

Berita IKM - Chemistry in Malaysia

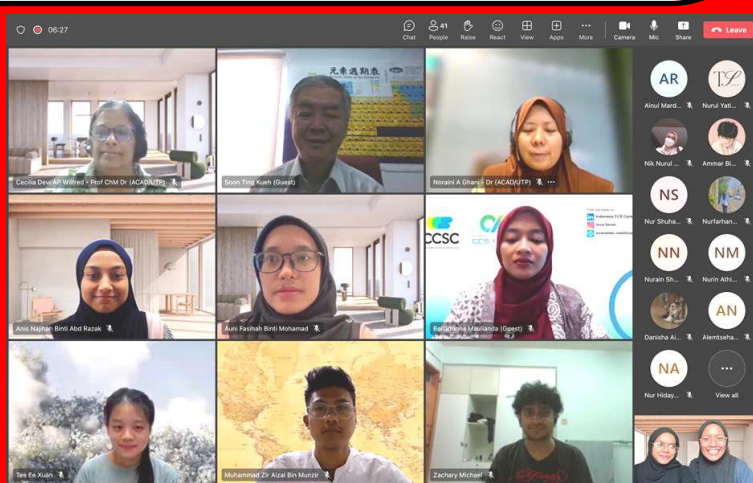
March 2024

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28 Aug - 1 Sept 2024

International Congress on
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CONTENTS

Page No.

BERITA IKM - Chemistry in Malaysia Editorial Board	1
MESSAGE FROM THE PRESIDENT	3
IUPAC 2025	5
KARNIVAL KEMAHIRAN DAN KERJAYA KIMIA MALAYSIA (K4M) 2023	6
MYCN VOICES – THE ROLE OF COVALENT ORGANIC FRAMEWORKS (COFS) IN ENHANCING FUEL CELL TECHNOLOGIES	8
MYCN EVENT – SDG & ESG: STRIKING A BALANCE BETWEEN GROWTH AND SUSTAINABILITY	10
4TH KARNIVAL KIMIA MALAYSIA (K2M) 2023 BY IKM PERAK BRANCH	12
ICPAC MONGOLIA 2024	14
IKM DIVISION OF PHYSICAL & THEORETICAL CHEMISTRY WEBINAR ON POLYANILINE COMPOSITE MATERIALS AS POSSIBLE CANDIDATE FOR EFFICIENT ENERGY STORAGE	16
FASD – IKM WEBINAR SERIES ON ECO – WARRIORS UNLEASHED: SAVING MOTHER EARTH WITH CCS/ CCUS	18
IKM 57TH AGM 2024 & 3RD IKM LAW HIENG DING FOUNDATION AGM	20
HEARTFELT CONGRATULATIONS ON YOUR PROMOTION AS PROFESSOR FROM IKM PRESIDENT & COUNCIL MEMBERS	22
IKM NORTHERN BRANCH COMMITTEE MEMBERS 2024/2025	26
THE IKM SARAWAK BRANCH - CHEMISTRY NIGHT 2023 AND THE 38TH ANNUAL GENERAL MEETING	28
IKM SARAWAK BRANCH COMMITTEE MEMBERS 2024/2025	30
IKM PERAK BRANCH COMMITTEE MEMBERS 2024/2025	32
IKM PAHANG BRANCH COMMITTEE MEMBERS 2024/2025	34
IKM SABAH & W.P. LABUAN BRANCH COMMITTEE MEMBERS 2024/2025	36
IKM TERENGGANU BRANCH COMMITTEE MEMBERS 2024/2025	38
IKM SOUTHERN BRANCH COMMITTEE MEMBERS 2024/2025	40
THERMO FISHER SCIENTIFIC KNOWLEDGE EXCHANGE	41
IKM REPRESENTATIVES IN IUPAC DIVISIONS / COMMITTEES 2024/2025	44
IKM NEW MEMBERS & MEMBERSHIP UPGRADING	46
ADVERTISERS INDEX	
LT Resources (M) Sdn Bhd	IFC
Orbiting Scientific & Technology Sdn Bhd	17
LabAsia 2025	23
RGS Corporation Sdn Bhd	24&25
Thermo Fisher Scientific, Singapore	27
Lab Science Solution Sdn Bhd	31
Bruker (Malaysia) Sdn Bhd	33
Inno Lab Engineering Sdn Bhd	35
Mediksoft Saintifik Sdn Bhd	37
MSI Technologies (Malaysia) Sdn Bhd	39
Institute of Materials Malaysia	45
The Tapestry of Science	48
LabWare Malaysia	IBC
Perkin Elmer Sdn Bhd	OBC

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MESSAGE FROM THE PRESIDENT



2024 – What do we hope to achieve?

2023 has been a busy and fruitful year for IKM. So, what do we expect to achieve in 2024?

First, we have the following two major events on 30th March 2024:

- ◆ **Forum on Continuous Professional Development (CPD) Programme for Registered Chemists under Chemists Act 1975 (Act 158)** in the morning &
- ◆ **IKM 57th Annual General Meeting** in the afternoon on the same day.

The Forum will discuss and debate on the implementation of Continuous Professional Development (CPD) programme for Registered Chemists under The Chemists Act 1975 (Act 158). This is an important matter for all members of IKM and I hope that members will take an active part in the deliberations.

At the 57th Annual General Meeting (57AGM), five Council members will retire and five “new” members will be elected into the Council.

Then we have the annual international congress, the **International Congress on Pure & Applied Chemistry (ICPAC) Mongolia 2024** which will be held in Ulaanbaatar, Mongolia from 28th August – 1st September 2024. This time, we are expecting a large turnout of Japanese & Korean scientists, in addition to our Malaysian and Mongolian counterparts.

Then on 3rd October 2024, we shall have the annual **Kuiz Kimia Kebangsaan Malaysia (K₃M) 2024**. This time, we are expecting more than 40,000 students taking part.

As usual, we shall have our **Malam Kimia & Presentation of IKM Awards 2024** on 6th December 2024. In addition, IKM shall be taking part in the following international events:

- ◆ **4th Commonwealth Chemistry Annual General Meeting on 21st May 2024 (online).**
- ◆ **50th IUPAC World Polymer Congress (MACRO) 2024 in Warwick, United Kingdom from 1st – 4th July 2024.**

IKM will be organising the **51st IUPAC World Polymer Congress or MACRO 2026** in Kuching, Sarawak, Malaysia in July 2026. For **MACRO 2024**, IKM is sending a delegation of 6 persons with the following missions:

1. To participate and take an active part in MACRO 2024
2. To promote and market MACRO 2026
3. To look out for potential Plenary & Keynote lecturers for MACRO 2026
4. To source for potential sponsors for MACRO 2026
5. To promote IUPAC 2025
6. To promote IKM as a professional scientific organization

MACRO 2026 is supported by Business Event Sarawak (BES) as well as the Malaysia Convention & Exhibition Bureau (MyCEB).

In addition to the above, the **IKM Professional Centre** will be conducting 34 training programmes in 2024. The **IKM LMIC Examinations 2024** will be held in September and **IKM LMIC Refresher Course 2024** from 13th July to 18th August.

This year, we are expecting the **Amendment to Chemists' Rules** to be completed soon and the new Rules will be implemented upon signing by the Honorable Minister of MOSTI. The other matter is the **Programme Standards for Chemistry** in Malaysian universities which is also waiting for final approval from the Malaysian Qualification Agency (MQA). We hope to receive these approvals in the nearest future before the end of the year.

But the most significant development in 2024 will be getting ourselves ready for **IUPAC 2025**. **IUPAC 2025** comprises the **53rd IUPAC General Assembly (53GA)** and **50th World Chemistry Congress (50WCC)**. These two global chemistry events are being organized biennially all over the world and Malaysia is the first ASEAN country to host **IUPAC 2025** in Kuala Lumpur in July 2025. It is expected to attract more than 3,000 delegates from all over the world.

We have started some initial work as early as January 2024 with the establishment of the National Organizing Committee (NOC) and International Advisory Board (IAB). By end January 2024, we have appointed Conference Partners Sdn Bhd as the Professional Conference Organizer (PCO) and we are negotiating with Kuala Lumpur Convention Centre (KLCC) as the venue of IUPAC 2025. At this moment, we are coming out with a "SAVE THE DATES" initiative to be distributed worldwide through the electronic and social media. The website, iupac2025.org, is being developed and is expected to be up and running by end of May 2024. We are also looking into the scientific contents of 50WCC including inviting plenary and keynote lecturers. We are also actively involved in getting sponsors and the Malaysia Convention & Exhibition Bureau (MyCEB) is a DIAMOND sponsor. There are so many things to do!

We need support of all Malaysians, including all IKM members, to make IUPAC 2025 a big success.

At this moment, I would like to take this opportunity to wish all our Muslim friends and colleagues "Selamat Hari Raya Aidilfitri".



Datuk ChM Dr Soon Ting Kueh
President, Institut Kimia Malaysia
Date: 20th March 2024

IUPAC2025



KUALA LUMPUR, MALAYSIA

53rd IUPAC General Assembly (53GA)
11 - 14th July 2025

50th World Chemistry Congress (50WCC)
13 - 18th July 2025



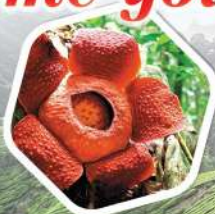
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Chemistry for Sustainable Future

We welcome you to enchanting Malaysia!





KARNIVAL KEMAHIRAN DAN KERJAYA KIMIA MALAYSIA (K4M) 2023

MALAYSIAN YOUNG CHEMISTS NETWORK

The Malaysian Young Chemists Network (MYCN) and the Institut Kimia Malaysia (IKM) have organized Karnival Kemahiran dan Kerjaya Kimia Malaysia (K4M) 2023. This year, K4M was hosted by Universiti Malaya and jointly organized with the University of Malaya Graduate Employability and Career Centre, the American Chemical Society (ACS) Malaysia Chapter, and the Chemistry Department, Universiti Malaya. A total of nine committee members collaborated diligently to ensure the success of K4M 2023. The single-day event occurred on October 18, 2023 (Wednesday) at the Auditorium, Perdanasiswa Complex, Universiti Malaya. Assoc Prof Dr Khor Sook Mei, Chair of K4M 2023, has led this event to great success. The physical event has garnered the participation of more than 114 individuals from diverse higher education institutions in Malaysia, including UM, UPM, UCSI, USIM, and UNIMAS. A total of twelve exhibitors representing various industrial businesses, organizations, and departments had their booths set up at the K4M 2023 event on the same day. The K4M 2023 event received partial funding from the ACS Malaysia Chapter, which sponsored souvenirs for all the invited speakers.

