

Submission to the HKIE Executive

Report of 42nd Conference of the
ASEAN Federation of Engineering
and 31st Young Engineers of ASEAN
Federation of Engineering
Organisation Conference

21 - 24 October 2024 Sabah, Malaysia

**The Hong Kong Institution of Engineers
Young Members Committee**

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1. Introduction

1.1 Background

The 42nd Conference of ASEAN (Association of Southeast Asian Nations) Federation of Engineering Organisation (CAFEO 42) in conjunction with the 31st Meeting of Young Engineers of ASEAN Federation of Engineering Organisation (YEAFO 31) was the highlight event of the ASEAN Federation of Engineering Organisation.

AFEO began in 1973 as an engineering convention held between The Institution of Engineers Malaysia (IEM) and The Institution of Engineers Singapore (IES). The primary objective of the IEM/IES Engineering Convention was to promote interaction and relationship between their members in view of their common historical backgrounds and geographical similarities. IEM and IES took turns to host the convention. In 1976, while preparing for the 3rd IEM/IES Convention, it was suggested that all other ASEAN countries should be invited. In 1980, an agreement was signed for the formal establishment of the ASEAN Federation of Engineering Organisation (AFEO) on 8th August 1982. AFEO is a non-governmental body affiliated with the ASEAN Secretariat. It is an organisation of the national engineering/technological institutions of the ten ASEAN member countries, including Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. Its members are the national institutions/organisations of engineers of the ASEAN countries.

The Conference of ASEAN Federation of Engineering Organisation (CAFEO) has been hosted annually by the different member institutions in a rotating order since 1982. CAFEO annually attracted more than 800 foreign and 350 local engineering professionals from various industries, fields and sectors. CAFEO 42, hosted by the Institution of Engineers, Malaysia, was held in Kota Kinabalu, Sabah in October 2024.

AFEO also looked after the interest of young engineers. In 1993, the committee of young engineers was established and, in 1994, the Bylaws of the formation of a young engineer group were approved and the definition of the Young Engineer was agreed. The group name was Young Engineers of the ASEAN Federation of Engineering Organisations (YEAFEO). Its mission is to be a dynamic and progressive organisation that contributes to the development of young engineers in the ASEAN region. YEAFEO represents the young engineers of the national engineering organisations under AFEO, comprising members engaged in the common professional interest of engineering. It promotes the importance of engineering on the advancement of the social, economic and industrial development of the ASEAN region; concerts in the effort to elevate and improve the quality of life of the ASEAN people's dynamic actions and productivity to increase employment opportunities and equitable distribution of wealth among the masses of the ASEAN nations; participates actively in the industrial and technological programmes in ASEAN nations; encourages exchanging and sharing of engineering technology; emphasises on basic professional right, cognisant of the need to establish harmony and relationship among the members.

CAFEO 42 has set the theme "Charting ASEAN Growth with Digital Transformation, Smart Engineering and Green Solutions" for the conference and participants discussed pertinent issues and trends that contribute to the three sub-topics in the region, focusing on Digital Transformation, Smart Engineering and Green Solutions. Key topics included transportation & logistics, information & telecommunication, education & capacity building, sustainable cities & power and electrical & renewable energy.

This year, six delegates, namely Ms KAM Wing Sum (Chairman), Mr LAM Carl-yang Alvan (Committee Member), Ms LEE Yan Yi Fiona (Co-opted Member), Mr LI Hin Yu William (Co-opted Member), Mr MA Chung Wai Michael (Helper) and Mr HO Ying Yin Kenneth (Helper), represented the

Young Members Committee of the Hong Kong Institution of Engineers (HKIE-YMC) to attend CAFEO 42 and YEAFEO 31.



1.2 Objectives

The objectives of HKIE-YMC attending CAFEO 42 and YEAFEO 31 included:

- To broaden horizons in the engineering profession through sharing with young engineers from other countries;
- To enhance career perspectives of the young members;
- To gain exposure to large-scale international conferences;
- To nurture the leadership and communication skills of younger generations;
- To gain knowledge in the current practices of other countries;
- To exchange technical knowledge/ideas/culture with engineers worldwide;
- To expand the network of our young engineers with participants from other countries;
- To promote the HKIE and the HKIE-YMC to other countries; and
- To establish long-term partnerships with young engineers from other countries.

