and green financing from developed nations while defending their right to gradual, equitable decarbonisation?

CASE STUDY 2:

NEGOTIATING THE BIODIVERSITY BEYOND NATIONAL JURISDICTION (BBNJ) TREATY: BALANCING EQUITY, CONSERVATION AND GLOBAL SOUTH INTERESTS IN SCIENCE DIPLOMACY

MODERATOR:

PROF DATO' DR NORAIENI HAJI MOKHTAR

UCSI University International Institute of Science Diplomacy and Sustainability adjunct professor

The high seas, spanning nearly two-thirds of the world's oceans, represent one of humanity's last global commons – a vast reservoir of biodiversity that sustains marine ecosystems, regulates climate and holds untapped potential for scientific and medical breakthroughs. Yet, without a robust governance framework, these waters face escalating threats from overfishing, deep-sea mining and the unequal exploitation of marine genetic resources (MGRs). The 2023 *BBNJ Treaty*, a landmark agreement under UNCLOS, aims to address these challenges by establishing rules for conservation, sustainable use and benefit-sharing. However, its implementation has sparked fierce debates, particularly around equity for the Global South, where concerns over sovereignty, capacity gaps and historical imbalances in ocean governance persist.

Central to the controversy is the tension between conservation and development. While the treaty's provisions for marine protected areas are critical to safeguarding biodiversity, many Global South nations worry that top-down regulations could stifle their economic aspirations—whether in fisheries, bioprospecting or blue economy ventures. Meanwhile, despite the treaty's promise of "fair and equitable" benefit-sharing from MGRs, loopholes risk allowing wealthy nations and corporations to monopolise profits, leaving developing countries without meaningful returns on resources extracted from their maritime peripheries. Compounding these challenges is the stark disparity in scientific and technological capacity: without dedicated funding, technology transfer and training, Global South stakeholders may remain sidelined in both research and decision-making.

The path forward demands science diplomacy that bridges divides. Collaborative research initiatives, codesigned by Global North and South institutions, could ensure equitable participation in marine discovery while embedding local knowledge into policy. Flexible MPA designs—balancing strict conservation with allowances for sustainable livelihoods – could reconcile ecological and developmental priorities. Most critically, an *BBNJ Equity Fund*, financed by industrialised nations and private actors, could empower the Global South to engage meaningfully in treaty implementation, from monitoring compliance to commercialising discoveries. By centring inclusivity, the BBNJ Treaty could evolve from a battleground of competing interests into a model for collective stewardship of our planet's last shared frontier.

QUESTIONS:

1. How can Global South scientists use the BBNJ Treaty to secure fair benefits from marine discoveries without losing international research partners?
2. Could African nations unite as one bloc to negotiate a stronger BBNJ deal—or will competition between them weaken their position?
3. Would you accept a foreign company's funding for a marine lab if it demanded full control over all discoveries?
4. How would you convince the world that your nation's survival depends on access to a protected fishing zone?

CASE STUDY 3:

MARINE POLLUTION IN ASEAN – CHALLENGES AND COLLABORATIVE SOLUTIONS

MODERATOR:

PROF DR MOHD KUSHAIRI MOHD RAJUDDIN

UCSI University International Institute of Science Diplomacy and Sustainability adjunct professor

Marine pollution remains a critical environmental and diplomatic issue within the ASEAN region, with far-reaching implications for coastal ecosystems, economic stability and public health. The diverse and extensive coastlines of Southeast Asia support vital maritime economies, making the region particularly vulnerable to pollutants such as plastics, hazardous waste and oil spills. These threats not only harm biodiversity and degrade marine habitats but also cross national boundaries, underscoring the need for coordinated regional responses.

In Malaysia and across ASEAN, the accumulation of plastic waste, microplastics and chemical pollutants is severely disrupting the health of marine ecosystems. This degradation directly impacts coastal communities, where industries like fishing, aquaculture and tourism are essential for livelihoods. The strain on these marinedependent ("blue economy") sectors is significant, as pollution leads to declining fish stocks, contaminated seafood and deteriorating tourist attractions.