The event commenced on October 18, 2023, a Wednesday, at 8:30 a.m. and concluded at 5:00 p.m. The ceremony commenced with the singing of the Malaysian national anthem and a prayer, followed by a welcoming speech delivered by the deputy dean (HEP) of the Faculty of Science, AP Dr. Muhamad Shakirin Mispan. Prof. ChM Dr Juan Joon Ching, Chairman of MYCN, has delivered an opening speech emphasizing the important role of fellow chemist graduates. The President of IKM, Datuk ChM Dr. Soon Ting Kueh, officially launched K4M 2023. Following the commencement of the opening ceremony, all participants were promptly provided with refreshments before the

upcoming forum session. A specially designed forum focused on the theme "Career Opportunities, Management, and Professionalism" with four distinguished guest speakers from several industries. The forum featured Dr. Ng Khan Loon, the head of the research unit at Wipro Manufacturing Services, Ms. Chua Jean Chek, the general manager of Metrohm (M) Sdn. Bhd., Mr. Tang Kok Mun, the CEO of Biogenes Technologies Sdn. Bhd., and Dr. Tay Feng Huai, the founder of Elite Advanced Materials Sdn. Bhd. The forum commenced between 10:00 to 11:00 am and was moderated by Dr. Ts. ChM. Dr. Kumuthini Chandrasekaram. The panel members narrated their personal experiences and offered valuable insights and recommendations for successfully navigating the challenges they faced in their professional journeys, imparting their knowledge to the participants. The event concluded with a Q&A session, during which the experienced panel members provided thorough answers to the numerous questions posed by the students. A separate pitching session was held after the event, including three industry companies: ALS Technichem (M) Sdn. Bhd., SGS Malaysia Sdn. Bhd., and Ominent Sdn. Bhd. The pitching session was moderated by ChM. Dr. Lee Kian Mun. The industry delegates presented their company's profiles and internship prospects, specifically targeting chemistry students from UM. The morning program concluded with a lunch provided to the esteemed guests, speakers, exhibitors, and all student participants who had attended the K4M event from early morning until evening.

The afternoon session commenced with a workshop on curriculum vitae (CV) and resume at 2:30 pm. The moderation of this session was conducted by ChM. Dr. Muhammad Ameerullah Sahudin. The guest speaker, Ms. Marcela Guel, is an expert in global leadership and team development at Continental Tyre PJ Malaysia Sdn. Bhd. provided valuable and practical advice on crafting a



The opening ceremony of K4M 2023 was held on October 18, 2023, at the Auditorium, Perdanasiswa Complex, Universiti Malaya. From left to right: Assoc. Prof. ChM Dr. Khor Sook Mei, Prof. ChM Dr Juan Joon Ching, Datuk ChM Dr. Soon Ting Kueh, Assoc. Prof. Dr. Muhamad Shakirin Mispan, ChM Dr. Iskandar Bin Abdullah, ChM Dr. Nurul Huda Abd. Karim.

compelling CV and resume for successful job hunting. In addition, Ms. Marcela Guel discussed three crucial elements during the interview: (a) strategies for making a strong impression on the hiring manager, (b) the sequence of the interview process, and (c) effective approaches to answering interview questions. Examples and a general guideline have been provided for each aspect. Ms. Marcela Guel urged the participants to interact actively with the interviewer to make a favorable impression. Her key advice was to ensure one is adequately prepared before attending any interview. The "Effective Communication" session by Prof. Dr. Misni Misran proceeded immediately after the afternoon tea break. Dr. Shameer Hisham moderated the session. Professor Misni underscored the importance of effective communication originating from a sincere and genuine intention. His down-to-earth approach to engaging with the audience astutely showcased the seamless and proficient application of "effective communication." Despite the late hour and heavy rainfall since the afternoon, the audience willingly remained after the session due to their strong enjoyment of it. The K4M 2023 concluded with a motivating concluding speech from Associate Professor ChM. Dr. Khor Sook Mei served as the chair of K4M 2023.

Upon the conclusion of the K4M 2023 event, participants were required to scan the QR code to confirm their attendance and complete the feedback form to obtain their attendance certification. The audience feedback was captivating, and the analysis revealed that over 50% of the attendees awarded the highest rating of excellence to the K4M 2023 event review. Given the highly favorable response from students, it is necessary for MYCN-IKM to continuously hold this career fair as an annual event due to its significant demand and impact.



Ms. Marcela Guel is an expert in global leadership and team development at Continental Tyre PJ Malaysia Sdn. Bhd. provided valuable and practical advice on crafting a compelling CV and resume for successful job hunting.



Effective communication workshop by Prof. Dr. Misni Misran from the Department of Chemistry, UM, emphasizing the importance of effective communication originating from a sincere and genuine intention.



Four distinguished guest speakers of the K4M 2023 forum. From left to right: Ms. Chua Jean Chek, the general manager of Metrohm (M) Sdn. Bhd., Mr. Tang Kok Mun, the CEO of Biogenes Technologies Sdn. Bhd., Dr. Ng Khan Loon, the head of the research unit at Wipro Manufacturing Services, Dr. Tay Feng Huai, the founder of Elite Advanced Materials Sdn. Bhd., and the moderator, Dr. Ts. ChM. Dr. Kumuthini Chandrasekaram.

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Technical: ChM Dr. Lee Kian Mun

Report prepared by Associate Prof. Dr. Khor Sook Mei

Chair of K4M 2023

Department of Chemistry, Faculty of Science, Universiti Malaysia



MALAYSIAN YOUNG CHEMISTS NETWORK

MYCN VOICES – THE ROLE OF COVALENT ORGANIC FRAMEWORKS (COFs) IN ENHANCING FUEL CELL TECHNOLOGIES

ChM Dr. Ng Wei Keat

Fuel Cell Institute, Universiti Kebangsaan Malaysia

Fuel cell technology stands at the forefront of renewable energy solutions, offering a clean, efficient alternative to fossil fuels. Amidst this technological evolution, Covalent Organic Frameworks (COFs) emerged as a groundbreaking material, distinguished by their high porosity, chemical stability, and tunability. This article explores the transformative impact of COFs on fuel cell efficiency and sustainability.

COFs in Fuel Cell Technology – COFs offer a novel approach to overcoming traditional fuel cell material limitations. Their engineered pores and functional groups enhance gas separation and catalysis, crucial for optimizing fuel cell operations. The integration of COFs represents a significant advancement, marrying the benefits of both materials to address challenges in fuel cell technologies. This hybridization leads to improved ion conductivity and selectivity, pivotal for the next generation of fuel cells.

Engineered Pores for Enhanced Gas Separation – The engineered pores within COFs offer an unparalleled advantage in gas separation. This feature is vital for the selective permeation of hydrogen and oxygen gases, ensuring a pure feed into the fuel cell and thereby optimizing its performance. The specificity of pore sizes and functional groups (as shown in Figure 1) within COFs can be tailored to achieve superior separation efficiencies compared to conventional materials [1].

Integrating COFs with MOFs: A Hybrid Approach – The synergy between COFs and Metal-Organic Frameworks (MOFs) represents a groundbreaking advancement in materials science for fuel cells. This hybridization leverages the high surface area and structural diversity of MOFs with the chemical specificity and stability of COFs, resulting in materials that exhibit enhanced ion conductivity and selectivity.

The Revolutionary Science Behind COFs – At the molecular level, COFs represent a paradigm shift in materials science. Constructed through the linkage of boronic acids and multifunctional organic building blocks, these frameworks are defined by their ordered and predictable structures. Unlike other porous materials, COFs offer an unparalleled level of design specificity, enabling the creation of materials with precise pore sizes, shapes, and functional groups. This precision facilitates not only superior gas separation efficiencies but also tailored catalytic sites for specific reactions, making them ideal for a wide range of applications, including fuel cells.

Advanced Case Studies: COFs in Action – One notable study involves a COF designed for high hydrogen storage capacity. Researchers developed a COF with an optimal pore structure, achieving unprecedented hydrogen storage densities at room temperature. This breakthrough has direct implications for fuel cell technology, offering a more efficient means of storing and delivering hydrogen to fuel cells [3]. Another groundbreaking application is in the development of COF-based membranes for gas purification. These membranes demonstrate remarkable selectivity in separating hydrogen from carbon dioxide, a common challenge in biogas production. By leveraging the tunable porosity of COFs, scientists were able to create membranes that significantly enhance the purity of hydrogen, directly impacting the efficiency of fuel cells powered by biogas [4, 5].

Addressing Challenges and Looking Forward – Despite their significant potential, the application of COFs in fuel cells is not without challenges. The scalability of synthesis and integration of COFs into commercial fuel cell systems remain key hurdles. However, ongoing research and development efforts are dedicated to overcoming these obstacles, aiming to make COFs a cornerstone of advanced fuel cell technology.

Challenges and Future Directions – Despite their potential, COFs face challenges such as scalability of synthesis and commercial integration. However, ongoing research is poised to address these hurdles, paving the way for COFs to become a cornerstone of advanced fuel cell systems. Covalent Organic Frameworks (COFs) hold the promise of revolutionizing fuel cell technology, with their unique properties offering a pathway to more efficient, sustainable energy solutions. Continued exploration and innovation in this field are essential to unlocking the full potential of COFs in energy applications.

The journey of COFs from laboratory curiosity to a cornerstone of sustainable energy technology is a testament to the power of materials science innovation. With their unique properties and endless potential for customization, COFs represent a beacon of hope for a cleaner, more sustainable future. As research continues to push the boundaries of what's possible, the role of COFs in shaping our energy future becomes ever clearer. In harnessing the potential of these remarkable materials, we can look forward to a world where renewable energy technologies are not just viable but thrive (Figure 2).