2. YEAFEO Meeting

2.1 Country Report

In the country report, each institution provided a brief sharing of their organisations, activities held in the last session and the upcoming events in their year plans. With the theme of “Charting ASEAN Growth with Digital Transformation, Smart Engineering and Green Solutions”, representatives from each institution also presented the major challenges in their countries, the corresponding strategies and engineering solutions to tackle the issues, in relation to the three sub-topics.

Being a country with two major parts separated by the South China Sea, Malaysia faced major challenges in mobility and connectivity among districts. Not only are new roads, bridges and railroads built, but innovations and multinational cooperation targeting sustainable development are also encouraged. Besides engineering challenges, the host country also presented her past activity calendar, including a series of sharing virtually as the prelude of the Young Engineers Festival, where young advocates shared innovative technologies in the market. The HKIE-YMC delegates gained more understanding of other engineering organisations in the ASEAN regions and more new ideas of activities for members’ benefit.

As the representative of the HKIE-YMC, Ms Keiko KAM, Chairman of the HKIE-YMC, started with an introduction of the HKIE and the HKIE-YMC and the major events organised in the previous session, such as the various delegations and active support in the Engineers Week held by the HKIE. Other delegates echoed CAFEO 42’s theme and provided an overview of Hong Kong’s status on Digital Transformation, Smart Engineering, and Green Solutions. Mr William LI presented digital transformation achievements in Hong Kong, such as iAM Smart. In Smart Engineering, Ms Fiona LEE presented the updates on the Smart City Blueprint for Hong Kong 2.0. Mr Alvan LAM presented the smart mobility and smart grid. Mr Michael Ma presented the Modular Integrated

Construction (MiC) and hydrogen development in the green solutions. Mr Kenneth Ho presented renewable energy of floating solar farms and waste-to-energy.



2.2 YEAFEO Governing Board Meeting

The board meeting is held annually for young engineers to discuss cooperation among YEAFEO member organisations. Though Hong Kong is not an official member of ASEAN, the HKIE-YMC delegates were invited to be the observer of YEAFEO and attend the Board Meeting.

The meeting was chaired by the representative of the host country, The Institution of Engineers, Malaysia (IEM). After closing the discussions on matters that arose at the previous Board Meeting, a report was presented at the Mid-term Meeting. The Board then discussed new matters including the updating of the YEAFEO Newsletter & social media, the nomination of AEFO Young Engineer Award, the outstanding fee collection for the winners of the Outstanding Young Engineers Award, the appointment of the YEAFEO office bearers etc.

For all the effort of the previous several years, the YEAFEO pins have been successfully produced this year and distributed to the YEAFEO members. The Board also announced that CAFEO 42 and YEAFEO 31

would be hosted by the Philippine Technological Council (PTC) in Manila, Philippines in 2025.



3. Technical Visits

3.1 Galeri Azman Hashim

The delegates started their technical visits at Universiti Malaysia Sabah with a visit to Galeri Azman Hashim. It serves as an exhibition and event space that features local artists from Sabah.

As a space located between lush forests and the sea, the circular building embodies sustainability and reflects the rich culture of Sabah. By relying on carefully considered passive design features such as natural ventilation coupled with the ample shade provided by the structure and surrounding forest, the event space within the Galeri was kept cool and the delegates experienced local delicacies without feeling the full heat of Sabah. For the museum spaces, the Galeri features user-centric design in efficient climate control systems that were designed for easier maintenance.

Galeri Azman Hashim also features a public sea view deck which is accessed via staircase and elevator shaped like a traditional 'bubu' fish trap. The Galeri's focus on incorporating cultural icons in its architecture and showcasing up-and-coming artists also underscores the Universiti Malaysia Sabah's dedication to social sustainability and promoting local culture in addition to preserving Sabah's natural beauty.



3.2 Universiti Malaysia Sabah Aquarium

After the visit to Galeri Azman Hashim, the delegates moved to another research facility in the campus - Universiti Malaysia Sabah Aquarium. The facility serves as a research centre and also an aquarium for displaying.

