

Dear MUHAMMAD ZAHIR BIN RAMLI,

Congratulations! Your project has been selected to be presented at the STIC Research and Publishing Poster Showcase during the STIC annual conference, where 04 projects will be competitively selected to receive a seed grant of \$12,500 USD each.

The STIC Research and Publishing Poster Showcase is part of an integrated, multi-partner symposium entitled Accelerating Science, Technology and Circular Innovation in Southeast Asia, in cooperation with the ASEAN Smart Cities Partnership (USASCP), Arizona State University, and the Rochester Institute of Technology. The symposium will take place in Jakarta Indonesia on September 5-7, 2023, at the Park Hyatt - Jakarta.

The Symposium is structured in three mutually reinforcing tracks including smart sustainable cities; cooperation in science, technology, and innovation; and circular economy and entrepreneurship. It will bring together public and private sector actors involved in programming across multiple disciplines and urban sectors. Participants will benefit from shared program experiences, pilot city studies, and technical knowledge, in the fields of energy modeling, agri-tech, governance models, cybersecurity, and circularity well as opportunities to socialize new ideas and innovations among professional networks.

The **STIC Program** would like to invite you to the Symposium to present your project at the Research and Publishing Poster Showcase which will be on September 5th. The STIC annual conference will be held on September 6th, where the 04 winners of the research and publishing grants will be announced. Interested participants will also be invited to attend the events on the 7th on Circular Entrepreneurship. As a STIC Program participant, your travel expenses (roundtrip airfare, lodging and some meals) will be sponsored by the STIC Program. Please see the program flyer and draft agenda attached for further information.

All participants must register to attend the event. Please Register <u>HERE</u>.

Information about the Showcase logistics will be provided in a separate email. Should you have further questions, please contact Ms. Dung Le at E: <u>dungle@asu.edu</u>.

Sincerely,

fond Unga

Jose A. Quiroga Director, US-ASEAN STIC Program Arizona State University



Implemented by:



SYMPOSIUM ON ACCELERATING SCIENCE, TECHNOLOGY, AND CIRCULAR INNOVATION IN SOUTHEAST ASIA









The United States remains a strong, reliable, and active partner in ASEAN, supporting initiatives that promote cooperation in science and technology, and foster sustainable economic growth. In collaboration between the U.S.-ASEAN Smart Cities Partnership (USASCP), Arizona State University, and the Rochester Institute of Technology, the U.S. is hosting the **Symposium on Accelerating Science, Technology, and Circular Innovation in Southeast Asia**.

USASCP Programming

- Climate Finance, USASCP Business
 Innovation Fund
- Green Buildings Innovation, University of North Carolina-Charlotte
- Integrated Urban Services: Pilot Projects, Lessons, and Peer Learning, National Renewable Energy Laboratory
- Smart Sustainable Mobility,
 Department of Transportation
- Green Garden Alleys, National Science Foundation

2023

September 5 to September 7

Park Hyatt Jakarta

Jalan Kebon Sirih 17-19 Jakarta Pusat, Indonesia, 10340

ASEAN Circular

Economy Initiative

Featuring Speakers from

- Economic Institute for ASEAN and East Asia Director
- Ministry of Environment, Japan
- U.S.-ASEAN Smart Cities Partnership

ASU Programming

- Keynote Presentation from science and technology authorities in ASEAN
- Building Resilient and Secure Digital Infrastructure in Southeast Asia, panel discussion with subject matter experts
- Skill Building Workshops for tech entrepreneurs and early career scientists
- Seed Funding Competitions, STIC participants

RIT Programming

- Circular Entreprenuership Education
- Circular Economy Case Study: E-Waste Opportunities in ASEAN Countries
- Transforming Business to Circularity, Jones & Vining CEO

For event info and registration visit https://usascp.org





Symposium on Accelerating Science, Technology, and Circular Innovation in Southeast Asia

September 5-7, 2023

Park Hyatt Hotel Jakarta, Indonesia

As a strong, reliable, and durable partner of ASEAN, the United States supports initiatives that promote cooperation in science and technology and foster sustainable economic growth. The U.S.-ASEAN Smart Cities Partnership (USASCP), Arizona State University, and the Rochester Institute of Technology, are collaborating to host the Symposium on Accelerating Science, Technology, and Circular Innovation in Southeast Asia.