Health risks are also a major concern, as toxins from marine pollution enter the food chain, increasing risks of diseases and long-term health effects. Coastal populations face additional threats from polluted waters, including the spread of waterborne diseases.

At the governance level, addressing marine pollution in the ASEAN context requires more robust regional cooperation. Despite bodies like the ASEAN Working Group on Coastal and Marine Environment, challenges remain in ensuring consistent enforcement and collective action. Transboundary issues, such as plastic waste carried by ocean currents across national borders, demand collaborative frameworks and shared responsibility among member states.

ASEAN nations participate in global initiatives like the United Nations Sustainable Development Goals (SDG 14: Life Below Water) and the Global Plastic Action Partnership. Balancing the adoption of stringent environmental policies with economic growth remains a key challenge for these countries, as they navigate global commitments and regional realities.

Local efforts are underway across Malaysia and other ASEAN nations, with governments, NGOs and communities rolling out waste management programmes, awareness campaigns and beach clean-ups. However, the scale of the marine pollution crisis calls for more comprehensive solutions, from enhanced waste infrastructure to stricter regulations and greater investment in public education.

In conclusion, marine pollution poses a multi-dimensional challenge that ASEAN nations must tackle with integrated strategies at local, regional and global levels. This case study serves as a platform for understanding the complexities of marine pollution in the ASEAN context and developing strategic responses that can enhance environmental protection while fostering sustainable economic development. By focusing on regional cooperation, innovative policy solutions and multilateral diplomacy, ASEAN can strengthen its collective stance against one of the most pressing environmental threats of our time.

QUESTIONS:

1. How can nations leverage the latest scientific findings on microplastics' health impacts to push for stricter regional policies, even when some member states prioritise economic growth over environmental regulations?
2. Given that ocean currents carry plastic waste across ASEAN borders, how can Malaysia and Indonesia, for example, co-design a waste management framework that other developing coastal nations can adopt?
3. In a simulated crisis meeting, how would you negotiate a binding regional treaty on plastic reduction when some countries argue it could harm their domestic industries?
4. How would you persuade trade ministers to adopt a 'polluter pays' policy for marine plastic waste when they fear it might deter foreign investment in manufacturing?

CASE STUDY 4:

TACKLING TRANSBOUNDARY HAZE IN ASEAN – COLLABORATIVE STRATEGIES AND ON-GOING CHALLENGES

MODERATOR:

ASSOC PROF DR. LIEW JU NENG
Universiti Kebangsaan Malaysia

The transboundary haze crisis in Southeast Asia remains a persistent environmental and diplomatic issue, largely driven by large-scale land and forest fires, with significant occurrences in Indonesia. These fires, often set to clear land for agriculture, release thick haze that spreads across ASEAN countries, causing severe air pollution and raising significant concerns about public health, environmental degradation and regional cooperation. Despite numerous frameworks and agreements established over the years, finding a lasting solution remains elusive.

The haze has far-reaching consequences, from respiratory health problems to widespread environmental damage. The annual haze episodes strain public health systems, disrupt daily life and result in substantial economic losses, particularly in the tourism, agriculture and transportation sectors. The vulnerable populations, including children and the elderly, are especially affected by the deteriorating air quality, while the region's biodiversity and natural resources also suffer.

Addressing the haze has long tested ASEAN's principles of regional cooperation. The 2002 ASEAN Agreement on Transboundary Haze Pollution marked a key step toward collective action. However, challenges in enforcement, monitoring and political commitment have hindered its full effectiveness. ASEAN's principle of noninterference, central to its diplomatic framework, complicates stronger enforcement measures, as member states navigate the balance between national sovereignty and regional cooperation.

Diplomatically, the haze issue has sparked tensions within ASEAN, particularly between Indonesia, Malaysia and Singapore. Recurrent diplomatic tensions have highlighted the complexities of holding countries accountable while maintaining diplomatic relations. This challenge is exacerbated by the involvement of large corporations and smallholders engaged in unsustainable land management practices, which contribute to the fires.