There are 4 major research fields in the Aquarium, Aquaculture, Marine Science, Marine Biotechnology and Fisheries Science. The Aquarium mainly showcased their achievements in Aquaculture, Marine Science and Marine Biotechnology. Variety of sea lifes was showcased in the aquarium, which includes the local and non local species e.g. Cheilinus Undulatus, Ocellaris, Regal Blue Tang, Sea Turtle, etc... The natural habitats are different for sea life, however the aquarium is still capable of showcasing them in a big aquarium. It benefits from their research on aquaculture, marine science and marine biotechnology.

During the guided tour, it explained the 4 essential elements of keeping the marine biodiversity in the aquarium, water qualities, vaccine & probiotic, nutrition & feeding and mutualism. Apart from keeping the biodiversity, the aquarium also helps to keep the population of endangered species. Through showcasing and keeping sea lifes, the aquarium serves as a good place for the research centre for the above 4 research fields. As such, the aquarium plays an important role in their country among ocean governance and marine policies.



4. Networking

4.1 Welcome Reception

A welcome reception was arranged to express a warm welcome to delegates from other countries attending CAFEO42. It took place at the Sabah International Convention Centre right after the YEAFEO governing board meeting.

The welcome reception served as a first place for the delegates from different countries to ice-break, mingling and networking. All 6 delegates from Hong Kong actively participated in networking with other delegates during the dinner. The topics discussed were mostly related to the engineering industry development in their countries, the engineering discipline their country embraced the most, the latest technology & direction adopted in their country and the challenges faced in their countries/ projects.

It was found that the most popular engineering discipline in the ASEAN country was the civil engineering discipline, even though some countries separated the geotechnical and structural discipline. For most of the ASEAN countries, their major projects are surrounded with railways development, power generation / energy harvesting , and other infrastructure related daily lives of their citizens.

For technologies deployed, most delegates responded that their countries are trying to promote BIM. However, BIM is still relatively high-tech and not common in the market.

With brief discussions with YEAFEO delegates from different countries and regions, the diversity of engineering development in the countries was observed.

4.2 YEAFEO Dinner

On 23rd October, the YEAFEO Dinner was held at Akar Garden, providing an exceptional platform for participants to connect, celebrate cultural diversity, and create lasting memories. The evening was characterized by engaging conversations and an atmosphere infused with the vibrant spirit of Sabah.

Attendees enjoyed a delightful dinner complemented by refreshing beverages, fostering an environment conducive to meeting new individuals and strengthening existing relationships.

A highlight of the evening was the captivating cultural performances, particularly the Anggalang and Mogunatip dances, which showcased the rich heritage of Sabah. Attendees were invited to participate in these traditional dances, enhancing the sense of community and celebration.

Additionally, a thrilling blowpipe shooting demonstration added excitement to the event. Participants had the opportunity to engage in this ancient skill, which further stimulated a spirit of friendly competition among attendees.

The evening culminated in a significant souvenir exchange among institutional representatives. This exchange allowed participants to share tokens of appreciation that reflected their diverse backgrounds and provided insights into various customs, traditions, and business practices within the ASEAN region. This interaction was particularly enriching, promoting cross-cultural understanding and appreciation among all attendees.

We extend our sincere gratitude to everyone who participated and contributed to making this event memorable. This gathering not only facilitated new connections but also celebrated our shared experiences and cultural richness.



4.3 Mari Mari Cultural Village

The delegation team embarked on an enriching journey to Mari Mari Cultural Village in Kota Kinabalu, Sabah on 24 October 2024. This visit provided a unique opportunity to immerse themselves in the rich cultural heritage of Borneo's indigenous tribes. Upon arriving at this living museum, they were greeted by the lush greenery and tranquil surroundings that characterize the village, which showcases the diverse cultures of the Kadazan-Dusun, Rungus, Lundayeh, Bajau, and Murut tribes. Each tribe's traditional house is constructed by its descendants, offering an authentic glimpse into their unique lifestyles and customs.