The Symposium is structured in three mutually reinforcing tracks: smart sustainable cities, cooperation in science, technology, and innovation, and circular economy and entrepreneurship. It will bring together public and private sector actors involved in programming across multiple disciplines and urban sectors.

Tuesday, September 5, 2023



The first day of the symposium will feature parallel programs by the U.S.-ASEAN Smart Cities Partnership (USASCP), and Arizona State University's US-ASEAN Science Technology and Innovation Cooperation (STIC)

U.S.-ASEAN Smart Cities Partnership

8:00-8:30 Cl Ballroom 1 & 2

Check-In

8:30-9:00 Opening Remarks

Ballroom 1 & 2

9:00-10:00 Ballroom 1 & 2	Climate Finance: Smart Cities Business Innovation Fund Awardees will present innovative low-carbon products and services				
10:00-10:30	Coffee/Tea Break				
10:30-12:00 Ballroom 1 & 2	Green Buildings: Lifecycle Assessment and Net-Zero Innovation (virtual) <i>Presented by University of North Carolina – Charlotte</i>				
12:00-13:30	Joint Lunch (90 minutes)				
13:30-15:00 Ballroom 1 & 2	Integrated Urban Services: Pilot Projects and Peer Learning <i>Public authorities from Iskandar Malaysia and Cagayan de Oro will present</i> <i>their agri-tech pilot projects to advance food security together with experts</i> <i>from the National Renewable Energy Laboratory (NREL) and Regenerative</i> <i>Impact Ventures (RIV)</i>				
15:00-15:30	Coffee/Tea Break				
15:30-16:00 Ballroom 1 & 2	Smart Mobility in Jakarta and ASEAN <i>Presented by from experts from the U.S. Department of Transportation and Jakarta transport authorities</i>				
16:00-17:00 Ballroom 1 & 2	Research/Innovation: U.S. National Science Foundation Green Garden Alleys: Makassar pilot project <i>Presented by M. Donny Ki from Institut Teknologi Bandung</i>				
18:00-20:00	Joint Welcome Reception				

Observatory



U.S.-ASEAN Science, Technology, and Innovation Cooperation

08:00-8:30 Check-In

Residence 3 The Entrepreneurship and Innovation (E&I) participants will be asked to gather in the waiting lobby (Residence 3). The Science and Technology (S&T) participants are invited to attend the Smart Cities Conference which will be running in parallel to the STIC pitch competition.

08:30-12:00 STIC Startup Pitch Competition Round 1

Residence 1&2 The group will be split into 2 subgroups and will be assigned to a pitch room. Each participant will be called one by one from the waiting lobby to their assigned pitching room, where they will deliver a 5-minute pitch to a panel of 3 judges. There will be 5 minutes for questions from judges, who will score the participant's pitch using a standard rubric. The top 4 ventures from each room will be selected to advance to the Final Round. Waiting Lobby: Residence 3

12:00-1:30 Joint Lunch (90-minutes)

Ballroom 1 & 2 During this time, judges will deliberate and select the top 4 pitches from each room to advance to the final round.

13:30-15:00 STIC Pitch Competition Round 2

Residence 3 The top 8 ventures that were selected from the parallel pitch competition will each get 10 minutes to deliver their final pitches and 5 minutes for Q&A before a panel of 6 judges. The participants not selected for the final round will also be in attendance during the final pitches and can ask questions.

15:00-18:00 STIC Research and Publishing Poster Showcase

Lobby - Ballroom Thirty five participants from six countries in Southeast Asia were competitively selected to present their proposals for a science and technology research project, aligned with the nine technical academies of STIC. The posters will be evaluated by a committee of subject matter experts to select four projects that will receive \$12,500 USD each in grant funding to jump start their research and publishing projects.