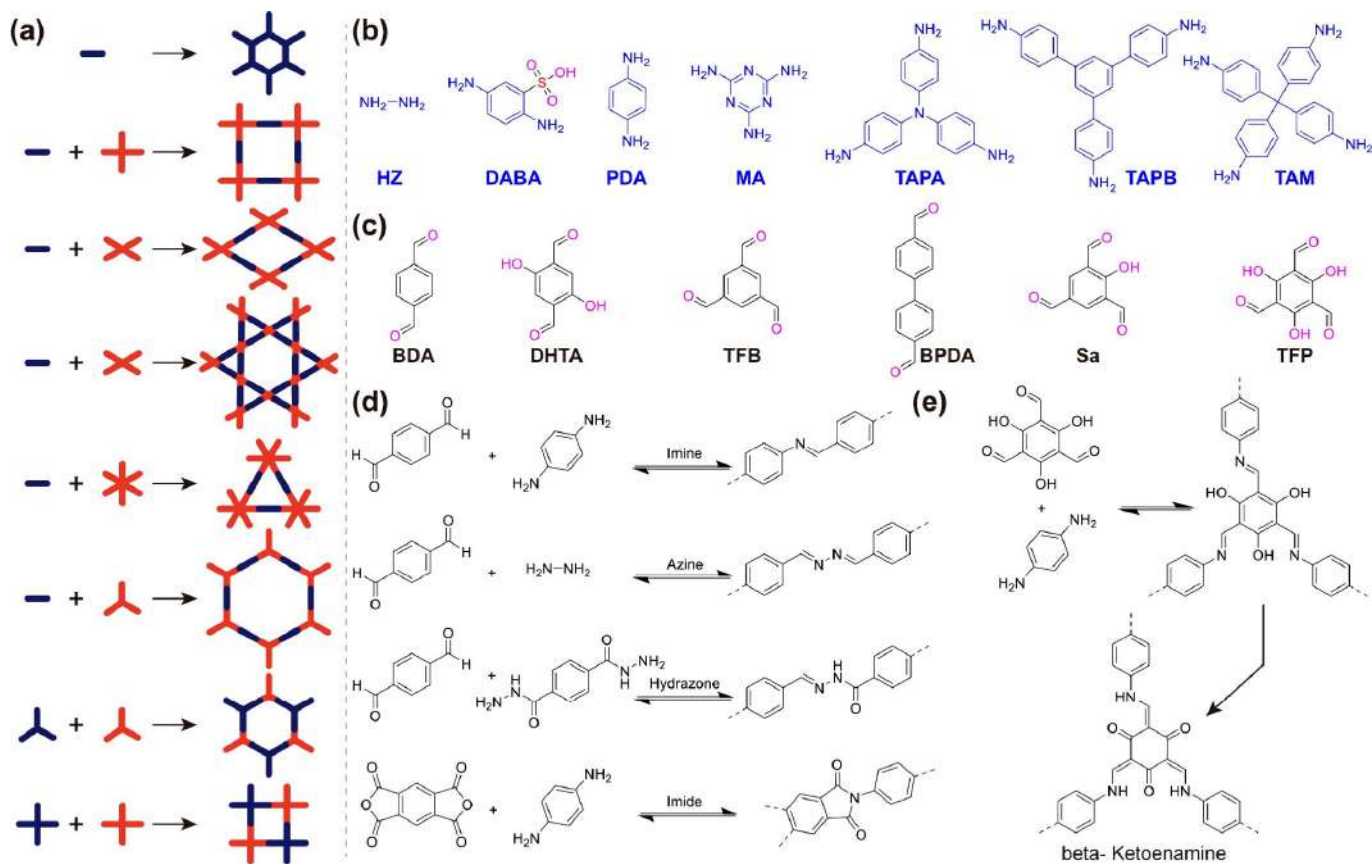


Figure 1: Pore engineering strategies for COF materials and membranes (Open Access: doi=10.1021/jacs.3c10832)

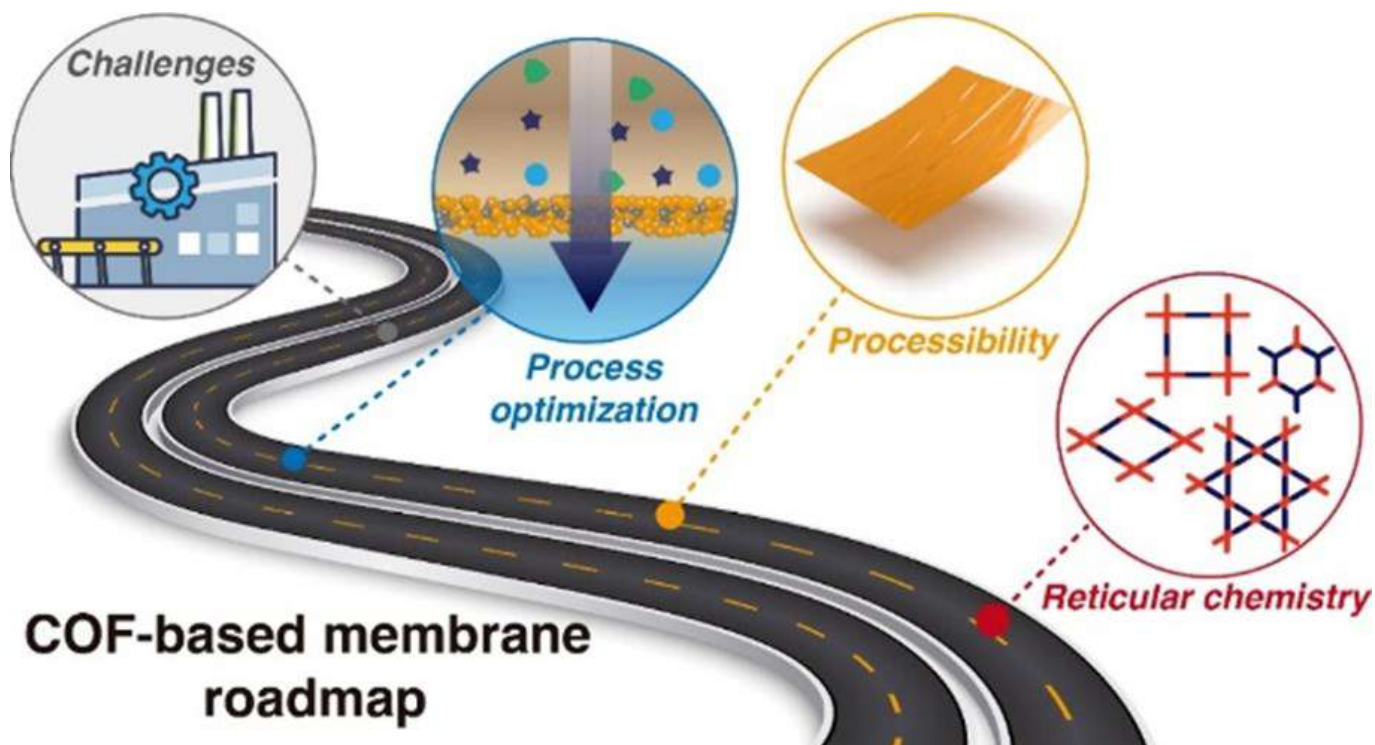
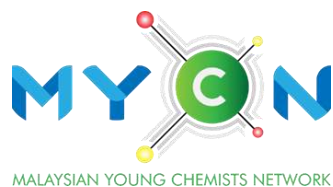


Figure 2: Roadmap for for COF- based membranes (Open Access: doi=10.1021/jacs.3c10832)



MYCN EVENT – SDG & ESG: STRIKING A BALANCE BETWEEN GROWTH AND SUSTAINABILITY

Ts. ChM Dr Kumuthini Chandrasekaram, *Research Officer, Universiti Malaya*
Assoc. Prof. ChM Dr Lim Teck Hock, *Associate Dean, Department of Physical Science, Faculty of Applied Sciences, Tunku Abdul Rahman University of Management and Technology*

The Sustainable Development Goals (SDGs) and Environmental, Social, and Governance (ESG) complement each other in the way forward to promote best practices that protect our planet. The United Nation's 17 SDGs pivot upon ending poverty, saving the earth, and promoting overall well-being for all. The ESG's focal point aims to measure sustainability and promote responsible business practices that consequently align with SDG implementations. Hence, both the SDGs and ESG factors are closely interloped in their vision.

Malaysian Young Chemist Network (MYCN) under the patronage of the Institut Kimia Malaysia (IKM) and in collaboration with International Young Chemist Network (IYCN) organized a webinar on 23rd September 2023 titled SDGs and ESG Synergized with Green Chemistry - A Global Conversation (GCS). The webinar consisted of three (3) sessions, namely Session 1 on Actions and Challenges in Synergizing SDG and ESG, Session 2 on Green Chemistry and SDGs, and Session 3 on ESG and Future Leaders. The webinar was chaired by Assoc. Prof. ChM Dr Lim Teck Hock (Tunku Abdul Rahman University of Management and Technology), moderated by Prof. ChM Dr Juan Joon Ching (Chairman MYCN, Council Member IKM, Universiti Malaya) and the opening address was by Datuk ChM Dr Soon Ting Kueh (President IKM). The distinguished panel of speakers include Dato Ong Eng Long (Past President of Malaysian Rubber Products Manufacturers Association 2013-2019), Assoc. Prof. Dr. Sharina Halim (Universiti Kebangsaan

Malaysia, Malaysia), Assoc. Prof. ChM Dr. Fatimah Salim (Universiti Teknologi MARA, Malaysia), Assoc. Prof. Dr. Kuo Chun Hong (National Yang Ming Chiao Tung University, Taiwan), Ts. Dr. Mohamad Shazeli Che Zain (Universiti Sains Malaysia, Malaysia) and Ms Esther Yap (CEO Stellar SparX International, Malaysia). Prof. Dr. Juan welcomed everyone to the forum with an introduction statement of MYCN-IKM supporting IYCN and IUPAC activities to build strong bridges and stand in union for chemistry, with the GCS forum being a good way forward in establishing the common goal. Datuk Dr. Soon in his opening speech mentioned that Chemistry is easily relatable to 12 out of the 17 SDGs and the practice of Green Chemistry being instrumental for better ESG implementation in the industry.

Session 1 on Actions and Challenges in Synergizing SDG and ESG began with a keynote address by Assoc. Prof. Dr. Sharina introduced The Institute for Environment and Development (Lestari) UKM and its outlook on social innovations and sustainability. Among the emphasis in her lecture include the need to create knowledge dissemination and integration with industry to promote better ESG, encourage the future generations to become leaders, policy, and decision-makers with environmental responsibility, create an ecosystem with universities having a multiplier effect in the practice of SDGs, and social innovations that can build the capacity of the public to choose sustainable approaches.

SDGs and ESG Synergized with Green Chemistry- A Global Conversation

23 Sep 23 10:00 am-2:05 pm Kuala Lumpur

Session 1: Actions and Challenges in Synergizing SDGs and ESG
 1000-1025 am Welcoming Speech (Prof. Dr Juan JC) and Opening Address (Datuk SoonTK) /IYCN Representative
 1025-1045 am Keynote Lecture by A.P. Dr Sharina Binti Abdul Halim Sustainability-LESTARI UKM's Experience
 1045-1200 am Panel Discussion (3 panelists; moderator Prof. Dr Juan JJ)







Session 2: Green Chemistry and SDGs
 1230 -100 pm AP Dr Kuo Chun Hong NYCU, Taiwan Nanoarchitectonic Engineering Toward Small Molecule Conversion
 100- 130 pm TS Dr Mohamad Shazeli Che Zain, MY Phytoneering: A green way of herbal Standardization Technology




Session 3: ESG and Future Leader
 130-200 pm Ms Esther Yap, CEO of Stellar Sparx International, MY Futureproofing Leaders of Tomorrow with ESG/Sustainable Practice
 200- 205 pm Closing Remark by A.P. Dr Lim TH, Chair of GCS by MYCN