The visit was filled with interactive experiences that allowed the young engineers to engage deeply with local culture. Participants had the chance

to learn about and try their hand at using the traditional blowpipe, a skill historically employed by the Murut tribe for hunting. This hands-on activity not only provided insight into indigenous hunting techniques but also fostered a greater appreciation for traditional craftsmanship and resourcefulness.

Throughout their tour, the engineers sampled various traditional dishes from each tribe, with culinary experiences enriched by tasting local delicacies such as rice wine and bamboo-cooked meals that highlight the unique flavors of Sabahan cuisine. The day culminated in captivating performances showcasing traditional dances and music, where the engineers participated in a live demonstration of the Magunatip—a bamboo dance belonging to the Murut tribe that emphasizes community and celebration through movement.

This visit served as a powerful reminder of the importance of cultural preservation in modern contexts. As young engineers explore innovative solutions, understanding and integrating local cultures can lead to more sustainable approaches. The experiences at Mari Mari not only enriched their knowledge of Borneo's heritage but also inspired them to consider how cultural insights can inform engineering solutions that respect and enhance local communities. Ultimately, this visit was an invaluable experience that merged engineering aspirations with cultural appreciation, leaving them with lasting memories and insights.



4.4 Closing Ceremony

The closing ceremony was held at Sabah International Convention Centre on 24 October 2024 to mark the official end of CAFEO42 and YEAFEO31. A number of ASEAN Engineering Achievement Awards were presented. The President of CAFEO42 delivered a closing speech and handed over the CAFEO flag to the Philippines, the host of CAFEO43. The ceremony ended with traditional dances which many delegates joined as a unity. This was a memorable night for all of the delegates from different countries.



5. Conclusion

Delegates from HKIE-YMC have fulfilled the following objectives when participating in the CAFEO 42 and the YEAFEO 31:

- To broaden the horizon of young engineers though:
 - gain knowledge of the current practices of other countries
 - exchange technical knowledge/ideas/culture with young engineers worldwide
 - exposure in large-scale international conference
- To promote the image of the Hong Kong Institution of Engineers (HKIE) and the Young Members Committee (HKIE-YMC) to other countries;
- To tell a good story of Hong Kong engineering industry
- Extend and maintain the network to the overseas young engineering institutions
- To nurture the leadership and communication tactics of younger generations

The initiative of the participation of CAFEO 42 and YEAFEO 31 of HKIE-YMC was in line with the President in his HKIE Presidential Address 2024/2025 and his goals to maintain HKIE's position as a super-connector. In the past few years, delegates from the HKIE-YMC attended the conference as guests and observers.

The CAFEO 42 and YEAFEO 31 this year were a valuable experience for professional engineers, especially young engineers. The six HKIE-YMC delegates have gained exposure to attending this large scale international conference, increased their engineering knowledge, improved communication skills and developed inter-personal qualities to work with engineers from different countries. Furthermore, it has broadened the delegates' worldview and understanding of global interconnectivity. After years of active participation at YEAFEO, it has been suggested that HKIE-YMC could utilise the network and the experience to host a similar

international young engineers exchange activity in Hong Kong to strengthen the bonds between engineering societies and raise the awareness of our local engineers on global issues. Next year, CAFEO 43 and YEAFEO 32 will be held in Manila, Philippines. The HKIE-YMC will continue to encourage more young engineers to attend this meaningful event.



6. Feedback

Ms Keiko KAM



It is absolutely splendid for the HKIE-YMC to return to YEAFEO. In a rapidly changing world, we need to empower talents and unite the engineering communities.

Technological advancements have opened many doors for us, and the engineering community must leverage technology in our workflows. Every generation of engineers has their own challenges, and inevitably they all ponder what the future has in store.

Getting comfortable with a new environment and overcoming hurdles are easier said than done.

We must also locate ourselves on the map. If our city were to flourish as Asia's World City, we must deepen our understanding of the concepts and our relations with other global cities. This is why the HKIE-YMC continues to support members in building up global views through delegation trips. I sincerely hope that the HKIE-YMC can be the one to hold the door for our young members as we step out to explore together.

Mr Alvan LAM



In this year's travels, YEAFFEO 31 in Sabah, Malaysia was definitely a star highlight. It was an honour to represent HKIE-YMC as a delegate at the fruitful and engaging conference.