Efforts at the local level have included initiatives aimed at promoting sustainable agricultural practices, improving fire prevention and engaging local communities. However, long-term solutions require greater corporate responsibility, stronger regulations and more consistent enforcement. The role of international organisations and environmental law has also become increasingly important, offering pathways for ASEAN nations to advocate for stricter global standards and legal frameworks to combat the haze.

In conclusion, the transboundary haze crisis exemplifies the intersection of environmental degradation, economic development and regional diplomacy in ASEAN. Solving this issue demands a multifaceted approach, involving regional governance, corporate accountability, sustainable development practices and public awareness. As ASEAN continues to grapple with this recurring problem, it must enhance its collective efforts and explore innovative strategies that prioritise both environmental sustainability and regional solidarity. This case study invites participants to delve into these complexities and propose actionable strategies for a haze-free ASEAN future.

QUESTIONS:

1. How can ASEAN leverage the latest satellite and air quality monitoring technologies to create a science-backed 'Haze Accountability Index' that pressures member states to comply with transboundary pollution agreements?
2. What lessons can African nations, grappling with desertification and cross-border dust storms (e.g. the Sahel region), learn from ASEAN's successes and failures in tackling transboundary haze—and vice versa?
3. If you were a lead negotiator, how would you draft a proposal for ASEAN's 2025 Summit that balances strong anti-haze enforcement with the bloc's sacred principle of noninterference?
4. How would you convince Indonesian palm oil corporations to adopt zero-burning policies during the next regional climate talks — when their profits depend on cheap, fast land clearing?

STUDY VISITS



Official Website
Forest Research Institute Malaysia
 Ministry of Natural Resources and Environmental Sustainability

Forest Research Institute Malaysia (FRIM) is a premier research institution in Malaysia dedicated to the advancement of forestry and forest-related research, development conservation and commercialisation. Established in 1926, FRIM has played a pivotal role in the development and management of Malaysia's forest resources, as well as in the promotion of sustainable forest management practices.

Located on a 545-hectare site in Kepong, FRIM is home to a wide range of facilities and research programmes, including a herbarium, arboretum, ecotourism spots and laboratories. With its commitment to excellence and innovation, FRIM is widely recognised as a leader in tropical forest research and is a valued contributor to global efforts to conserve and sustainably manage forest ecosystems.



PJ ECO RECYCLING PLAZA

The plaza was previously a building leased by the Petaling Jaya City Council to a supermarket. In 2018, the council reclaimed the premises and spent several years renovating it.

Unlike many other recycling centres, it accepts all kinds of "unprofitable" waste. Items such as paper, plastic bottles and aluminium cans have market value and are widely collected. However, materials like plastic bags, polystyrene and even glass are often rejected elsewhere due to logistical challenges—they are either too light or too heavy to process efficiently.

PJ Eco Recycling Plaza promotes the principle of reducing resource use at the source, as well as designing and reusing materials to lower waste disposal costs in Petaling Jaya.

In addition to plastic bags, polystyrene, glass, electrical appliances and Tetra Pak packaging, the centre also welcomes donations of clothing, toys, stationery and books. It collaborates with various non-profit organisations to distribute or sell these items at reduced prices during garage sales.





MALAYSIAN PALM OIL BOARD (MPOB)

Ministry of Plantation Industries and Commodities

MPOB is a government agency entrusted to serve the country's palm oil industry. Its main role is to promote and develop national objectives, policies and priorities for the wellbeing of the Malaysian palm oil industry.

It was incorporated by an Act of Parliament (Act 582) and established on 1 May 2000, taking over, through a merger, the functions of the Palm Oil Research Institute of Malaysia and the Palm Oil Registration and Licensing Authority. Each of these respective organisations has been involved in the palm oil industry for more than 20 years to render effective services and give greater national and international focus to the industry that MPOB was instituted.