To join:
Meeting ID: 819 9830 7530
Passcode: 458123



SCAN ME









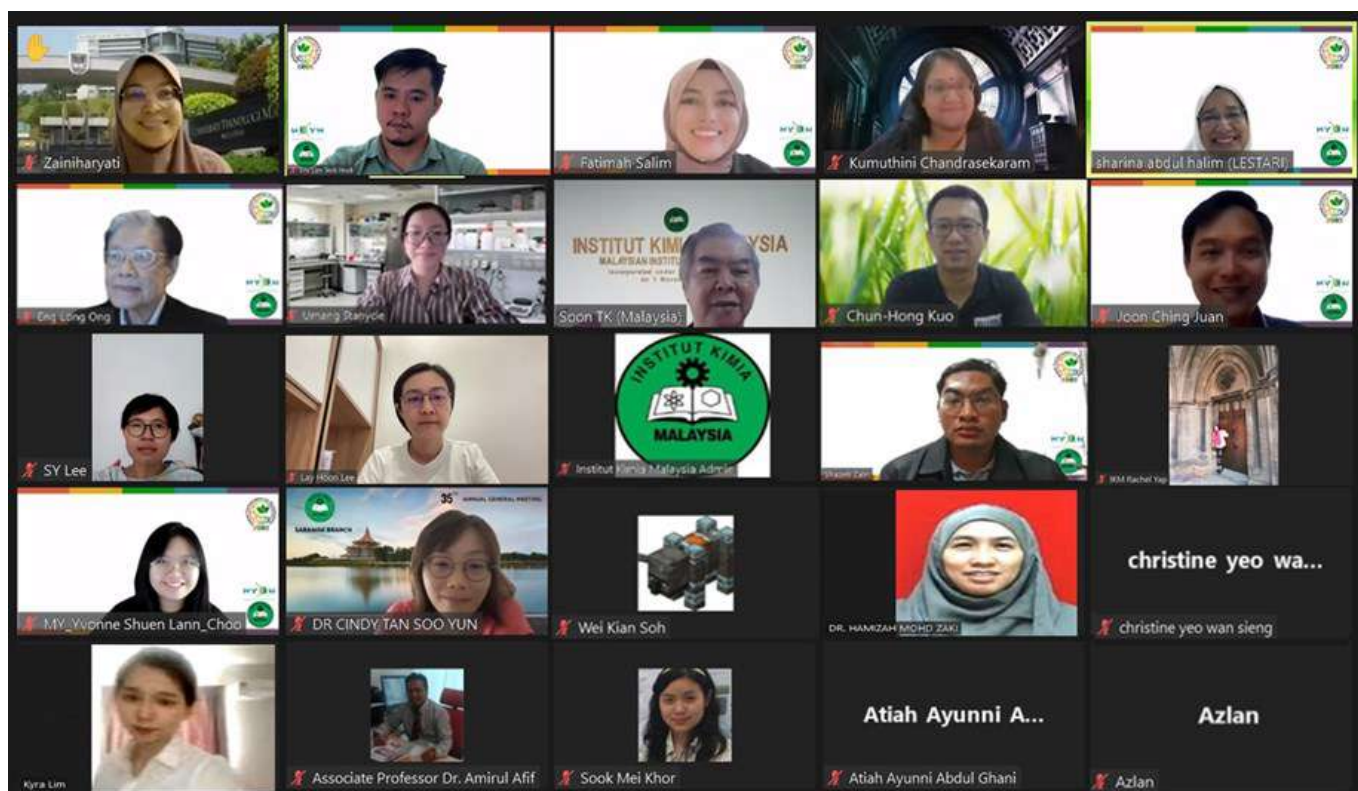


Session 2 on Green Chemistry and SDGs focused on the chemistry-based definitions of SDGs and the bridge that links the practice of SDG to ESG. Dato' Ong shared his opinion that Green Chemistry is the key point in addressing SDG using ESG, especially in the private sector. Two elements play a pivotal role in this practice, namely the environment and the social dimension. The social dimension here is defined as the involvement of both public and private sectors, i.e. the government and industry in co-implementing policies by a common system which collectively identifies goals and targets towards sustainable development. Assoc. Prof. Dr. Fatimah impressed the importance of a benchmarking mechanism for evaluating the ethical behaviour of companies and its impact on the environment, which in future could be used as an investment strategy for companies to ensure sustainable practices. Assoc. Prof. Dr. Kuo Chun Hong shared his presentation on meeting challenges in green chemistry using nanoarchitectonics engineering for greener energy generation in the future. Nanoarchitectonics is a concept that utilizes nanotechnology in material science to fabricate functional materials to promote the use of renewable energy, materials that contribute to energy conservation, materials with low environmental impact, and materials for the reduction, substitution, and recycling of elements. Ts. Dr. Mohamad Shazeli Che Zain delved into phytoengineering as a green way for herbal standardization technology following SDG3 and SDG12 as his main niche using natural deep eutectic solvent (NADES) which is being actively used in the development of plant-based pharmaceuticals and nutraceuticals to increase extraction efficiency as well as the stability and shelf life of compounds in extracts.

Session 3 on future-proofing leaders of tomorrow with ESG and sustainable practice had Ms Esther sharing her views from an industrial standpoint. The ESG framework from a company's perspective is on evaluating a company's sustainability impact on the environment, society the governance via a holistic approach of good practices with good returns. ESG leadership involves the principles of being socially progressive to people, environmental consciousness, and fiscally sound market growth. Moving forward with good ESG leadership, private firms stand to gain higher stakeholder trust, brand loyalty, strong financial performance, and market growth. Ms Esther also encouraged green chemistry students to have a proactive outlook as they are at the forefront of combining science with sustainability to make meaningful ESG contributions and connections to scientific innovations with social benefits.

The SDGs and ESG Synergized with Green Chemistry - A Global Conversation (GCS) which ran over four hours saw the convergence of various intellects and subject matter experts. Assoc. Prof. ChM. Dr. Lim made the closing remarks and thanked the distinguished panel and speakers for their time and insightful sharing. Thank you to SDGs and ESG Synergized with Green Chemistry - A Global Conversation (GCS) committee members.

Chair : Assoc. Prof. ChM Dr. Lim Teck Hock
 Secretariat : Ts. ChM Dr. Kumuthini Chandrasekaram
 Committee : Prof. ChM Dr. Juan Joon Ching, ChM Dr. Lee Loong Chuen, ChM Dr Loh Kee Shyuan, Asst. Prof. ChM Dr Yvonne Choo Shuen Lann, Assoc. Prof. ChM Dr Yong Soon Kong, ChM Atiah Ayunni Abdul Ghani & ChM Dr. Mazlin binti Mohideen



4th KARNIVAL KIMIA MALAYSIA (K2M) 2023 by IKM Perak Branch

The 4th KARNIVAL KIMIA MALAYSIA (K2M) 2023 Perak state level is organized by IKM Perak Branch in collaboration with Chemistry teachers of North Kinta district, Perak Education department. This program was successfully held on the 18th November 2023 at SMK Menglembu. The program was officiated by the Deputy Director of Perak Education Department representing the Director Dato' Mohammad Fauzi Bin Manson, DPMP, AMP. The IKM Vice President, ChM. Datin Dr. Zuriati Zakaria was present as the invited guest. Many other guests attended the program including the representatives from Perak Education Department, North Kinta district Perak Education Department, representatives from Jabatan Kimia Malaysia, many others from the industries, the exco members of the IKM Perak Branch, teachers and students. Total of 435 teachers, students and parents from 6 varies district of Perak State has involved in this programme.

The primary aim of 4th Karnival Kimia Malaysia K2M 2023 was created to enhance the awareness in Primary and Secondary School Students of the importance of Chemistry in our daily lives. With the theme "Kelestarian Kimia dalam Kehidupan", we had innovation competition and STEM Talent Shows from school students, pitching competition from school teachers, workshop for school teachers and also education / career fairs provide to students and community. Chemistry is a basic science that affects various aspects of our daily lives, from health care, energy to materials and nature around. However, many individuals consider chemistry as a complex subject and not easy to learn. The implementation of this event allowed students to apply what they learn to produce a product for usage in life. This gave the students an advantage to understand in more detail about the concepts of learned and used in their daily lives. This programme also was a platform for teachers to showcased and highlighted their PdPc ideas in improving student achievement in the subject of chemistry. In addition, it also exposed the community and society about the importance of chemistry in daily life. This carnival cultivated the interest and knowledge in Chemistry by giving young adults the opportunity to talk about Chemistry and practice the skills they have learned in a friendly competition.

Total of 46 groups of primary and secondary school students from North Kinta district, South Kinta district, Larut, Matang and Selama District, Perak Tengah district, Manjung district and Kuala Kangsar district were taken part in the Innovation Competition while 10 exhibition booths from different government bodies and industries have also participated. Upon registration, all the participants were given the Certificate of participation. In the Innovation Competition, the projects presented by all the schools were judged by the invited judges from the universities. The Microscale teaching of





chemistry workshop were conducted by UKM lecturers lead by ChM Datin Dr. Zuriati Zakaria, Vice Presiden IKM to 56 teachers from Perak. All the participants displayed an active participation during the workshop.

STEM Talent Show were performed by primary and secondary schools' students from SK La Salle, SK Convent Ipoh, SK Raja Perempuan, SRA Tarbiyyah Islamiyyah, SMK Ave Maria Convent Ipoh, SMK Anderson, SMK Perempuan Methodist. Each team were presented with Certificate of Appreciation.

3 minutes PdP Poster Pitching were presented by STEM and Chemistry teachers across primary to secondary schools in Perak. All the teachers displayed a creative and innovative teaching practices via an amazing presentation. However, only participants with all the criteria are rewarded with Best Presenters Award.

Innovation Competition (Primary School Category)	
Champion	SJK(T) METHODIST MALIM NAWAR
1 st runner up	SK JELAPANG JAYA
2 nd runner up	SK CHANGKAT LADA 3
3 rd runner up	SJK (T) MAHA GANESA VIDDYASALAI
4 th runner up	SJK(T) MAHA GANESA VIDDYASALAI
Innovation Competition (Secondary School Category)	
Champion	SMK AVE MARIA CONVENT IPOH
1 st runner up	SMK JALAN PASIR PUTEH
2 nd runner up	SMK CONVENT
3 rd runner up	SMK CONVENT
4 th runner up	SMK AVE MARIA CONVENT IPOH

3 MIN-PdP POSTER PITCHING CATEGORIES	BEST PRESENTERS AWARDEES
STEM PRIMARY SCHOOL	MARIMAH A/P PATRASE (SJKT MAHA GANESA VIDDYASALAI)
STEM SECONDARY SCHOOL	EHQA DHABITTA BT MOHD NASIR (SMK PEREMPUAN METHODIST IPOH)
CHEMISTRY (INDIVIDUAL)	VIGNESWARAN A/L SUPPIAH (SMK JALAN PASIR PUTEH IPOH)
CHEMISTRY (GROUP)	KOMATHY VEERASINGHAN (SMK AVE MARIA CONVENT IPOH), CHOW LAI KIM (KOLEJ MATRIKULASI PERAK)

Hopefully, for other participants, with the jury's comments and suggestions, the presentations will be improved in the future. Trophies and Certificate of Achievements were given.

The organizing committees of the 4th Karnival Kimia K2M has worked very hard to ensure the K2M program goes smoothly. Heartiest appreciation goes to Institut Kimia Malaysia and MOSTI for continuous support and facilitated this program in making it a success. Starting from the registration until the closing ceremony, K2M program has been well organized and lasted successfully.



