



# Berita IKM - Chemistry *in* Malaysia

## March 2020



IKM President at the Federation of Asian Chemical Societies 20th General Assembly & 18th Asian Chemical Congress 2019



Prof. Dr. Vasilevska, Prof. Dr. Kajiwara & Prof. Ts. ChM. Dr. Chan Chin Han at the 16th Pacific Polymer Conference



FACS Citation Award 2019 recipient, Datin ChM Dr Zuriati Zakaria



STEM Week at SMK Convent Bukit Nanas

### Articles:

- CORONAVIRUS ENTERING AND REPLICATING IN A HOST CELL
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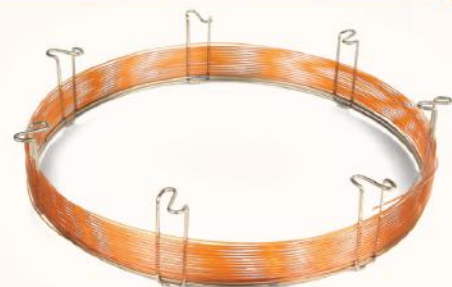
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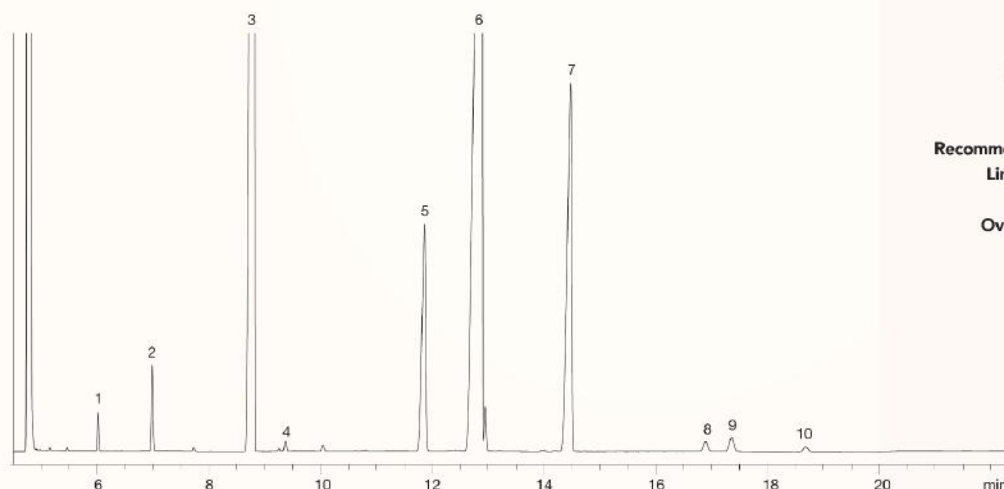
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## Message from the President



### 2020 – A Year of consolidation?

2020 is supposed to be good year signifying the start of the new decade. But the onslaught of the Covid-19 pandemic at the beginning of the year has changed everything. So what do we expect of 2020?

#### 1. Current Covid-19 pandemic in the world and in Malaysia

The first Covid-19 cases started in the City of Wuhan, China in late 2019 and it spreads very quickly in China and a number of Asian countries from January 2020 onwards. The viral disease reached a peak in middle of March 2020 with more than 80,000 cases and 3,000 deaths.

However, while Covid-19 is being brought under control in China, it spread like wild fire in Europe and North America. As of this moment, USA has more than 200,000 cases while Italy has the highest number of deaths of more than 11,000.

In Malaysia, we have a slow start of up to 30 cases at the end of February 2020 but it started to surge from March onwards. Now we have more than 3,000 cases with 45 deaths.

When do we expect Covid-19 to come to an end? No body has got the answer but according to medical experts and virologists, we are looking at June 2020 for the disease to tailor off and maybe by the end of the year, we can bring it under control. Of course, many groups of medical experts and scientists are working very hard to find a vaccine for Covid-19.

As for Malaysia, we are looking towards mid-April to bring the disease under control and hopefully by June, everything will be back to normal.