During this trip I experienced the history, culture, and natural beauty of Sabah, but more importantly witnessed the bonds between the ASEAN engineers as they work together to tackle

the effects of climate change. It was inspiring to see their innovative solutions and has reinforced in my mind that coming together as a global community is the way forward.

As the challenges of climate change become more complex and frequent, it is my ardent hope is that through exchanges like these both domestically and abroad, we as young engineers can build the bridges between communities that form the foundation of collaboration for a brighter and more sustainable future.

Ms Fiona LEE



YEAFFEO left the best impression on me, being the first time visiting Sabah, Malaysia. I would like to take this opportunity to express my gratitude for representing HKIE YMC to attend CAFEO and YEAFFEO.

One of the fascination was the visit to Mari Mari Cultural Village, where we had an immersive experience and learnt about the history, culture, and tradition of Borneo with young engineers across ASEAN countries. This also cultivates cultural exchange of our own countries which deepens our friendship and connection with each other.

I feel honored to be part of the team to present the country report and showcase the latest smart engineering developments of Hong Kong. Our focus on fostering exchanges with ASEAN countries highlights the importance of collaboration in the field. Together, we can enhance connectivity and pave the way for joint initiatives. This is definitely a flying start for upcoming collaborations.

Mr William LI



Attending the CAFEO and YEAFEO in Kota Kinabalu, Malaysia was a remarkable experience throughout my engineering career.

As a representative of the HKIE-YMC, I was privileged to engage with a diverse group of engineering professionals and young engineers from across the ASEAN region.

It offered me rewarding experience in technical knowledge, cultural exchange, and networking. The technical sharings were particularly beneficial for professional development. It was enlightening to learn about the innovative solutions being implemented across ASEAN countries. They offered practical insights and strategies applicable to their countries and regions. CAFEO and YEAFEO also served as a platform for cultural exchange. The social events and activities allowed us to experience the rich cultural diversity of the ASEAN region. The event provided ample opportunities to network with professionals and peers. I was able to establish valuable connections that I believe will be beneficial for future collaborations, such as HKIE-YMC 40th Anniversary celebrations.

Mr Michael MA

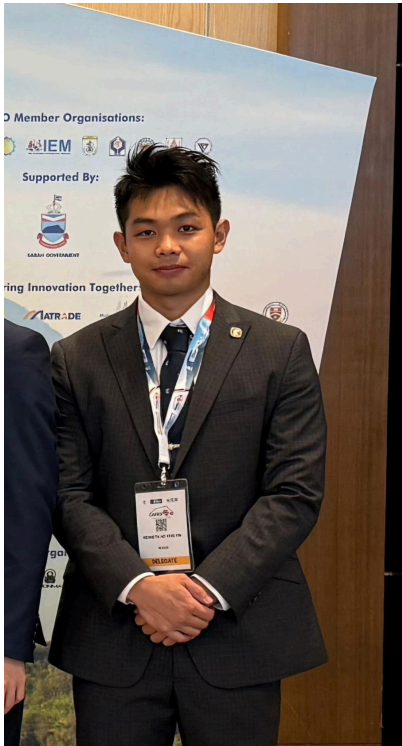


As part of the representative of the HKIE YMC attending the CAFEO and YEAFEO, it is a moment of opportunity to engage in engineering and cultural dialogues with professionals and young engineers from ASEAN countries in Sabah, Malaysia.

ASEAN countries showcase their latest engineering development in the summit and collaboration across borders is definitely a key to success in addressing regional and border challenges. With digital transformation, smart engineering and green solutions being the theme of the conference and current hot topic, technical exchanges with professionals during the summit deepened my understanding of current engineering solutions and helped me seek new ideas and thoughts on Hong Kong engineering development.

The invaluable cultural exchange not only widened my perspective on current engineering trends but also embarks further exchanges with ASEAN countries. The cross-collaboration establishes relationships between Hong Kong and other countries. I am glad to contribute to the team and am looking forward to future partnerships among the nation.