Report prepared by: ChM Pn Komathy Veerasinghan (Organising Chairman II)

ICPAC MONGOLIA



<https://icpacmongolia2024.org/>

28 Aug – 1 Sept 2024

International Congress on Pure & Applied Chemistry Ulaanbaatar, Mongolia



"Promoting Excellence in Chemical Research and Innovation"



Organized by:



Institut Kimia Malaysia

In Collaboration with:



Foundation for Interaction
between Science & Technology, Japan



Mongolian Chemical Society

ACC

Asia Chem Corporation, Japan

International Congress on Pure & Applied Chemistry

Institut Kimia Malaysia (IKM), together with the Mongolian Chemical Society, Foundation for Interaction between Science & Technology (FIST) Japan and Asia Chem Corporation (ACC) Japan are jointly organising the International Congress on Pure & Applied Chemistry (ICPAC) Mongolia 2024 from 28th August – 1st September 2024 in Ulaanbaatar, Mongolia. ICPAC Mongolia 2024 is the eighth of a series of major international scientific meeting covering all areas of pure and applied chemistry including specific themed symposia. The theme, "Promoting Excellence in Chemical Research and Innovation", means that the Congress will focus on advancing chemistry for meeting the UN Sustainable Development Goals 2030. ICPAC Mongolia 2024 will comprise the following General Session and Symposia:

ICPAC Mongolia 2024 General Session (IGS)
Symposium on Organic and Biomolecular Chemistry (OBC)
Symposium on Inorganic and Coordination Chemistry (ICC)
Symposium on Physical Chemistry and Catalysis (PCC)
Symposium on Analytical and Environmental Chemistry & Engineering (AEC)
Symposium on Polymer and Materials Chemistry (PMC)
Symposium on Analytical Chemistry (ANC)

REGISTRATION FEE AND PAYMENT

Those interested to participate or make oral or poster presentation are required to register at the ICPAC Mongolia 2024 website: <https://icpacmongolia2024.org/>. Please submit your **REGISTRATION and ABSTRACT ONLINE**. Only those who have paid their Registration Fees are considered as delegates to ICPAC Mongolia 2024.

Participants	Type of Registration	Early Bird (before or on 31st May 2024)	Regular (from 1 st June 2024)
MALAYSIAN Participant	IKM members	RM1300	RM1400
	Non IKM members	RM1600	RM1700
	Postgraduates Students (full-time)	RM1050	RM1200
INTERNATIONAL Participant	International Participant	USD870	USD970
	Postgraduate Student	USD570	USD670
Congress Banquet (additional guest)		USD120	USD120
Tour (additional guest)		USD100	USD100

- The deadline for Early-Bird Registration is **31st May 2024**.
- Registration fee entitles the ICPAC Mongolia 2024 delegates to the following: Attendance at all ICPAC Mongolia 2024 scientific sessions and All ICPAC Mongolia 2024 documents and materials.
- All delegates **MUST** pay their registration fee by **30th June 2024**.

IMPORTANT DATES

- Abstracts **MUST** be submitted online via congress website, <https://icpacmongolia2024.org/>.
- **The deadline for abstract submission is 31st May 2024.**

Refer to congress website for updates.

ACCOMMODATION

Please refer to congress website for updates - <https://icpacmongolia2024.org/>.

MORE INFORMATION / CONTACT US

ICPAC Mongolia 2024 Secretariat c/o Institut Kimia Malaysia
127B, Jalan Aminuddin Baki, Taman Tun Dr Ismail, 60000 Kuala Lumpur, Malaysia

Telephone: +603-77283272 / +603-77283858 / +603-77269029

Fax: +603-77289909

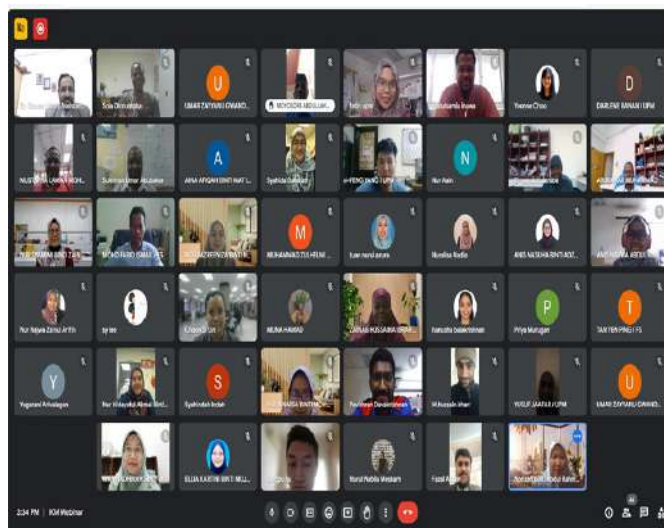
Email: secretariat@icpacmongolia2024.org

website: <https://icpacmongolia2024.org/>

IKM Division of Physical & Theoretical Chemistry Webinar on Polyaniline Composite Materials as Possible Candidate for Efficient Energy Storage

On February 20th, 2024, the Division of Physical and Theoretical Chemistry (DPTC) successfully organized a webinar on the topic of "Polyaniline Composite Materials as Potential Candidates for Efficient Energy Storage." This webinar was part of a series organized by DPTC-IKM during the 2023/2024 session and was made possible by the Malaysian Institute of Chemistry (IKM), in collaboration with the Department of Chemistry, Universiti Putra Malaysia, serving as the co-organizers. The invited speaker for the webinar was Asst. Prof. Dr. Rizwan Ullah from the National Center of Excellence in Physical Chemistry, University of Peshawar. Dr. Rizwan has been researching polyaniline and supercapacitors for more than 10 years and has published over 35 papers on the topic. Assoc. Prof. ChM. Dr. Norizah Abdul Rahman (IKM, UPM) moderated the webinar.

The webinar focused on conducting polymer, polyaniline composite with bismuth and zinc oxide, and their use as supercapacitive materials. Polyaniline composite materials are intriguing due to their high specific capacitance, enabling them to store a large amount of electrical energy per unit mass or volume. This property makes them suitable for use in supercapacitors, which are energy storage devices capable of delivering high power densities and long cycle life. Additionally, PANI composites can be used in other energy storage devices, such as lithium-ion batteries, to improve the battery's performance by increasing its energy density and cycle life. They can also be used in flexible and wearable electronics, where their mechanical flexibility and conductivity are advantageous. Overall, PANI composite



materials show great promise for efficient energy storage and are the subject of ongoing research to further improve their properties and performance for a wide range of applications.

Due to the webinar's intriguing topic, it attracted around 50 participants from various institutions in Malaysia and Pakistan, such as Xiamen University Malaysia, Universiti Putra Malaysia, Jabatan Kimia Malaysia, Universiti Kebangsaan Malaysia, I MEDIKEL HEALTHCARE, and the University of Peshawar.

Report prepared by,
Assoc. Prof. ChM Dr. Norizah Abdul Rahman

IKM WEBINAR:

“Polyaniline composite materials as possible candidates for efficient energy storage”

Date: 20th February 2024
Time: 2.30-3.30pm (MYT)

Google Meet joining info
Video call link: <https://meet.google.com/orh-cqbt-mcx>
Or dial: (US) +1 260-702-9476 PIN: 721 633 822#

Moderator



Assoc. Prof. Dr. Norizah Abdul Raman
Department of Chemistry,
Universiti Putra Malaysia

Speaker



Asst. Prof. Dr. Rizwan Ullah
National Centre of Excellence in
Physical Chemistry
University of Peshawar PAKISTAN

Organized by:

Department of Chemistry, UPM, and
Division of Physical & Theoretical Chemistry, IKM



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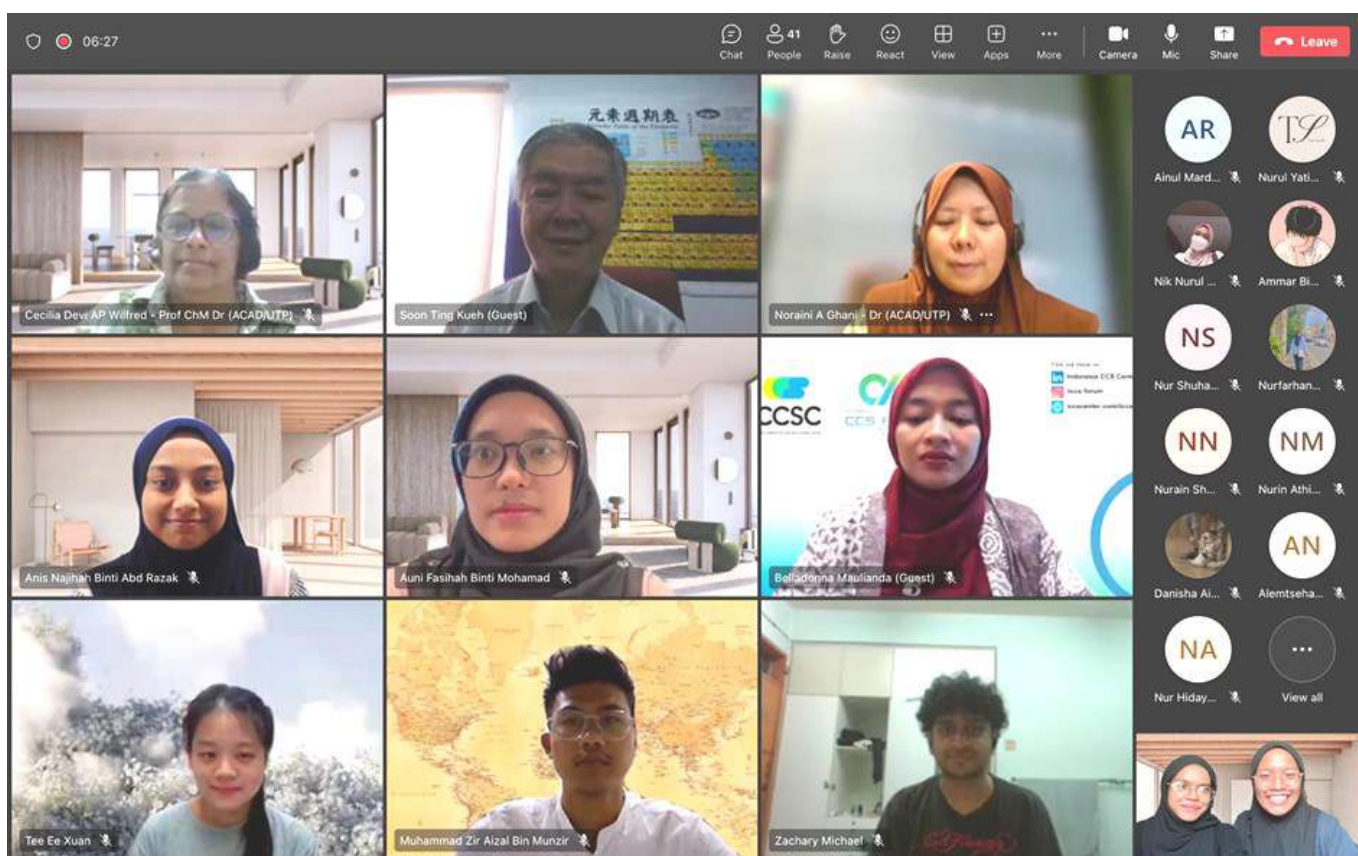
FASD – IKM WEBINAR SERIES on ECO – WARRIORS UNLEASHED: SAVING MOTHER EARTH WITH CCS/ CCUS

On 21st February 2024, FASD – IKM successfully organized its inaugural webinar on Eco – Warriors Unleashed: Saving Mother Earth With CCS/ CCUS. The webinar aimed to foster thought-provoking discussions and potentially spark new collaborations between diverse industries. This webinar was hosted by the Fundamental of Applied Science Department (FASD), organized by American Chemical Society - UTP International Student Chapter (ACS – UTP ISC), and Malaysian Institute of Chemistry (IKM)'s Division of Physical and Theoretical Chemistry (DPTC) as fellow co-organisers.