Functions:

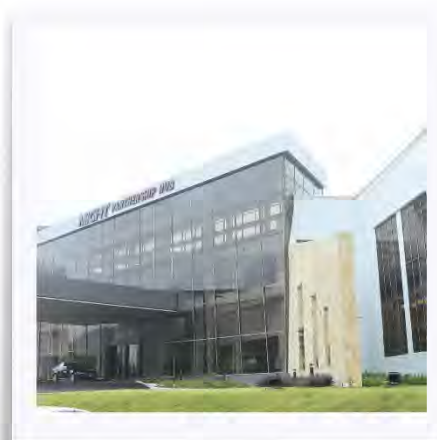
- Implement policies and development programmes to ensure viability of the palm oil industry in Malaysia.
- Conduct research and development related to the oil palm industry.
- License, regulate and coordinate all activities related to the palm oil industry.
- Develop, promote, commercialise research findings and provide technical advisory services to the palm oil industry.
- Collaborate and coordinate with national and international organisations to strengthen the palm oil industry of Malaysia.
- Organise training and human resources development programmes in accordance to the needs of the palm oil industry.
- A resource and information centre for the palm oil industry, dedicated to disseminating research findings and information on oils and fats.



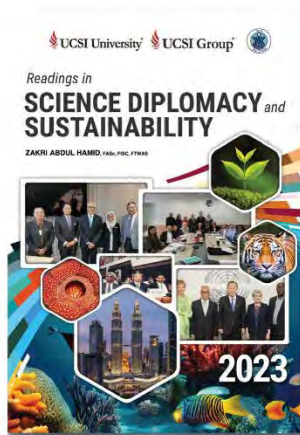
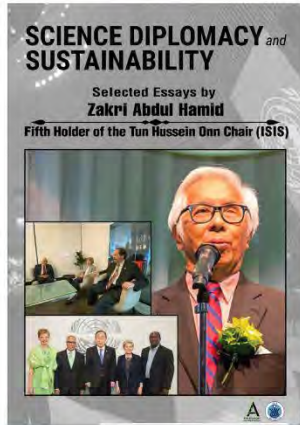
THE MALAYSIAN INDUSTRY-GOVERNMENT GROUP FOR HIGH TECHNOLOGY

The Malaysian Industry-Government Group for High Technology (MIGHT) was launched on 22 February 1993. MIGHT is a market-driven technological partnership thinktank with emphasis on market intelligence initiatives using foresight practices and methodology to identify technology and business opportunities.

MIGHT acts as a key interlocutor in bringing together policy and technology nurturing via catalytic interventions programmes. Programmes and initiatives include building strategic partnerships and alliances, technology acquisition and capacity building through policy interventions and flagship programmes.



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APPENDIX 4
COMMON-INTERESTS BUILDING: TRAINING GAME

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This Science Digest is open to new ideas, valid criticism and constructive feedback. If there is any science diplomacy/ policy related event which requires wider outreach, please share it with us. We welcome your articles/ feedback/ suggestions at scidip@niscpr.res.in



Contents //

Common-Interest Building: Training Game with the UN Sustainable Development Goals	1
Paul Arthur Berkman, Vahe Gabrielyan, Rabih El-Haddad, Carmen Isabel Claramunt Garro	
Technology Cooperation and Industrial Growth: Leveraging the ASEAN Opportunity	7
Debashis Bandyopadhyay	
Strategic Autonomy and Science Diplomacy: India and the Path Ahead	11
Manoj Saxena	
Unpacking India's Digital Trade Diplomacy	14
Arindrajit Basu	
Data Diplomacy and its Implications	17
Rajdeep Singh	
RAD@home India Citizen Science Diplomacy at the International Astronomical Union Symposium 375, Nepal	20
Megha Rajoria, Ananda Hota	
News	23
MoUs	23
Announcements	24
New Publications	24
Call for Proposals	26
Forthcoming Events	26

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SD-Training Game //

Common-Interest Building: Training Game with the UN Sustainable Development Goals

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Introduction

The 17 United Nations Sustainable Development Goals (SDGs) are a gift to humanity because they are inclusive at local-global levels across generations, with implementation limited only by our imagination (Fig. 1). As a result, all eight billion¹ of us can find relevance and inspiration among the 17 SDGs. This observation reveals the SDGs as a pedagogical playground for next-generation leaders to learn negotiation skills with common-interest building – in contrast to conflict resolution – and so emerged the COMMON-INTEREST BUILDING – TRAINING GAME.