Mr Kenneth HO



It is my pleasure to represent the HKIE to attend the CAFEO 42 & YEAFEO 31 held in Shaba, Malaysia. This delegation was an excellent trip to explore the ASEAN country through an engineering summit and conference.

During the delegation trip, the chances given to network with delegates from other countries and regions are so precious and I utilise this opportunity for cultural exchange. The ideas, traditions and knowledge exchanged are so enlightening, and this kind of cultural exchange is exclusive to the

YEAFEO. I hope to share with my friends and colleagues the ideas and knowledge learnt during the trip, and I am so glad to be one of the delegates to attend the CAFEO 42 and YEAFEO 31.

Apart from cultural exchange, I did make good friendships with delegates from other countries. The relationships built are so genuine and precious for a delegation trip that lasted for a couple of days, as such we keep our contact with other delegates and I hope that the network and friendship built pave the way for the transnational professional institutional co-operations in the future.

Appendix A

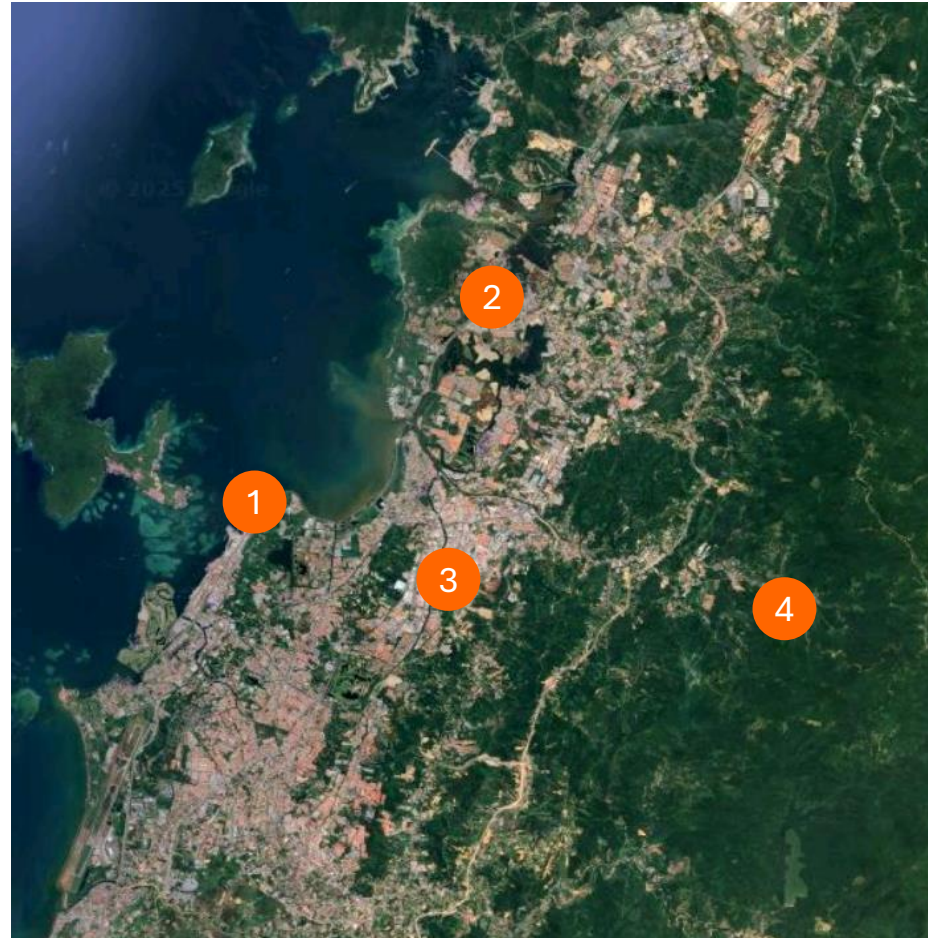
CAFEO 42 & YEAFEO 31 – Sabah at a glance

CAFEO 42 & YEAFEO 31 – Sabah at a glance

- 1 Sabah International Convention Centre**
Conference, opening ceremony, closing ceremony and exhibition