#### 2. So, what is for IKM in 2020?

So we have lost half a year due to Covid-19. Many of our major events and activities are being postponed to later part of year due to the Movement Control Order (MCO) imposed by our Government. These include the 53rd Annual General Meeting which, most likely, will be held at the end of May or early June.

We also postpone our flagship events, the International Congress of Pure and Applied Chemistry (ICPAC KK) and the Malaysian International Chemistry Congress (MICC) 2020 in Kota Kinabalu, Sabah to 20 – 23 October 2020.

There are also other events and functions that we have to postpone, including some courses at the IKM Professional Centre.

But all is not lost, we still have the second half of 2020 to recoup our losses.

#### 3. 2nd Half of 2020 - Consolidation

We would be going full steam ahead as soon as the Movement Control Order is lifted, but still cautious and vigilant about the further spread of Covid-19.

First is the 53rd AGM which will take place in early June. A date would be announced soon. All members must come to support IKM.

Then ICPAC KK & 20MICC 2020 will be held from 20 – 23 October 2020 in Pacific Sutera Hotel, Kota Kinabalu, Sabah. We are expecting a good turn-up this time to compensate for the lost time due to Covid-19 pandemic. We also appeal to our members to participate in these two scientific meetings, especially 20MICC 2020.

We will also have our flagship Malam Kimia 2020 which is our annual social event where we recognise excellence in chemistry and present various IKM awards. Malam Kimia 2020 will be held on 4 December 2020 at the Berjaya Times Square Hotel, Kuala Lumpur.

In conjunction with Malam Kimia 2020, we are organising the 6th Conference of Asian Science Editors (6CASE) from 3 – 4 December 2020 at the same venue.

The other programmes and activities will go on as planned including those postponed due to the MCO.

#### 4. IKM Covid-19 Fund

Due to the Covid-19 pandemic, thousands of people lost their lives and the whole world will be in an economic recession soon. In Malaysia, we are similarly affected with loss of lives and economic depression. Businesses are being seriously affected and people lost their jobs. The Government has to come up with a number of stimulus packages to help businesses and people to tie over this difficult period. What can IKM and our members do?

The IKM Council has decided to establish an **IKM Covid-19 Fund** with a donation of RM50,000 from IKM. We are also appealing to our members to contribute to this **Fund**. The monies raised from this **Fund** will be given to the Government Covid-19 Fund. Our monies are to be used mainly for the purchase of Personal Protective Equipment (PPE), medicines and other medical equipment.

We are targeting to collect up to RM100,000. So please donate generously. We are doing our part to fight against this deadly Covid-19 pandemic.

#### 5. IKM 2021

For 2020, we are consolidating our resources to tie over the difficult time. We are looking forward to 2021 being an eventful and successful year for IKM.

Thank you and with best wishes.