Inclusion is an underlying challenge we each address across our lifetimes, which means there



Figure 1. UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS (SDGs) with international, transdisciplinary and inclusive relevance to balance economic prosperity, societal well-being and environmental protection at local-to-global levels.²

is an opportunity to be inclusive with lifelong learning. All humans are taught six fundamental **elements of inclusion** as children in every language and culture across the Earth. These six elements are the questions: who, what, when, where, why and how.

The skill to be inclusive starts with questions. In turn, questions build common interests with natural sciences, social sciences and Indigenous knowledge to make decisions that respond to change. Ultimately, this transdisciplinary process integrates research into action to make informed decisions that operate across a 'continuum of urgencies'. Informed decisionmaking (Fig. 2) is the context of the **COMMON-INTEREST BUILDING – TRAINING GAME**.



Figure 2. PYRAMID OF INFORMED DECISIONMAKING reflects the international, transdisciplinary and inclusive skills, methods and theory to produce **informed decisions**, operating across a 'continuum of urgencies' short-to-long term at personal-to-planetary levels as a scalable process "for the benefit of all on Earth across generations". Informed decisionmaking is the engine of science diplomacy as a language of hope, building common interests among allies and adversaries alike by triangulating education, research and leadership.³⁻⁵

How to Play the **COMMON-INTEREST BUILDING – TRAINING GAME**

The objective of the **COMMON-INTEREST BUILDING – TRAINING GAME** is for a team to justify a single SDG as the *umbrella SDG*, overarching the capacities to implement all 17 SDGs (Fig. 1). The outcome is an informed decision made with inclusion (who, what, when, where, why and how) by building common interests (Fig. 2).

Rule: Any of the 17 SDGs can serve as the *umbrella SDG*.

Step 1: Form a team. It can be small (2-10) or large (>25).

Step 2: Each team member chooses any 3 of the 17 SDGs (Fig. 1) by personal decision.

Step 3: All individual selections of 3 SDGs are shared with the team and recorded in a prepared spreadsheet that totals all selections from the team across the 17 SDGs (Fig. 3).

Step 4: Initiate the team dialogue to discover the umbrella SDG, addressing questions (who, what, when, where, why and how) from team members iteratively, with voting as appropriate, ultimately to produce an informed decision (Fig. 2) justified by the team based on their common interests.

NAME		SUSTAINABLE DEVELOPMENT GOAL (SDG) - SEE FIGURE 1																
First name	Surname	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Name 1a	Name 1b			1	1									1				
Name 2a	Name 2b		1											1			1	
Name 3a	Name 3b	1	1	1														
Name 4a	Name 4b	1						1		1								
Name 5a	Name 5b			1										1			1	
Name 6a	Name 6b	1		1										1				
Name 7a	Name 7b		1				1											1
Name 8a	Name 8b	1			1					1								
Name 9a	Name 9b			1						1				1				
Name 10a	Name 10b			1						1							1	
20-May-21	Total	4	3	6	2	0	1	1	0	4	0	0	0	5	0	1	3	0

Figure 3. COMMON-INTEREST BUILDING – TRAINING GAME spreadsheet example from the UNITED NATIONS DIPLOMACY 4.0 TRAINING PROGRAMME with MODULE 6 (SCIENCE DIPLOMACY), hosted by the UNITED NATIONS INSTITUTE FOR TRAINING AND RESEARCH (UNITAR 2022) during the six-week session in Spring 2021. Each spreadsheet is prepared in advance to record the three SDG choices of each team member and automatically total each SDG column to consider subsequently (see Step 4).

The team dialogue is facilitated by an individual who empowers the team to be respectful with inclusion, building common interests (which includes self-interests) with questions (Fig. 2) rather than resolving conflicts with answers. The facilitator serves as the broker of the dialogue by emphasising inquiry. With facilitation and questions, each team has the shared task to track their iterative progress from Step 3 (above) – across stages of informed decisionmaking (Fig. 2) on their journey to discover a single 'umbrella SDG' justified in view of their common interests. Optimally, there will be an opportunity for all team members together to reflect on lessons learned after playing the COMMON-INTEREST BUILDING – TRAINING GAME.