18:00 - 20:00 Joint Welcome Reception

Observatory



Wednesday, September 6, 2023



The second day of the symposium will feature parallel programs by the U.S.-ASEAN Smart Cities Partnership (USASCP), and Arizona State University's US-ASEAN Science Technology and Innovation Cooperation (STIC)

U.S.-ASEAN Science, Technology, and Innovation Cooperation

- **06:00 08:00 Breakfast** Participants from the Science and Technology (S&T) track who are presenting a poster will be asked to set up their poster during this time.
- 08:00 08:30 STIC Check-In and Networking Attendees are invited to visit the poster session area
- 08:30 09:00 STIC Opening Ceremony and Welcome Remarks
- Ballroom 1 & 2 Speaker: **TBC**, US Department of State

Group Photo

09:00 – 09:30 STIC Program Overview

Ballroom 1 & 2 Speaker: Jose Quiroga, STIC Program Director, ASU

This presentation will provide an overview of the U.S. – ASEAN Science, Technology, and Innovation Cooperation (STIC) Program.

09:30 - 10:00Keynote: Advancing Science and Technology in
Southeast Asia: Opportunities and Challenges
Speaker: Zurina Moktar, Assistant Director/Head of Science and

Technology Division, ASEAN Secretariat

This keynote presentation will explore the dynamic landscape of science and technology in Southeast Asia. The speaker will discuss the boundless opportunities these domains offer for regional advancement, as well as the challenges that underscore the need for innovative solutions. How can ASEAN shape a path toward a thriving future driven by scientific progress and technological innovation?



10:00 – 10:30 Coffee/Tea Break and Networking

Attendees are invited to visit the poster session area.

10:30 - 12:00Panel Discussion: Building Resilient and Secure DigitalBallroom 1 & 2Infrastructure in Southeast Asia

Moderator: **Mr. Arthur Glenn Maal**, Senior ICT Officer, ASEAN Economic Cooperation, ASEAN Secretariat

Panelists:

- **Dr. Hoang Anh Tuan**, Lecturer and Research Manager, Tech and Cybersecurity, Institute for Nontraditional Security (INS) under HSB, VNU, Vietnam (TBC)
- Mr. Thy Try, Executive Director, Open Development of Cambodia, Cambodia
- Mr. Kamarudin bin Abd. Rani, Under Secretary, Control and Compliance Division, Ministry of Communication and Digital, Malaysia (TBC)

This panel will explore the importance of resilient and secure digital infrastructure in Southeast Asia. Panelists will discuss strategies for strengthening ICT infrastructure, including broadband connectivity, data centers, and cloud services. They can also address the evolving cybersecurity landscape and ways to ensure the robustness and resilience of digital systems against cyber threats.

The panelists and moderator participated in the STIC Cybersecurity Study Tour in Washington DC during March 2023 and will also share their experiences in the program.

12:00 – 13:30 STIC: Lunch and Networking

Ballroom 1 & 2 Attendees are invited to visit the poster showcase area.



13:30 – 15:00 Parallel Workshops

Residence 1 & 2

Attendees can choose to participate in one of two parallel workshops according to their interests.

Room: Residence 1 **From Concept to Capital: Essential Insights for the Startup Founder's Journey** Presenter: Christopher Gresham, Technologist and Serial Entrepreneur

This session explores the pivotal stages that drive a startup founder's path to funding success. Delve into the initial phases focusing on customer discovery and achieving product-market fit that lays the foundation for a compelling business proposition. Discover valuable strategies for identifying the best-fit, value-aligned angel and venture capital investors to make your dream a reality. You will leave with an understanding of how to validate your idea, capitalize your business, and practical next steps for your venture.

Room: Residence 2

Publishing a Scientific Research Paper: From Selecting the Right Journal to Dealing with Peer Review.

Presenter: Subagio Effendi, Ph.D., Head of Data and Revenue Potential Subdivision at Direktorat Jenderal Pajak

This workshop guides early career scientists through the journal submission process. It covers strategies for selecting an appropriate journal, understanding the peer review process, writing effective cover letters, addressing reviewer comments, and handling rejection. Participants will gain insights into navigating the publication process and increasing their chances of successful publication.