**Datuk ChM Dr Soon Ting Kueh**  
President, Institut Kimia Malaysia  
Date: 31st March 2020





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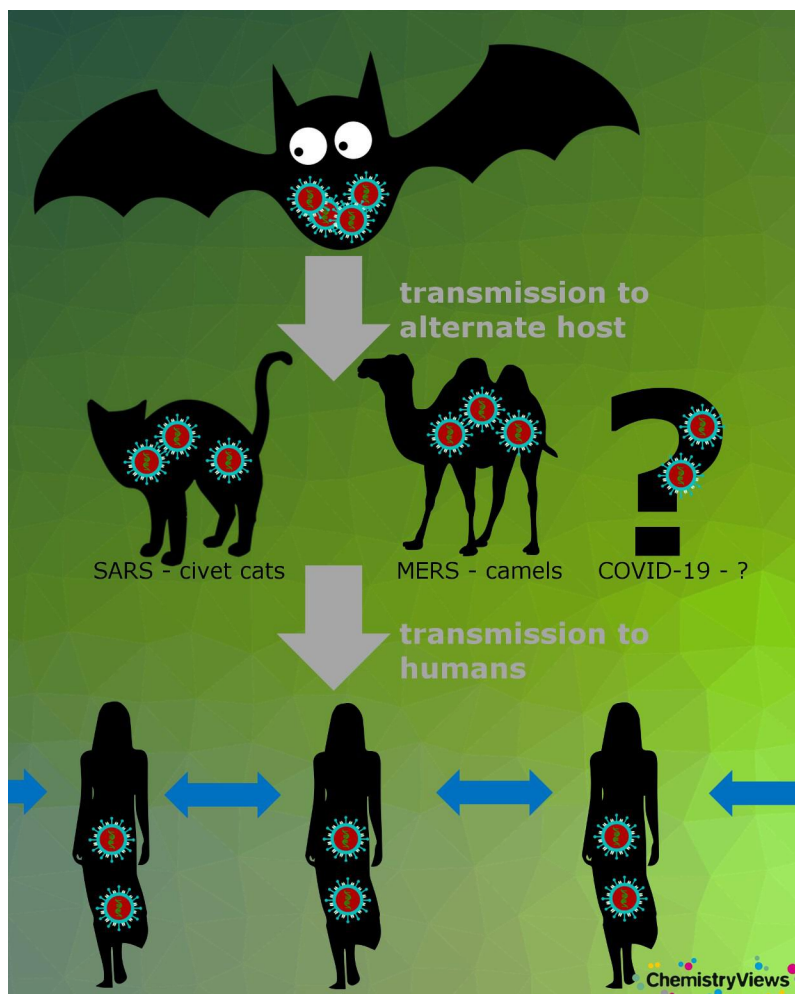
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## Coronavirus Entering and Replicating in a Host Cell

We still don't know everything about the coronavirus (SARS-CoV-2) causing the current COVID-19 outbreak, but research is progressing rapidly. We know, for example, that SARS-CoV-2 shares a strong homology with its better-studied cousin SARS-CoV, responsible for an outbreak of SARS (Severe Acute Respiratory Syndrome) between 2002 and 2003. MERS-CoV, another member of this genus, has caused the Middle East respiratory syndrome (MERS) first reported in 2012

Most coronaviruses are known to infect only non-human species.



### How Did the Coronavirus Get to Humans?

Zoonotic diseases such as those caused by coronaviruses are infectious diseases caused by viruses, bacteria, or other parasites that spread from animals to humans. These animals, called reservoir hosts, often are adapted to the virus. Often these are bats or fruit bats (flying foxes). The cross-species jump into humans of a virus often occurred via an intermediate species (referred to as a vector), which sometimes can carry the disease pathogen without getting infected. Examples of vector species include monkeys (Ebola, HIV), swine (H1N1), horses (Hendra virus).

Bats and fruit bats are a major reservoir of many strains of coronaviruses.