Applications of the COMMON-INTEREST BUILDING – TRAINING GAME

The COMMON-INTEREST BUILDING – TRAINING GAME began with the diplomatic corps of Armenia in Fall 2018 at the invitation of Amb. Vahe Gabrielyan for Prof. Paul Arthur Berkman to train "Science Diplomacy" through the Diplomatic School of the Ministry of Foreign Affairs of the Republic of Armenia. During this period, Prof. Berkman also applied the COMMON-INTEREST BUILDING – TRAINING GAME in the video-conferencing course on "Science Diplomacy: Environmental Security in the Arctic Ocean", which was offered jointly in the United States and Russia with The Fletcher School of Law and Diplomacy at Tufts University and Moscow State Institute of International Relations (MGIMO University), respectively.⁵ Additionally, the COMMON-INTEREST BUILDING – TRAINING GAME has been played repeatedly by 7th-grade students in the classes of Ms Kathryn Berkman at the Munich International School in Germany.

Since 2019, the COMMON-INTEREST BUILDING – TRAINING GAME has been applied among diverse diplomatic communities, in light of science diplomacy and informed decisionmaking initiatives with UNITAR, enabled by Mr Rabih El-Haddad, Director of the Division of Multilateral Diplomacy. These communities include: (1) the diplomatic corps of five nations through their Ministries of Foreign Affairs; and (2) students, diplomats and other professionals in eight week-long sessions online with the UNITED NATIONS DIPLOMACY 4.0 TRAINING

PROGRAMME (Fig. 3). Diplomatic corps training with science diplomacy and informed decisionmaking (Fig. 2) is illustrated by the week-long virtual session in October 2021, invited by Amb. Carmen Isabel Claramunt Garro with the Academia Diplomática Manuel María de Peralta in Costa Rica.

Among the diverse sessions with the COMMON-INTEREST BUILDING – TRAINING GAME, the teams with the Diplomatic School of Armenia from 2019-2022 are most comparable for cultural, gender, age and professional demographics (Table 1). The 3-day “Science Diplomacy” sessions with the Diplomatic School of Armenia were in Yerevan in 2019-2020 and virtual afterward virtual during the pandemic.

Table 1. Selection Totals among the Sustainable Development Goals (SDGs) with the COMMON-INTEREST BUILDING – TRAINING GAME (Fig. 3) in “Science Diplomacy” Courses at the Diplomatic School of Armenia

TRAINING SESSION		SUSTAINABLE DEVELOPMENT GOAL (SDG)																
Students	Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
12	APR '22	0	1	3	8	2	0	1	3	0	0	1	2	4	2	1	6	2
10	DEC '21	0	2	3	6	1	1	1	1	2	0	2	0	3	0	2	6	0
11	MAR '21	4	0	2	7	1	4	1	0	1	0	0	0	5	0	0	5	3
10	NOV '20	0	1	3	8	2	0	0	4	1	0	0	0	0	0	0	8	3
15	OCT '19	2	2	4	9	3	1	1	2	1	2	0	0	4	1	2	9	1
20	FEB '19	5	3	7	7	0	3	0	8	1	1	0	1	7	2	1	9	4
AVERAGE		1.8	1.5	3.7	7.5	1.5	1.5	0.7	3.0	1.0	0.5	0.5	0.5	3.8	0.8	1.0	7.2	2.1
		Session Consensus Most Frequent Umbrella SDG																

Table 1 reveals several commonalities among the above applications of the COMMON-INTEREST BUILDING – TRAINING GAME (FIGS. 1-3).