CCS/CCUS refers to carbon capture, utilization, and storage technologies, which represent a comprehensive strategy for mitigating carbon emissions. Carbon capture involves capturing CO₂ emissions from various sources, utilization focuses on repurposing CO₂ for valuable products or processes, and storage entails securely storing CO₂ to prevent its release into the atmosphere. This title signals the webinar's focus on empowering participants to become agents of change in the fight against climate change by harnessing the potential of CCS/CCUS technologies to protect the planet.

American Chemical Society (ACS) boasts over 152,000 members worldwide, including scientists, educators, and students. From groundbreaking research to educational initiatives, ACS is dedicated to advancing the frontiers of chemistry and nurturing the next generation of scientific innovators. ACS has also fostered collaboration and knowledge exchange on a global scale. Established in 2019, the American Chemical Society UTP (ACS – UTP ISC), stands as the 67th International Student Chapter under ACS. Initiated by a coalition of UTP students and faculty, its founding vision centres on fostering a deeper comprehension of chemistry among the students. With a dual focus, this club strives to bolster technical proficiency in chemistry among students while also advancing their career prospects in the field.

The webinar has attracted 49 participants from various background ranging from chemists, lecturers, and students from local and private institutions in Malaysia and Indonesia. During the webinar, distinguished speakers delivered insightful presentations. Datuk ChM Dr. Soon Ting Kueh spoke on "IKM & Chemistry as a Profession," while Dr. Belladonna Maulianda PhD, PEng addressed



FASD - IKM Webinar Series

Eco-Warriors Unleashed: Saving Mother Earth with CCS / CCUS

CCS/CCUS represents a pivotal strategy for addressing one of our planet's most pressing challenges: mitigating carbon emissions. With the power to capture and store carbon emissions from various sources, these technologies provide a ray of hope for a sustainable, low-carbon future. As part of webinar series held by FASD - IKM and co - organised by ACS-UTP Student Chapter, this webinar aims to create awareness on the importance of the continuous research and development (R&D) of experience on CCS/CCUS technology.



**Decarbonisation Strategies for Indonesia:
Exploring Potential CCS Solutions**

Dr Belladonna Maulianda PhD, PEng
Executive Director,
Indonesia CCS Center



IKM & Chemistry as a Profession

Datuk ChM Dr Soon Ting Kueh
President of Institut Kimia Malaysia



Green Solvents for Decarbonisation

Prof. Dr Cecilia Devi Wilfred
Professor at Fundamental and Applied
Sciences Department, UTP

Date: 21st February 2024
Time: 2.00 P.M.- 4.15 P.M.
Venue: Microsoft Teams

To join the webinar, scan the QRs for registration and Microsoft Teams link

Register now!
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For more info: Nurin (+6014-610 3673) / Zachary (+6012-577-5840)





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<https://msteams.link/9IPA>



"Decarbonization Strategies for Indonesia: Exploring Potential CCS Solutions." The subsequent presentation by Prof. Dr. Cecilia Devi Wilfred focused on "Green Solvent for Decarbonization".

Key takeaways from the webinar emphasized the urgency of embracing Carbon Capture and Utilization/Storage (CCUS) technologies as a crucial step in environmental conservation. Attendees were urged to equip themselves with relevant skills and knowledge to spearhead CCUS initiatives, signalling a paradigm shift towards sustainable industrial practices.

The Q&A session following the sharing session was conducted smoothly, providing an opportunity for attendees to engage with the speakers. Notably, Datuk

Dr Soon queried Dr. Bella about the risks associated with CCS/CCUS technologies, probing into crucial considerations in the field. Additionally, Alemtsehay Nekere Negash directed a question to Dr. Bella, seeking insights into the most challenging areas requiring further investigation in CCS. Furthermore, Nurin Athirah sought advice from Datuk Dr Soon based on his experiences and journey with IKM, underscoring the value of shared expertise and mentorship in the field.

IKM 57TH AGM 2024 & 3RD IKM LAW HIENG DING FOUNDATION AGM

The 57th IKM Annual General Meeting (AGM) was held on 30 March 2024 at Eastin Hotel Kuala Lumpur. IKM President, Datuk ChM Dr Soon Ting Kueh welcomed members to the 57th AGM of IKM. A total of 196 members attended the AGM.

The President presented PowerPoint slides describing IKM activities for the term 2023/2024. The year 2023 was described as a good year. IKM Hon. Secretary, ChM Chang Hon Fong, presented PowerPoint slides of the Annual Report. The Forum on "Look Ahead & Moving Forward" was held on 18th March 2023 at One World Hotel, Petaling Jaya, Selangor. IKM 56th AGM & IKM Law Hieng Ding Foundation 2nd AGM was held on 18 March 2023 at One World Hotel, Petaling Jaya, Selangor. The 9th Network of Inter-Asian Chemistry Educators (9NICE) Conference 2023 was held in the city of Kuching, Sarawak, Malaysia from 28 - 30 July 2023. International Congress on Pure & Applied Chemistry (ICPAC) Bali 2023 was held at the Patra Bali Resort & Villa, Bali, Indonesia from 12-17 September 2023. The 16th Asian Conference on Analytical Sciences, ASIANALYSIS XVI 2023, was successfully organised at the Kuala Lumpur Convention Centre, Malaysia from 9-12 October 2023. A total of 33 courses were conducted at IKM Professional Centre. Kuiz Kimia Kebangsaan Malaysia 2023 (K3M 2023) was held on 5 October 2023 at participating schools nationwide. A total of 38,470 students registered for the K3M 2023. A total of 32 participants registered for IKM LMIC Refresher Course 2023. The IKM LMIC Examinations were held from 2-4 September 2023 at Universiti Malaya (KL). A total of 45 candidates registered for the examinations. IKM Laboratory Excellence Awards 2023 was awarded to 71 laboratories. Malam Kimia & Presentation of IKM Awards was held on 1 December 2023 at One World Hotel, PJ. The Chemistry Programme Standards was approved by the Standards Division of MQA and the Accreditation Division of MQA will be consulted on the next process. IKM Hon. Treasurer, ChM Dr Malarvili Ramalingam presented the Annual Statement of Accounts and Auditor's Report for 2023.

The highlight of the AGM was the election of 5 Council members to fill vacancies created by retired Council members.

Elected Council Members for 2024 - 2027 are:

- ChM Dr Malarvili Ramalingam
- Datin ChM Dr Zuriati Zakaria
- Prof ChM Dr Rusli Daik
- Dato' ChM Dr Yew Chong Hooi
- ChM Dr Nurul Huda binti Abd Karim

The AGM ended at 4.35 PM and followed by the third IKM Law Hieng Ding Foundation AGM. During the AGM, the following Directors were re-elected to the Board:

- Datuk ChM Dr Soon Ting Kueh
- ChM Chang Hon Fong

The 334th IKM Council meeting was held after the AGM to elect principal office bearers for 2024/2025 term. This was followed by appointments of Committee / Division Chairpersons.





The Council Members for 2024/2025

<i>President</i>	Datuk ChM Dr Soon Ting Kueh
<i>Vice President</i>	ChM Dr Yang Farina binti Abdul Aziz
<i>Registrar</i>	ChM Halimah binti Abdul Rahim
<i>Hon. Secretary</i>	ChM Chang Hon Fong
<i>Hon. Treasurer</i>	ChM Dr Malarvili Ramalingam
<i>Hon. Asst. Secretary</i>	Prof ChM Dr Juan Joon Ching
<i>Hon. Asst. Treasurer</i>	DCP(R) Assoc. Prof. Dato' ChM Dr Yew Chong Hooi
<i>Council Members</i>	Datin ChM Dr Zuriati Zakaria Dato' ChM Dr Hj Mas Rosemal Hakim bin Mas Haris Academician ChM Dr Ho Chee Cheong ChM Marhayani binti Md. Saad ChM Dr Li Hui Ling ChM Ts Damien Khoo Yiyuan Asst. Prof ChM Dr Yvonne Choo Shuen Lann Prof ChM Dr Rusli Daik ChM Dr Nurul Huda binti Abd Karim
<i>Council Members (Co-opted)</i>	ChM Dr Lee Yook Heng Prof ChM Dr Phang Sook Wai Assoc Prof ChM Dr Fatimah Salim
<i>Council Members (Co-opted) - Chairman of IKM Branches</i>	Northern branch – Dato' ChM Dr Hj Mas Rosemal Hakim bin Mas Haris Southern branch – ChM Yap Fei Ching Sarawak branch – Prof ChM Dr Sim Siong Fong Sabah & FT Labuan branch – ChM Dr Jenny Lee Nyuk Len Perak branch – Asst Prof ChM Dr Wong Lai Peng Terengganu branch – ChM Teo Chook Kiong Pahang branch – Assoc Prof ChM Dr Awis Sukarni bin Mohmad Sabere

Heartfelt Congratulations on your Promotion as Professor from IKM President & Council Members



Professor ChM Dr Juan Joon Ching
Universiti Malaya



Professor ChM Dr Irmawati binti Ramli
Universiti Putra Malaysia



Professor ChM Dr Sim Siong Fong
Universiti Malaysia Sarawak



Professor ChM Dr A.B.M. Helal Uddin
International Islamic University Malaysia



Professor ChM Ts Dr Muhammad Rahimi bin Yusop
Universiti Kebangsaan Malaysia



Professor ChM Dr Saiful Nizam bin Tajuddin
Universiti Malaysia Pahang Al-Sultan Abdullah