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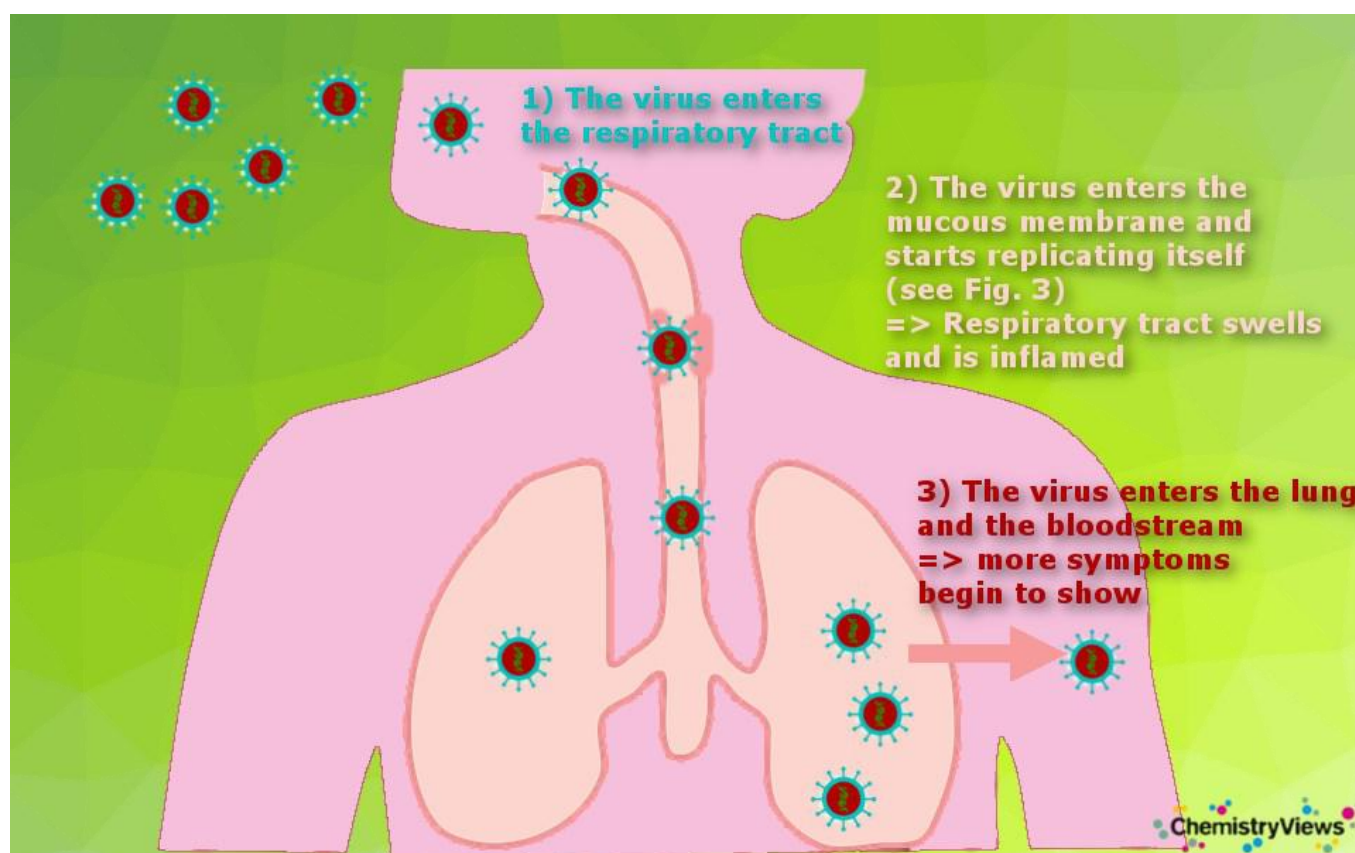
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### How Does a Coronavirus Enter the Human Body?

The most commonly reported symptoms include fever, dry cough, and tiredness. Other symptoms include difficulty breathing, sputum production, runny nose, pneumonia, diarrhea. The disease in severe cases may ultimately lead to organ failure. Some cases are fatal. Symptoms may appear 2 to 14 days after exposure. Long-term consequences are unknown.

Older people and those with pre-existing medical conditions such as cardiovascular disease, chronic respiratory disease, or diabetes are at higher risk for severe disease. Women seem slightly less vulnerable than men.



### What Does the Coronavirus Do in Humans?

Coronaviruses (CoV) are viruses with an RNA genome surrounded by a nucleocapsid of helical symmetry.

SARS-CoV-2, causing the current COVID-19 outbreak, shares a strong homology with its better-studied cousin SARS-CoV responsible for SARS (Severe Acute Respiratory Syndrome).

ACE2 receptors are found in ciliated epithelial cells in the upper and lower airway and in type II pneumocytes in the alveoli in the lower airway. Type II pneumocytes produce lung-lubricating proteins important for lung function.

Four proteins, the spike, 3CLpro, PLpro, and RdRp, are essential for the virus. Therefore, therapeutics targeting one of these proteins are currently being tested as a possible treatment for SARS-CoV-2. The SARS-CoV-2 spike is significantly different from the SARS-CoV spike, especially in two regions when binding to ACE2. Therefore, previously developed antibodies and therapeutic peptides for the SARS-CoV spike cannot be used for SARS-CoV-2.