- ❖ Identification of a single “umbrella SDG” justified by the team may be a bridge too far, noting that consensus on a single SDG happened in 4 of the 6 sessions above (Table 1). In the other two sessions, the teams decided to have two umbrella SDGs, changing the rules of the game with common interest.
- ❖ Inevitably, in every application of the COMMON-INTEREST BUILDING – TRAINING GAME, the team dialogues started with a selection of the most popular SDGs. But what about the minority SDGs? To be inclusive – how do we effectively address who, what, when, where, why and how with sustainable development at local-to-global levels, short-to-long term in our climate-challenged civilisation of the 21st century? It is noteworthy, in two sessions (Table 1), the teams revealed their common interests with an “umbrella SDG” they initially considered to be of minor importance.
- ❖ Across the six sessions with the Diplomatic School of Armenia, QUALITY EDUCATION (SDG 4) was highly ranked and recognised as the “umbrella SDG” in half of the sessions (Table 1).
- ❖ PEACE AND JUSTICE STRONG INSTITUTIONS (SDG 16) also was highly ranked in all sessions and recognised twice as the “umbrella SDG”.
- ❖ Other “umbrella SDG” justified by the teams with their common interests included: GOOD HEALTH AND WELL-BEING (SDG 3), CLIMATE ACTION (SDG 13) and PARTNERSHIPS FOR THE GOALS (SDG 17), which also were represented among the outcomes across the UNITAR sessions.

What will your team decide about common interests with the SDGs?

Lessons Learned with the COMMON-INTEREST BUILDING – TRAINING GAME

The COMMON-INTEREST BUILDING – TRAINING GAME is itself inclusive in view of lifelong learning. Imagine 17 blocks simply coloured as the SDGs with symbols, but without words, offering a group of children the choice of any three blocks before they can read, playing the game with Steps 1-4. With words comes increasing complexity, but the elements of inclusion remain unchanged across our lifetimes as we learn to frame and address questions, which build common interests (Fig. 2).

The 17 SDGs are rich with complexity that can be tailored as a 'pedagogical playground' across lifetime stages of learning: K-12 (education), universities (research) and professions (leadership). More steps with the COMMON-INTEREST BUILDING – TRAINING GAME can be added, based on the educational objectives and facilitator creativity. The opportunity is a matter of exploration for each team member and teams together, asking questions that can be addressed given the 169 targets and 231 unique indicators aligned with the 17 SDGs,⁶ which can be treated as data points with methods across stages of research (Fig. 2).

More broadly, the depth and breadth to explore the SDGs are amplified across all countries on Earth, noting that 187 of 195 nations have contributed at least one Voluntary National Review (VNR) of their progress with the SDGs since 2015.⁷ The context of the SDGs can also be explored across the arena of global institutions that operate short-to-long term,⁸ as exemplified by the *United Nations Framework Convention on Climate Change*⁹ with its ongoing annual Conferences of the Parties (COP). Moreover, there are many analyses that consider interests in the SDGs from diverse perspectives, addressing primary questions, such as equitability.¹⁰ Inclusion (who, what, when, where, why and how) with the SDGs is revealed by their very existence, evolving from OUR COMMON FUTURE.¹¹

Inspiration with the SDGs (Fig. 1) exists across the Earth for next-generation leaders to become champions for humanity. Across the spectrum of subnational-national-international jurisdictions, the gift of the SDGs is with a common-interest building to transform our globally-interconnected civilisation with informed decisionmaking skills (Fig. 2) that can be shared equitably among all 8 billion of us with lifelong learning, creating synergies with education, research and leadership. This is the hope and imagination with the COMMON-INTEREST BUILDING – TRAINING GAME... "for the benefit of all on Earth across generations".

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ABOUT THE SERIAL

This incidental serial will share rigorous syntheses of meetings that relate to science diplomacy. The spirit of this serial is to be holistic (international, interdisciplinary and inclusive) in a manner that will be helpful to the future of our globally-interconnected civilization.

This serial is intended to integrate stakeholder perspectives, holistic evidence and governance records in a manner that reveals options (without advocacy), which can be used or ignored, with the goal of contributing to informed decisionmaking in our world.

Informed decisions are at the summit, overlying options and evidence. The evidence itself is distilled from data, with observations and information integrated from questions at the earliest stage possible for stakeholder engagement, which is the reason for the meetings in the first instance.