Professor ChM Dr Intan Safinar binti Ismail
Universiti Putra Malaysia



Professor ChM Dr Goh Choo Ta
Universiti Kebangsaan Malaysia



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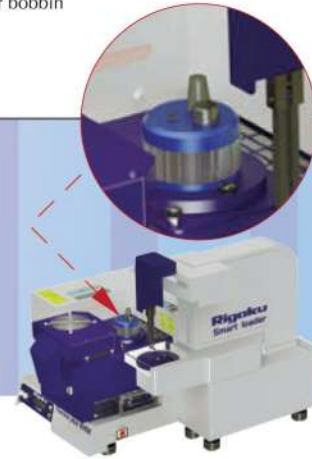
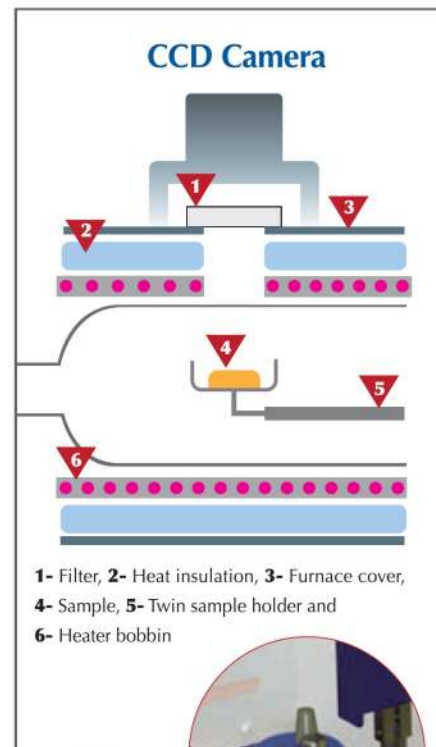
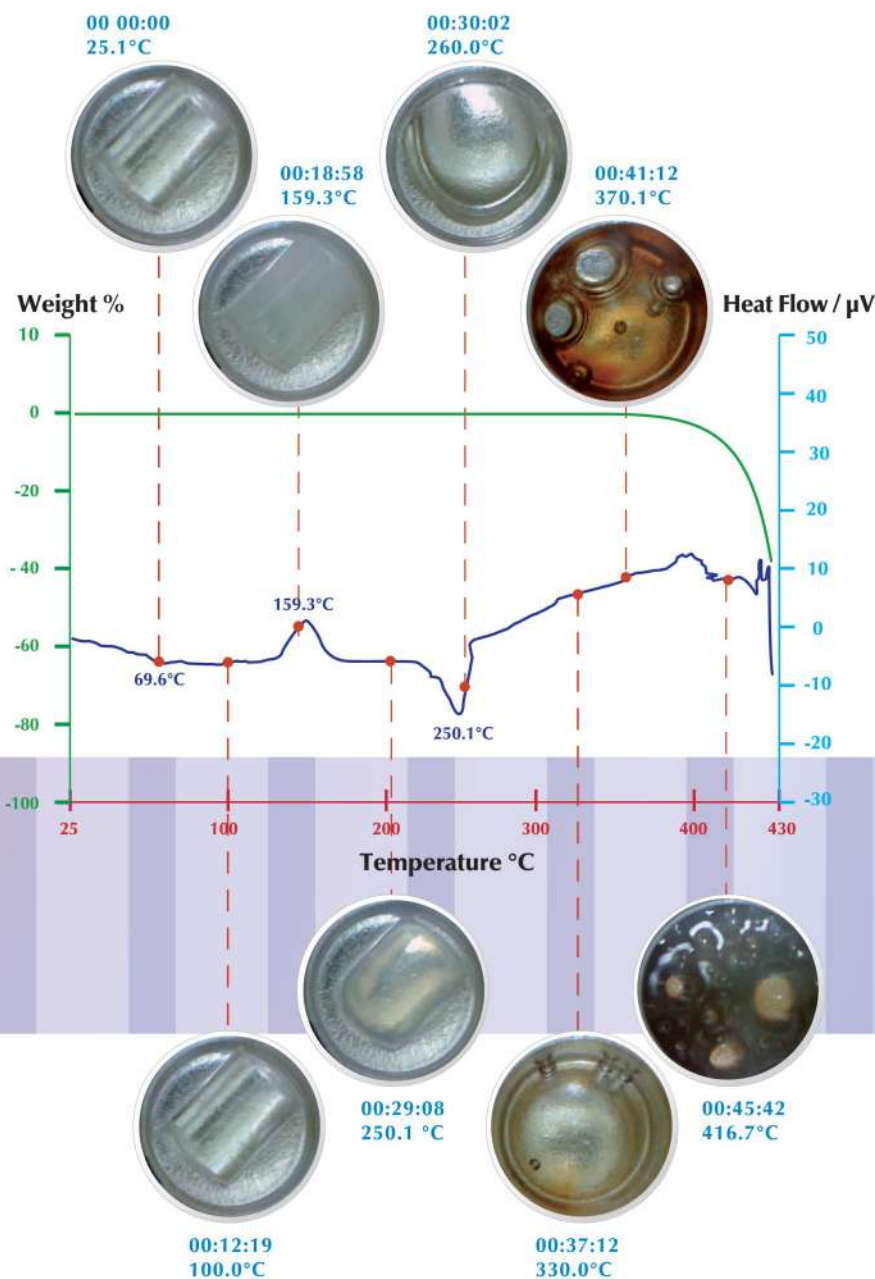
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Vice Chairman	Hon. Col. (CD) Snr. Assoc. Prof. ChM Dr. Kathiresan a/l Sathasivam
Honorary Secretary	ChM Dr. Nor Aziyah binti Bakhari
Honorary Assistant Secretary	ChM Marina binti Mokhtar
Honorary Treasurer	ChM Lee Zheng Nam
Honorary Assistant Treasurer	ChM Dr. Lim Vuanghao
Committee Members	ChM Damien Khoo Yiyuan
	ChM Dr. Melati binti Khairuddean
	ChM Dr. Lee Hooi Ling
	ChM Dr. Mohd Ridhwan bin Adam
	ChM Mohd Akhir bin Ahmad
Co-opted Members	ChM Dr. Muhammad Hakim bin Shafie
	ChM Dr. Mohamad Shazeli Bin Che Zain
	ChM Dr. Thiruventhan a/l Karunakaran
	ChM Airul Azmel bin Ismail
Internal Auditors	ChM Dr. Lee Chai Guan
	ChM Dr. Goh Teik Beng

Contact Details: Dato' ChM Dr. Hj. Mas Rosemal Hakim bin Mas Haris (rosemalharis@gmail.com)

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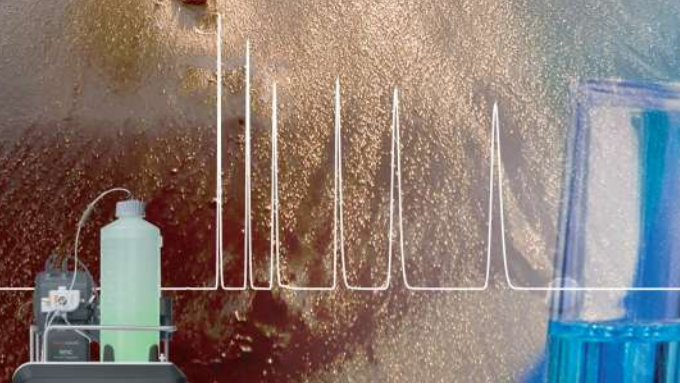
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The IKM Sarawak Branch - Chemistry Night 2023 and the 38th Annual General Meeting

IKM Sarawak Branch hosted the Chemistry Night 2023 at The Waterfront Hotel, Kuching on 1 March 2024. The event was attended by IKM fellow members with families and guests. IKM Sarawak also invited the strategic partners from various agencies, universities and organizations including Sarawak State Education Department, Ultimate Professional Centre, University of Technology Sarawak, Department of Chemistry Malaysia Sarawak State, Sarawak Energy Berhad, Natural Resources and Environment Board (NREB) Sarawak. The IKM President, Datuk ChM Dr. Soon Ting Kueh, attended the event this year together with 30 council members and their spouses.

IKM Sarawak Merit Awards were presented to high achievers of SPM, BSc, MSc and PhD in Chemistry by the Chairman of IKM Sarawak, ChM Dr John Chan. IKM Sarawak Merit Awards, category SPM, was awarded to Ms Tay Zi Qing and Mr Farish Aiman bin Nor Arman, both attaining excellent results with distinction in Chemistry. For category of BSc, the award was conferred to two outstanding graduates from Universiti Malaysia Sarawak (UNIMAS) – Mr Danielson Ngo Joseph and Mr Yiizamy Bin Suffian. Both awardees stood up for their academic achievement and involvement in activities outside the classroom, underscoring their excellence in leadership and willingness to serve. IKM Sarawak conferred the IKM Merit Award for MSc and PhD category to Mr Kho Swen Jack and Dr Nur Arif Bin Mortadza, respectively. Both Mr Kho and Dr Nur Arif specialize in Organic Chemistry,

graduated from Universiti Malaysia Sarawak. Mr Kho completed his study, winning multiple awards in the national expo for his product known as Apong Keto Coffee. Meanwhile, the research findings of Dr Nur Arif were published in 6 articles in impact national and international journals; his paper was listed as the top cited articles in 2020 -2021 under Wiley.

Fellow IKM members, families and guests celebrated the Chemistry Night, witnessing hard work and commitment of the committee in bringing IKM Sarawak to a greater height. The harmony, joy and appreciation that fellow chemists shared during the Night was a reflection of the perseverance of chemists in upholding collegiality in IKM. The Organizing Chair of the Chemistry Night 2023, ChM Gerald Grino anak Apil, thanked IKM Committee for their unfailing support and awesome team work in making this event a great success.

The 38th Annual General Meeting (AGM) of IKM Sarawak Branch was held on 2 March 2024, following the Chemistry Night, at The Waterfront Hotel, Kuching. The event commenced with a Pre-AGM Talk delivered by Mr. Timothy Ong, Chief Executive Officer of Invest Sarawak, entitled "The Sarawak Opportunity". The presentation was attended by 71 participants, comprising 25 IKM members, 7 members of the IKM Council, and 39 non-IKM members. Mr Timothy Ong shared about the role of Invest Sarawak and the State Government's commitment in green and sustainable future of





Sarawak. Subsequent to the talk, the AGM began with the speech by the Chairman of IKM Sarawak 2023/2024, ChM Dr John Chan. He thanked IKM Sarawak Committee for their team work in organizing many excellent programs and activities in 2023. The AGM was attended by 25 IKM members and the election of IKM Sarawak Committee 2024/2025 was carried out by the IKM President, Datuk ChM Dr Soon Ting Kueh. In the election, Prof. ChM Dr. Sim Siong Fong from Universiti Malaysia Sarawak has been elected as the Chairperson of IKM Sarawak for the term of 2024/2025.



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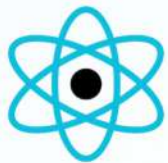
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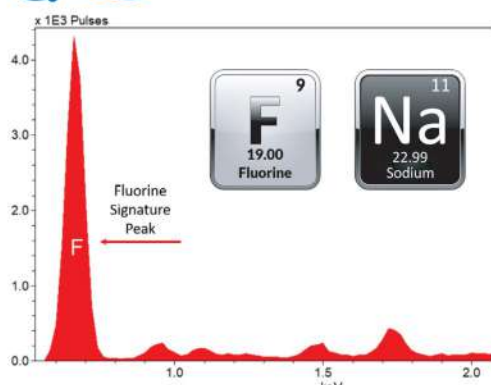


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New Ion Chromatography Instrument to Improve Reliability, Efficiency, and Functional Adaptability for Labs

To support a wider range of ion chromatography analysis with one instrument, Thermo Fisher Scientific Inc., has today launched the Thermo Scientific™ Dionex™ Inuvion™ Ion Chromatography (IC) system, helping to make ion analysis simpler and more intuitive for labs of all sizes.

The new analytical instrument is designed to be easily reconfigurable, providing those who require determination of ionic and small polar compounds with a one stop shop for consistent, reliable ion analysis.