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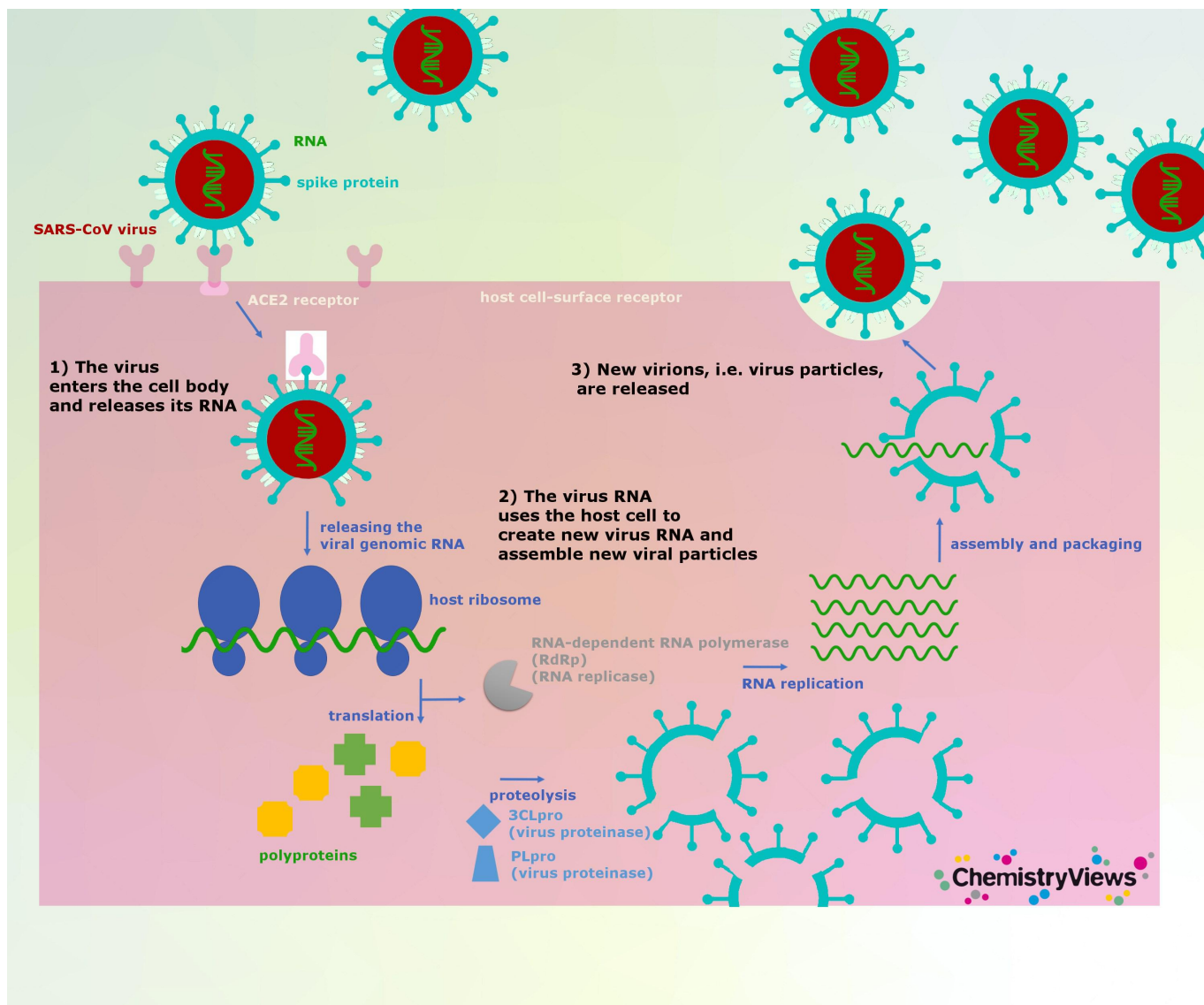
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