The decisions relate to the combination of fixed, mobile, and other built assets (including communications, research, observing and information systems) that require capitalization and technology PLUS regulatory, policy, legal, official-statement and other governance mechanisms (including insurance). Behind the decisions is the science, as the study of change, including natural and social sciences as well as Indigenous knowledge. Change itself reveals patterns and trends over time and space – to anticipate as well as respond to issues, impacts and resources – over generations within, across and beyond the boundaries of nations.

Science Diplomacy Action addresses an immediate and long-term need to publish rigorous syntheses and summaries of meetings associated with science and technology advice in government at all levels, especially among the foreign ministries of nations. This need is reflected by the rapidly growing number of meetings that focus on science diplomacy as a holistic process of evidence integration to balance national interests and common interests for the benefit of all on Earth. The value of these science-diplomacy meetings (or any meetings) is largely limited to those that attend. *Science Diplomacy Action* recognizes this unrealized opportunity to extend value beyond the meetings by soliciting and publishing rigorous meeting syntheses.

SCIENCE DIPLOMACY CENTER, INC. (SDCI)

Nation states have sovereignty, sovereign rights and jurisdictions across nearly thirty percent of the Earth. In contrast, international spaces established from World War II beyond sovereign jurisdictions exist across nearly seventy percent on the Earth as well as in outer space. On a global scale, across one hundred percent of our home planet, the challenge is to balance national interests and common interests. Recognizing this forever challenge, the Science Diplomacy Center was launched in February 2017, initially at The Fletcher School of Law and Diplomacy at Tufts University with funding from the National Science Foundation (NSF). The NSF funding and Science Diplomacy Center were transferred to EvREsearch LTD in 2020, becoming the Science Diplomacy Center™, which publishes *Science Diplomacy Action*. In 2022, the Science Diplomacy Center, Inc. (SDCI) was incorporated as a 501(c)(3) nonprofit in the United States.

With its three triangulated areas of focus – Education, Research and Action – SDCI aims to:

- Educate the next generation of science diplomats;
- Facilitate research to transform data into evidence and options that contribute to informed decisions, operating across a ‘continuum of urgencies’; and
- Provide leadership with science-diplomacy networks to build common interests among allies and adversaries alike across our globally-interconnected civilization.

The decision-support process applied by SDCI involves holistic (international, interdisciplinary and inclusive) integration from the natural and social sciences as well as Indigenous knowledge regarding impacts, issues and resources within, across and beyond sovereign jurisdictions. This holistic integration further involves stakeholder perspectives inclusively as well as governance mechanisms that represent the operation of government institutions. Importantly, this decision-support process is designed to reveal options (without advocacy), which can be used or ignored explicitly, contributing to informed decisionmaking across the spectrum of subnational-national-international jurisdictions.

To help with informed decisions, involving the combination of built infrastructure and governance mechanisms for sustainable infrastructure development, SDCI operates across a ‘continuum of urgencies’ that exists for peoples, nations and our world from security time scales (responding to the risks of political, economic and cultural instabilities that are immediate) to sustainability time scales (balancing economic prosperity, environmental protection and societal well-being across generations).

SUBMITTING MEETING SYNTHESSES:

As an incidental serial for rigorous meeting syntheses, the intention is to grow this serial in a manner that is both practical and helpful. The standard for the publication in *Science Diplomacy Action* is represented by Synthesis No. 1 (September 1, 2017), which emerged from the *1st International Dialogue on Science and Technology Advice in Foreign Ministries* in October 2016. Please see the Science Diplomacy Center™ website for Instructions for Authors (<https://scidiplo.org/science-diplomacy-research/science-diplomacy-action/instructions-for-authors/>).

In an holistic manner – *Science Diplomacy Action* seeks syntheses to share questions, observations, information, data, evidence and options that contribute to informed decisionmaking about issues, impacts and resources across jurisdictions in our globally-interconnected civilization. *Science Diplomacy Action* will operate as a rigorous publication with peer review, considering the overall quality, relevance and integrity of each submission. Each accepted synthesis will be an authoritative outcome of the relevant meeting with an author point-of-contact and other meeting participants listed as coauthors with their approval. This synthesis represents a series of meetings.



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