As safety concerns increase around the environment, particularly the food and water supply, scientists will require versatile and sensitive instruments for adequate testing and analysis. Aligned with Thermo Fisher's mission to enable customers to make the world healthier, cleaner and safer, the Dionex Inuvion IC system equips environmental, industrial, municipal water, and food and beverage labs with the necessary equipment to determine ionic contaminants in water. The technology also helps identify corrosive contaminants in oil and gas, as well as provide quality assurance and quality control of small ionic compounds in food, beverage, and pharmaceuticals.

The Dionex Inuvion system's capabilities include:

- Meet labs' needs to operate more efficiently with easily configurable workflows and a small footprint;
- Flexible platform that can be tailored to meet current analytical requirements; and
- Extend IC capabilities to adapt to changing sample types and workflow requirements in the future more easily and cost-effectively.



Thermo Scientific™ Dionex™ Inuvion™ Ion Chromatography systems

The Dionex Inuvion IC system features:

- New advanced pump technology that improves speed, quality, and reproducibility;
- Operator-friendly engineering to enhance the operator experience; and
- User-installable accessories that extend its capabilities and ultimately help achieve the highest quality results.

Commentary: Exploring the Parallels Between Electric Cars and Cutting-Edge Ion Chromatography Systems

This article in Analyte Guru, Thermo Fisher Scientific's educational resource for the scientific community, explains that the world of analytical chemistry has made significant advancements with the introduction of sophisticated IC systems.

Similar to the way electric cars have revolutionized the automobile industry, IC systems represent a significant leap forward in technology, performance, and user-friendliness. Just as acquiring a new electric car is exciting due to its sleek design, efficiency, and cutting-edge technology, getting a new IC system is also exciting.

Read more at:



Interested to learn more about this new IC system? Please email us at analyze.apj@thermofisher.com



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- Get a first look at our new IC system and learn how it can benefit your lab
- Gain valuable insights from our IC expert
- Enjoy a virtual experience of the new IC with a demo by our expert
- Explore application data and real-life examples showcasing how this system can elevate your analyses

Learn more here:



Ion Chromatography Product Tours

Check out the immersive virtual tours of our innovative ion chromatography systems to see what our IC systems look like on the inside.

These 3D product tours will enable you explore the IC systems in a self-guided manner. Embedded in each tour are videos and other detailed descriptions of key features and capabilities.

Learn more here:



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Enhancing lab productivity: The power of an intuitive and upgradeable IC system

Ion chromatography (IC) is the technique of choice for the determination of ionic compounds in solutions and has proven to be an indispensable tool for analytical laboratories. Today, these labs are faced with numerous challenges that IC systems need to meet.

Challenges



Doing more with less
High turnover and reduced specialization have increased the training burden.



Reliability
Need a dependable system to obtain reliable daily analytical performance.



Dynamic requirements
A system should meet today's analytical requirements, while also being adaptable to meet future needs.



Thermo Scientific Dionex Inuvion IC system

The Thermo Scientific™ Dionex™ Inuvion™ ion chromatography system makes ion analysis simpler and more intuitive than ever before while delivering consistently excellent results.

Solutions



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Quickly and safely access everything on the instrument with smart, function-driven design and take advantage of automated procedures to remove manual preparation steps to get runs started quickly.



Ultra-reliable day-to-day performance
Improve speed and quality of results with advanced high-performance pump technology and electronics, startup diagnostics that avoid run interruptions, and easily serviceable and swappable parts.



Easily configurable and upgradeable
Versatile platform lets you configure the exact Dionex Inuvion IC system for today's needs and budget, with confidence that your system can be adapted to meet your future needs as your workflow requirements change.



Application Spotlight

In this section, gain access to the full library of application proof notes for the Thermo Scientific Dionex Inuvion IC system. The range of applications include food safety and environmental, pharmaceutical, and personal care.

Food Safety: Determination of Benzoate in Soy Sauce Using a Compact Ion Chromatography System

Sodium benzoate and potassium benzoate are added to acidic foods as preservatives.

The United States Food and Drug Administration regulates sodium benzoate as a food additive that is considered generally regarded as safe (GRAS) with limits to 0.1%*.

In the European Union (EU), benzoate as benzoic acid (E 210) and benzoic acid salts (sodium (E 211), potassium (E 212), and calcium (E 213)) are similarly regulated by the EU Commission Regulation 1129/2011 with varying maximum limits*. The EU maximum limit (ML) for sauces is 1,000 mg/kg total benzoic acid and benzoic acid salts, expressed as benzoic acid. For fruit juices and flavored drinks, the EU ML are 200 mg/kg and 150 mg/kg total benzoic acid and benzoic acid salts (expressed as benzoic acid), respectively.

To meet these regulatory limits and to maintain product quality, an accurate and precise analytical method is needed. Ion chromatography with suppressed conductivity detection was previously demonstrated in Thermo Scientific Application Note 165: *Determination of Benzoate in Liquid Food Products* to be accurate and sensitive.

In this application proof note, the application is demonstrated on the same column, a Thermo Scientific™ Dionex™ IonPac™ AS18 (4 × 250 mm) anion-exchange column, using eluent generation and a suppressor upgraded to current technology. The application is facilitated by the Thermo Scientific™ Dionex™ Inuvion™ ion chromatography system.

**This is a summary only. For the full reference, please read the actual application proof note.*



Learn more here:

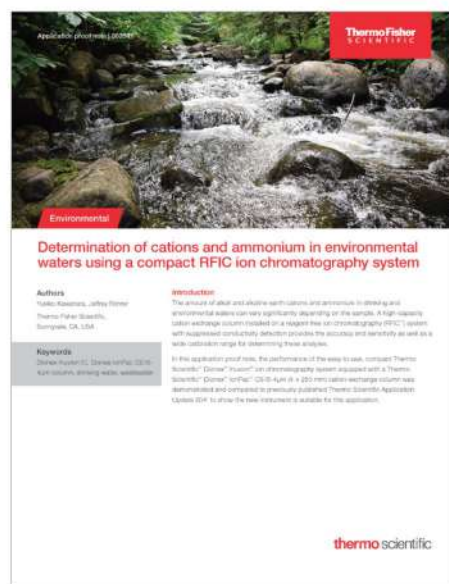


Determination of Cations and Ammonium in Environmental Waters Using a Compact RFIC IC System

The amount of alkali and alkaline earth cations and ammonium in drinking and environmental waters can vary significantly depending on the sample. A high-capacity cation exchange column installed on a reagent-free ion chromatography (RFIC™) system with suppressed conductivity detection provides the accuracy and sensitivity as well as a wide calibration range for determining these analytes.

In this application proof note, the performance of the easy-to-use, compact Thermo Scientific™ Dionex™ Inuvion™ ion chromatography system equipped with a Thermo Scientific™ Dionex™ IonPac™ CS16-4µm (4 × 250 mm) cation-exchange column was demonstrated and compared to previously published Thermo Scientific Application Update 204 to show the new instrument is suitable for this application.

Learn more here:





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To develop and enhance competency and skills for all categories and practitioners



To positively contribute to society and quality of life



To be the forum for Industry and Academia Collaboration



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Shell Engineering Specification
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Abutallib Bin Idris <i>M/6578/10517/24</i>	Nur Fatima Binti Mohd Arsad <i>M/6616/10611/24</i>
Aina Saffa Binti Mohd Yusoff <i>M/6592/10549/24</i>	Nur Hidayah Binti Saleh <i>M/6602/10582/24</i>
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Bee Soo Ling, Dr. <i>M/6600/10571/24</i>	Nur Zulaikha binti Zul Shukor <i>M/6622/10623/24</i>
Brody Sambang Muyang <i>M/6617/10613/24</i>	Nurfadhilah Binti Abdullah <i>M/6613/10608/24</i>
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Natasha Binti Tukiran <i>M/6619/10617/24</i>	New Licentiates (LMIC)
Nawal Binti Nasarudin <i>M/6611/10605/24</i>	Ahmad Syahmi Haziq bin Roseli <i>L/3585/10587/24</i>
Nik Mohd Zulkakimi Bin Nik Abdullah <i>M/6591/10548/24</i>	Ahmad Syazmi bin Abdullah <i>L/3558/10534/24</i>
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Nor Afieza Binti Abdul Rashid <i>M/6610/10604/24</i>	Amir Aizat Bin Ami <i>L/3555/10528/24</i>

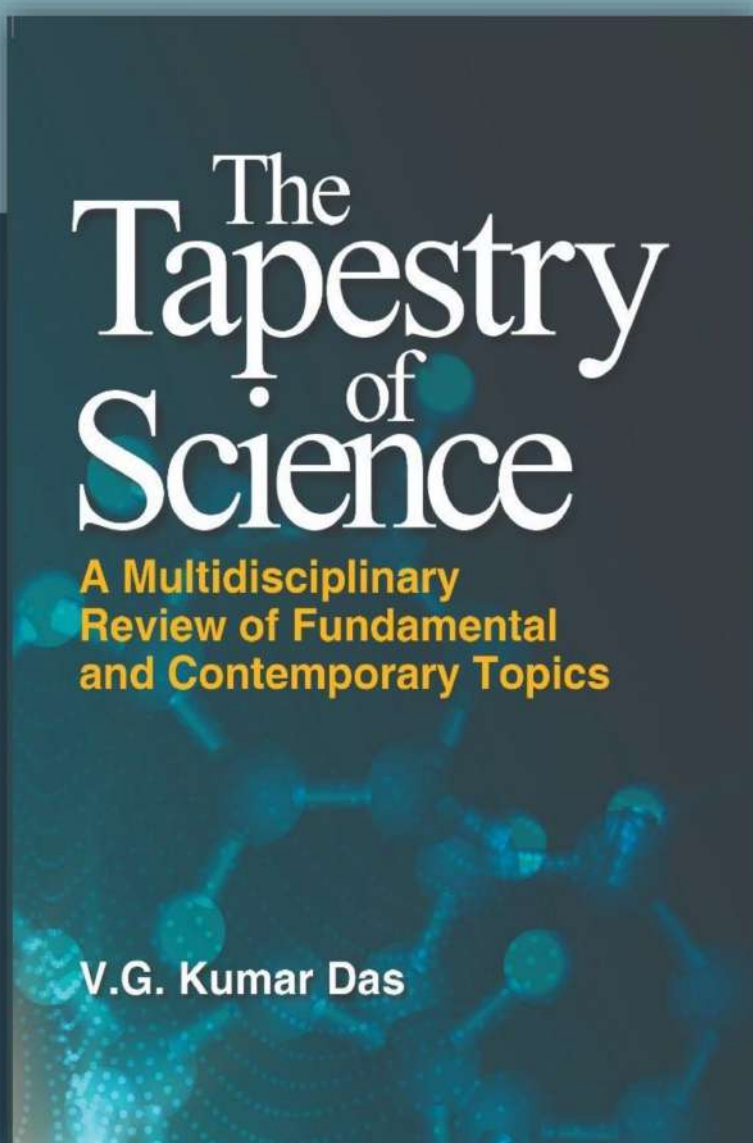
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Written by:

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