15:00 – 15:30 Coffee/Tea Break and Networking

15:30 - 16:00

Ballroom 1 & 2

Awards Presentation

Attendees will be invited back to the main room where the winners of the 2023 STIC pitch and research poster competitions will be announced.

16:00 – 16:30 Closing Remarks

Ballroom 1&2



U.S. ASEAN Smart Cities Partnership: Circular Economy Initiatives

14:00-14:15 Residence 3	Opening Remarks: Government of Indonesia, U.S. Department of State
14:15-14:45 Residence 3	Circular Economy for Smart Sustainable Cities Dr. V Anbumozhi, Economic Research Institute for ASEAN and East Asia
14:45-15:00	Indonesian Commitments to Smart Cities
Residence 3	Dr. Yudhistira Nugraha, Director of Jakarta Smart City
15:00-15:15 Residence 3	Strengthening the Enabling Environment for Circular Economy in ASEAN
	Takuya Nomoto, First Secretary, Embassy of Japan
15:15-15:30 Residence 3	Promoting Circularity at the Regional and Sub-National Scale Helen Santiago Fink, U.SASEAN Smart Cities Partnership
15:30-16:00	Tea/Coffee Break
16:00-16:15 Residence 3	Identifying Economic Opportunities Through Material Flow Analysis Dr. Eric Williams, Rochester Institute
16:15-16:45 Residence 3	 Panel Discussion: ASEAN Cities Decarbonization and Dematerialization Activities: Market Opportunities and Operational Challenges Moderator: Helen Santiago Fink, USASCP USASCP Smart Cities Innovation Fund Awardees: SRTECH, a solar panel recycling facility in Da Nang, Vietnam

- PatiHoub, a plastics recycler in Luang Prabang, Laos
- BioPac, a seaweed packaging company in Tangerang, Indonesia





16:15-16:45 Private Sector Commitment to Circular Economy

Residence 3 Jim Salzano, CEO of Jones & Vining

17:15-17:45Panel Discussion: Investment and Finance for CircularResidence 3Entrepreneurship

Moderator: Dr. Clyde Erikur Hull, Rochester Institute of Technology Panelists:

- Robertus Theodore, Founder/CEO of Agragi
- Enterprise Singapore
- U.S. Trade Development Agency

Thursday, September 7, 2023

Saunders College of Business The third day of the symposium will feature a programs by the Rochester Institute of Technology's Saunder's College of Business on Circular Economy Entrepreneurship

Circular Economy Entrepreneurship

8:30-9:00 Observatory	Event Check-in
9:00-9:10 Observatory	Opening Remarks Helen Santiago Fink, U.S. Department of State
9:10-9:40 Observatory	Circular Economy Entrepreneurship Project Launch Presentation Clyde Eiríkur Hull, Professor, Rochester Institute of Technology This presentation introduces the project to promote circular economy in the ASEAN region through training of trainers of entrepreneurs and research.



9:40-10:00 Observatory	Circular Economy Entrepreneurship Curriculum for Incubators and Universities Israa Thiab, Visiting Asst. Professor, Rochester Institute of Technology This presentation summarizes the educational curricula being prepared to support the training of circular economy entrepreneurs.
10:00-10:20	Audience Q&A
10:20-10:35	Coffee/Tea Break
10:35-10:55 Observatory	Circular economy Case Study: Electronic - Waste Opportunities in ASEAN Countries Eric Williams, Professor & Shenying Zhang, PhD student, Rochester Institute of Technology This presentation discusses the current state of e-waste in the ASEAN region, and discusses policies and interventions to improve circularity in the sector.
10:55-11:15	Audience Q&A
11:15-12:00 Observatory	Transforming Business to Circularity Jim Salzano, CEO, Jones & Vining Mr. Salzano will discuss how Jones & Vining transitioned from a linear business to a much more successful circular business under his leadership.
12:00-1:00	Lunch
1:00-1:10 <i>Observatory</i>	Teaching Circular entrepreneurship: a showcase Israa Thiab, Visiting Asst. Professor, Rochester Institute of Technology Introduction to the workshop This workshop engages young entrepreneurs over the course of 3.5 hours to teach them how they can innovate products and services which achieve the principles of circular economy. Observers from



universities and incubators are welcome to join and engage in this workshop.