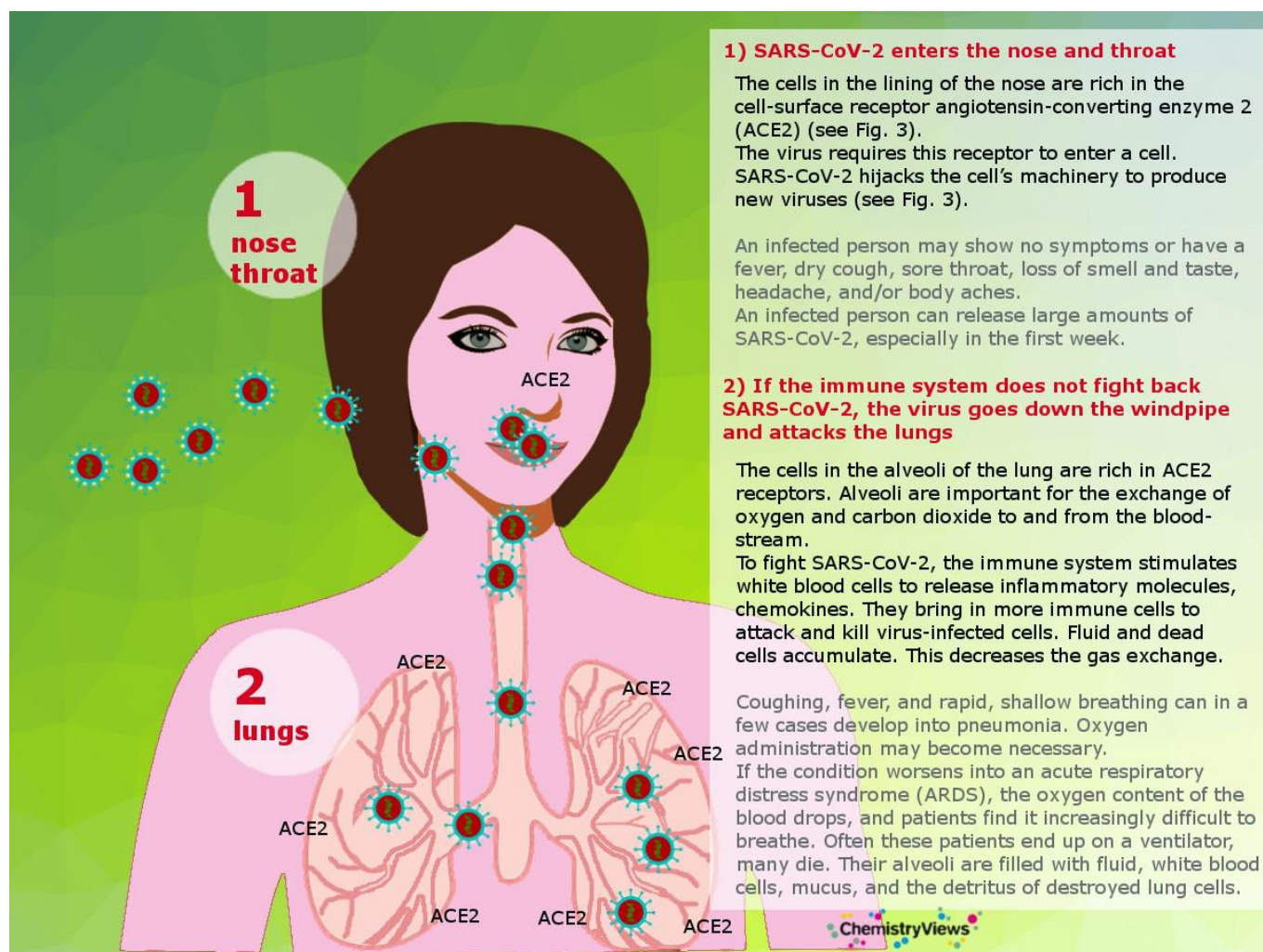
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### Update: How Does a Coronavirus Enter the Human Body?