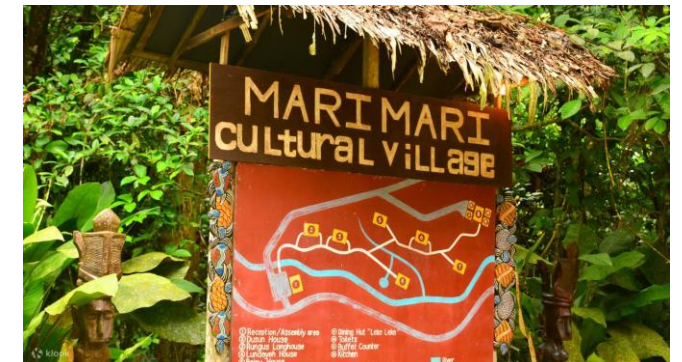
- 2 Universiti Malaysia Sabah & Galeri Azman Hashim**
Technical visit



- 3 Akar Garden**
YEAFEO Dinner



- 4 Mari Mari Cultural Village**
Cultural visit



Appendix B

Conference Programme

Appendix B - Programme Summary of CAFEO 42 and YEAFEO 31

Day 1: 22 October 2024 (Tuesday)

	Sipadan 2-3	Mabul	Mataking	Kapalai	Manukan	Kinabalu Room	Exhibition Hall
07:30 am - 09:00 am	Registration						Exhibition
09:00 am - 11:40 am	Opening Ceremony						
11:40 am - 11:55 am	Morning Break						VIPs Visiting Exhibition Booths
11:55 am - 01:25 pm	CAFEO Conference	AEI Building Inspectors	AEI Manufacturing Inspectors	AEI Electronic		YEAFEO Country Report	
01:25 pm - 02:25 pm	Lunch						Exhibition
02:25 pm - 03:55 pm	CAFEO Conference	AEI Electrical	AEI Harmonising Boiler	AEI Structural		YEAFEO Country Report	
03:55 pm - 04:10 pm	Tea Break						
04:10 pm - 05:40 pm	CAFEO Conference	Transportatio n & logistic	Engineering Mobility	Energy Forum	AAET meeting	YEAFEO Governing Board	
04:30 pm - 09:30 pm	Welcome Reception						

Day 2: 23 October 2024 (Wednesday)

	Sipadan 2-3	Sipadan 1	Mabul	Mataking	Kapalai	Manukan	Exhibition Hall	Technical Visit
09:00 am - 11:00 am	CAFEO Conference		FEIAP Exco Meeting			WEAFEO Governing Board	Exhibition	YEAFEO Technical Visit to Aquarium & Marine Museum and Azman Hashrim Gallery
11:00 am - 11:15 am	Morning Break							
11:15 am - 01:15 pm	CAFEO Conference		AER Commission Meeting	Sustainable Cities	Disaster Preparedness	WEAFEO Country Report		
01:15 pm - 02:00 pm	Lunch							
02:00 pm - 03:30 pm	CAFEO Conference	AER Certificate Presentation		Education & Capacity Building	Environmental Engineering	Women Summit		
03:30 pm - 03:45 pm	Tea Break							
03:45 pm - 05:15 pm	CAFEO Conference	AER Certificate Presentation		Geotechnical Engineering	Engineering Innovative Technologies	Women Summit		
05:15 pm - 06:30 pm								

Day 3: 24 October 2024 (Thursday)

	Sipadan 2-3	Kinabalu Room (Level 5)	Exhibition Hall
08:30 am - 10:20 am	CAFEO Conference	Country Report	Exhibition
10:20 am - 10:40 am	Morning Break		
10:40 am - 12:10 am	CAFEO Conference	Country Report	
12:10 pm - 01:00 pm	Lunch		
01:00 pm - 03:00 pm	CAFEO Conference	AFEO Government Board Meeting	
03:00 pm - 03:15 pm		Break	
03:15 pm - 04:30 pm		AFEO Government Board Meeting	
04:30 pm - 05:00 pm		Closing Ceremony Signing of Declaration and Gift Exchange	
06:30 pm - 11:00 pm	Closing Dinner Hosted by IEM and Sabah Government		
	Speeches and Handover of flag to the incoming chairman of CAFEO 43		
	End of CAFEO		

Appendix C

Financial Report