1:10-1:20 <i>Observatory</i>	Networking activity <i>This activity aims to establish initial connections among the participants</i> <i>in the session.</i>
1:20-1:30 Observatory	Brainstorming activity This activity teaches students to effectively brainstorm within their groups/teams
1:30-2:00 Observatory	Circular economy - definition, principles and strategies The definition, principles, strategies and business models of circular economy will be presented and explained. The use of circular economy business modeling tools will be explained.
2:00-2:15 Observatory	Coffee Break
2:15-3:15 Observatory	Breakout Group/ Group work Teams will break out and work on applying the knowledge they gained during the previous presentation to a business model.
3:15-4:15 Observatory	Show and tell Each group will present the outcomes of their work for 5 minutes.
4:15-4:30 Observatory	Closing Remarks Clyde Eiríkur Hull, Professor, Rochester Institute of Technology



About the STIC Program

Sponsored by the U.S. Department of State's Bureau of East Asian and Pacific Affairs Office of Multilateral Affairs (EAP/MLA) and implemented by Arizona State University (ASU), STIC aims to strengthen science, technology, and innovation cooperation between the U.S. and the ASEAN member states. This 3-year program (2022 - 2025) focuses on three major activities:

Science, Technology, and Innovation Policy Study Tour in Washington D.C.

The STIC Study Tour convenes policymakers and technical experts from ASEAN-member states in Washington D.C. to participate in an intensive 1-week program to promote collective action around policy, best practices, and the adoption of shared standards and capacity-building strategies to foster cooperation in science, technology, and innovation in the ASEAN region.

STIC Education Portal

In partnership with Coursera, the STIC Portal provides access to hundreds of upskilling and reskilling courseware developed by top universities in the United States that specifically align with the priority areas identified in the ASEAN Plan of Action on Science, Technology, and Innovation (APASTI 2016-2025). The courses available in the STIC Portal have been carefully curated and grouped into three learning tracks:

• Science and Technology (S&T) Track

The S&T Track includes 9 technical academies aligned with the priority areas identified by APSATI 2016 2025. Each year, participants will be invited to submit research concepts and 35 will be competitively selected to present at the annual conference where \$50k will be awarded in research grants.

• Entrepreneurship and Innovation (E&I) Track

The E&I Track has curated content to develop skills around ideation, prototyping, financial literacy, and business growth. Each year, 35 participants will be selected to join an online business venture incubator leading to the pitch competition during the annual conference where \$50k will be awarded in seed funding.

• Industry Professional Credentials (IPC) Track

The IPC Track includes content from companies like IBM, Google, Meta, and Microsoft. This track provides certification courses on skills that are in high demand such as cloud computing, AI, machine learning, cybersecurity, etc.

STIC Regional Conference

Each year, the program will host a 2-day regional conference with keynote speakers and panel discussions with international subject matter experts, networking opportunities, roundtable discussions, collective projects, and advanced skill-building workshops. The conference will host a research seed grant competition and a business venture creation pitch competition. Annually, \$100,000 will be awarded to 4 research projects and 4 business ventures through a competitive process.



Sponsored by:

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STIC

US-ASEAN—Science, Technology, and Innovation Cooperation Program

Date: Aug 29, 2023 Prepared by: Dung Le

STIC Annual conference Information Session for Participants

Agenda

- Symposium program
- Pitch competition
- S&Tposters Showcase
- Travel arrangements
- Accommodation
- Logistics arrangement
- STIC contact information

Program









RIT Saunders College of Business

KEY USASCP STIC Circular Economy (CE) Joint activities

Accelerating Science, Technology, and Circular Innovation in Southeast Asia

September 5–7, 2023

	TUESDAY—September 5			WEDNESDAY—September 6		THURSDAY—September 7	
8:00 AM	Check-in (Ballroom 1 & 2)	Check-in (Residence 3 - Waiting Room)		Check-in and S&T Poster Session (Baliroom Level - Lobby)		Check-in (Observatory)	
8:30 AM	Opening Remarks (Ballroom 1 & 2)	Pitch Competition Round 1 (Residence 1)	Pitch Competition Round 1 (Residence 2)	Opening Remarks and Program Overview (Ballroom 1 & 2)		Opening Remarks (Observatory)	
9:00 AM	Climate Finance: Smart Cities Business Innovation Fund awardees			Keynote Presentation Advancing Science and Technology in Southeast Asia: Opportunities and Challenges			CE Entrepreneurship Project Launch (Observatory)
9:30 AM				(Ballroom 1 & 2)			
10:00 AM	Coffee/Tea Break			Coffee/Tea	break and S&T Poster Sessi	on	Coffee/Tea Break
10:30 AM		17 pitches (10 min each)	18 pitches (10 min each)				
11:00 AM	Multi-Level Governance for Carbon Neutral Pathways in Malaysia and Thailand (Ballroom 1 & 2)		Panel Discussion Building Resilient and Secure Digital Infrastructure in South (Ballroom 1 & 2)		Southeast Asia	CE Training Workshop (Observatory)	
11:30 AM							
12:00 PM	M Lunch		Lunch and S&T Poster Session (Ballroom Level - Lobby)		Lunch		
1:00 PM	Both events will join this 90-minute lunch and return to their respective meetings after.				Lunch		
1:30 PM	Intervented Linkson Completers	Pick Operative Device		Workshop 1 Workshop 2 Navigating the Journal	ASEAN		
2:00 PM	Integrated Urban Services: Pilot Projects lessons and Peer Learning	(Residence 3) The 8 selected startups will participate	ence 3) rtups will participate	From Concept to Capital: Essential Insights for the Startup Founder's Bath to Funding	Submission Process: From Selecting the Right Journal to Dealing	Circular Economy Initiatives USACP	CE Training Workshop - cont. (Observatory)
2:30 PM	(Bairoom 1 & 2)	in a second round of pitches		(Residence 1) (Residence 2)	(Residence 3)		
3:00 PM	Coffee/Tea Break		Coffee/Tea Break		Coffee/Tea Break		
3:30 PM	DOT – Smart Mobility: USDOT and Jakarta			Awards Pres S&T Grants and E&I Seed F	Awards Presentation S&T Grants and E&J Seed Fund (Ballroom 1 & 2) Closing Remarks (Ballroom 1 & 2)		CE Training Workshop - cont. (Observatory)
4:00 PM	NSF–Green Garden Alleys: Makassar Pilot Project	Science and Technology Poster Showcase (Lobby-Ballroom Level)		Closing Re (Ballroom 1			
4:30 PM	(Ballroom 1 & 2)					USACP	
5:00 PM						(Residence 3)	CE Train the Trainer Session
5:30 PM							(Observatory)
6:00 PM	PM						
7:00 PM	M STIC and Smart Cities event participants and speakers. Light refreshments—no alcohol						
8:00 PM	(Observatory)						

Pitch competition arrangement

Pitching Competition Round 1

- 35 projects joining the pitch competition Round 1 will be divided into 2 rooms (Residence 1& Residence 2)
- Refer to the list of participants in each room, presentation order and tentative time
- 5 mins for presentation & 5 mins for Q&A with judges
- Participants MUST submit their pitch presentation file by noon Sep 3rd the latest. Updated presentation files or late submission will not be accepted due to time constraints
- Pitch presentation will be presented from organizer's computers. Participants will not need to bring laptops for presentation during their pitch.
- Presentation clicker/ pointer will be provided
- There is no limitation of the number of team members presenting the pitch deck.
- Be mindful of the presentation time

Pitch competition arrangement

Pitching Competition Round 2

- All participants will gather at Residence 3 after lunch
- Top 8 participants will be selected for Round 2
- 5 mins for presentations & 8 mins for Q&A with judges
- Same presentation files will be used
- Final results will be announced at the ceremony on the next day (Sep 6th)



Science & Technology Poster Showcase

- The Showcase is schedule at 3:00 PM on Sep 5
- All posters are submitted for printing and ready for the showcase
- 5 mins for presentation with the posters and 5 mins for Q&A
- Each poster will be viewed and assessed by 3 judges.
- The session is arranged in the lobby of Ballroom, space is limited for presenting prototypes, products, etc.
- Final results will be announced at the ceremony on the next day (Sep 6th)



Travel arrangement

Flight arrangement

- We arrange flights to Jakarta for STIC participants. Participants will receive the flight itinerary once it is confirmed
- Participants need to double check flight tickets e.g. name, itinerary, etc.
- Travel insurance is added for international flights

Ground transportation

- Participants will arrange themselves for traveling from their location to the airport and from the airport to the hotel Park Hyatt Jakarta
- Participants can travel from Soekarno Hatta Intl Airport to hotel Park Hyatt Jakarta by taxi, Gojek or Grab

Accommodation

• All participants will stay at Park Hyatt Jakarta

Add: JI. Kebon Sirih No.17-19, Kb. Sirih, Kec. Menteng, Kota Jakarta Pusat, Daerah Khusus Ibukota Jakarta 10340, Indonesia Tel: <u>+62 21 31111234</u>

- No hotel deposit is required when check-in
- Check-in at 1:00 PM. Early check-in is acceptable upon room availability
- Check-out at 12:00. Late check-out is until 2:00 PM with 50% room charge, after 5:00 PM will be full charge
- Breakfast is included
- The hotel allow maximum 2 people per room without additional charge.
- Participants will pay on their own for extra bed and other room services e.g. dinner, laundry, etc.

Logistics tips

- **Passport**: Make sure your passport is more than 6 months validity
- **Money exchange**: The rupiah (IDR) is the official currency in Indonesia. You may exchange money in your home country or at the airport when you arrive.
- **Cash:** You may need cash for some meals that are not covered by the program. Some restaurants and shops accept payment via card.
- **SIM card/ SIM data**: The hotel provides Wifi. You may want to buy a SIM card or SIM Data at the airport for using apps e.g. Grab or Gojek
- Power adapter: The hotel use power socket type C & F. Please bring your power adapter as needed.



STIC program contact information

- Jose Quiroga Email: jose.quiroga@asu.edu
- Thao Tran Email: <u>tranthao@asu.edu</u>

- Lien Le Email: <u>lienle@asu.edu</u>
- Dung Le Email: <u>dungle@asu.edu</u> Whatsapp: +84983158215





DO YOU HAVE ANY QUESTIONS?





US-ASEAN—Science, Technology, and Innovation Cooperation Program



Background & Purpose

Majority of sandy beaches, especially along monsoon dominated coasts, are prone to erosion due to energetic wind, wave, currents and tide. In Malaysia, based on National Coastal Erosion Study (2015), many sandy beaches in East Coast area reveals a high index of coastal erosion. Fasteroding stretches of coastline with high population density are assigned with "Category 1" erosion.



In Kuala Terengganu, Malaysia, sediments supply are blocked from the runway extension of an airport, and this intensified the erosion particularly during the northeast monsoon storm (Nov – Feb). Construction of ripraps and revetments did not help in the beach dune recovery and caused further problems to local fisherman and tourism.



Effective Sand Fences (E-Fence) is proposed as sustainable alternative structure to protect beach from erosion and dune restoration. The advantages include i) the zigzag pattern follows the wave angle which capable to sustain against strong wave attack, ii) serves as natural protection which safe to marine life (sea turtle) and iii) affordable, quick installation, easy construction, faster completion time and cheaper compared to hard engineering structure.

E-Fence: Sustainable Sand Dune Restoration in East Coast Malaysia

Muhammad Zahir Ramli, IIUM Malaysia; Effi Helmy Ariffin, UMT Malaysia; Mohd Fadzil Akhir, UMT Malaysia, Izihan Ibrahim, IIUM Malaysia.

Program Goals and Main Activities

Goals:

To implement a solution for beach erosion by using nature-based solution structure "E-Fence" in sand restoration.

3 specific goals:

- To examine the changes pre and post installation of E-Fence particularly during seasonal monsoon.
- To investigate the influence of different E-Fence's spacing to the sediment stability
- To quantify the rate of sand dune changes

Main activities:

Design improvement of E-Fence (porosity, opening angle, dimension), Beach profiles in relation to monsoon seasons, Unmanned Aerial Vehicle (UAV) topography survey, Grain sizing by sieving, in-situ wind measuring, numerical approach using MIKE & Xbeach, and data analysis.



Sponsored by:



Expected Results to be met and Performance Indicators

Project timeline:

1 year (12 months) project that will start in October 2023 and will be completed in September 2024.

Activity	Start Date	End Date
(Obj.1) Design improvement of E- Fence	01/10/2023	30/11/2023
(Obj.1) Beach profiles survey in relation to monsoon seasons	01/11/2023	30/10/2024
(Obj.2) Unmanned Aerial Vehicle (UAV) topography survey	01/11/2023	30/10/2024
(Obj.2) Grain Sizing	01/11/2023	30/10/2024
(Obj.3) In-situ wind measuring	01/11/2023	30/10/2024
(Obj.3) Results analysis by numerical approach and comparison	01/05/2024	31/08/2024
Final Report	01/07/2024	31/09/2024

Expected results:

- 1. The project would establish an optimal and sustainable design of natural based solution that help to mitigate erosion in long run.
- 2. Comprehensive methods coastal monitoring of coastal erosion will be developed with lower maintenance.
- 3. Results can be disseminated as additional recommendations or guidelines to EIA reports and stakeholders to increase adaptive capacity of vulnerable sectors in coastal area.

Results

Output 1 **E-Fence** configurat and desig improved.

Output 2 Erosion a accretion | patterns a identified through b profiles.

Output 3 Topograp and veget mapping produced and post installatior

Output 4: Morpholog and sedim type ident

Output 5 Sediment rate and stability ar determine



- sectors
- erosion

Implemented by:

Arizona State University



	Performance indicators	Targets	Data Source (Means of verification)	Data Collection Method & Frequency	Milestones
tion	Previous pilot study used as benchmarking	Spacing and length are revised	Pilot study data and report	Benchmar king, once project started	New design on E-Fence completed
nd are each	Data beach profiles from RTK has been collected and analyzed	Sand dune restoratio n and erosion alleviatio n	Monthly report and final evaluation report	Monthly	Beach profiles shown changes pre-post installation
hy tation pre n.	Images from drone are calibrated and processed	Shoreline increment with new vegetatio n line formed	Monthly report, semiannual and final evaluation report	Monthly	Stabilized restored sand dune introduce new vegetation lines
gy nent ified.	Sediment types are classified based on environmental setting	Trapped sediment consist of coarse and fine sediment	Monthly report and semiannual report	Quarterly	Trapped sediment type based on different season identified
ation re ed.	Relations between sediment and e-Fence are monitored	Combinat ion of optimal spacing and configurat ion	Final evaluation report	Semi annually	e-Fence contributed to sustainabl e sand dune restoration



 Provide fisherman boat dock at beach Conserve marine habitat • Enhancing the tourism sector Improving local socio-economic Reducing and controlling coastal





CERTIFICATE OF COMPLETION

Supported by the U.S. Department of State's Bureau of East Asian and Pacific Affairs and implemented by Arizona State University, the **US-ASEAN Science, Technology, and Innovation Cooperation (STIC) Program** presents this certificate to:

Muhammad Zahir Ramli

For successfully completed the

Science and Technology Track

Marine Science and Technology

August 04, 2023

Holly Lindquist Thomas Director Office of Multilateral Affairs Bureau of East Asian and Pacific Affairs U.S. Department of State

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