A lot has happened in research since the beginning of March. We have decided to update Figure 2.



According to the World Health Organization (WHO), most people who contract COVID-19 only experience mild flu-like symptoms. For severe cases, the main point of attack seems to be the lungs, but other organs are also affected by COVID-19. It is still unclear how. ACE2 receptors are also present in the neural cortex and brain stem, the lining of the heart and blood vessels, the kidneys, the lower gastrointestinal tract.

#### Reference

Meredith Wadman, Jennifer Couzin-Frankel, Jocelyn Kaiser, Catherine Maticic, [How does coronavirus kill? Clinicians trace a ferocious rampage through the body, from brain to toes](https://doi.org/10.1126/science.abc3208), *Science* **2020**. <https://doi.org/10.1126/science.abc3208>



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## Federation of Asian Chemical Societies 20th General Assembly [20GA] & 18th Asian Chemical Congress [18ACC] 2019

The Federation of Asian Chemical Societies (FACS) held its 20th General Assembly (20GA) on 8th December 2019 while the 18th Asian Chemical Congress (18ACC) was organized from 8 – 12th December at the Taipei International Convention Center, Taipei, Taiwan.

### FACS 20GA

Malaysia was represented by Datuk ChM Dr Soon Ting Kueh as the FACS Treasurer, Assoc Prof ChM Dr Edward Juan Joon Ching as the Representative from IKM and Datin ChM Dr Zuriati Zakaria, the FACS Citation Awardee 2019.

The 20GA, among many agenda items, approved the following:

- 1) The adoption of a new FACS Statute
- 2) Approval of a revised Operation Manual
- 3) Approval of new Fees for FACS Membership
- 4) Accepted the Membership application of the Chemical Society of Timor Leste
- 5) Selected Chemical Society of Thailand as the host of FACS 22nd General Assembly (22GA) & 20th Asian Chemical Congress (20ACC) in 2023 in Bangkok, Thailand



### FACS EXCO 2019 - 2021

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11.	Dr Dien Pandiman	Rep. from Southeast Asia & Papua New Guinea	Singapore
12.	Prof Mohd Wahab Khan	Rep. from South & West Asia	Bangladesh

FACS will be signing a Memorandum of Understanding (MoU) with the Royal Society of Chemistry (RSC) London on 10th December 2019. The MoU is for a period of two years. The 20GA also elected the following FACS Executive Committee for 2019 – 2021. IKM representative, Assoc Prof ChM Dr Juan Joon Ching was elected FACS Treasurer. Datuk ChM Dr Soon Ting Kueh retired from FACS EXCO after serving seven terms in the FACS EXCO since 2005. The 20GA adjourned at 5.00 pm to be followed with a 18ACC Welcome Reception.

#### FACS 18ACC 2019

The FACS 18th Asian Chemical Congress (18ACC) was organized by the Chemical Society Located at Taipei (CSLT) at the Taipei International Convention Centre, Taipei, Taiwan from 8 – 12th December 2019. The Opening Ceremony was held at 9.00 am on 9th December 2019 and at the Ceremony, Prof Reuben Hwu, FACS President, presented the following FACS Awards:

- ◆ FACS Foundation Lectureship Award 2019 to Prof Vivian W W Yan of Hong Kong
- ◆ FACS Distinguished Young Chemist Award 2019 to Prof Rei Kinjo of Singapore
- ◆ FACS Distinguished Contribution to Chemistry Education Award 2019 to Dr David Warren of New Zealand
- ◆ FACS Distinguished Contribution to Economic Advancement Award 2019 to Prof Thomas Maschmeyer of Australia and Dr Wenent Pan of Taipei, Taiwan
- ◆ FACS Citation Award 2019 to Datin ChM Dr Zuriati Zakaria of Malaysia.







This was followed by a Plenary Lecture by Nobel Laureate Prof Yuan T Lee. After the break, Nobel Laureate Sir Prof J Fraser Stodhart delivered the 2nd Plenary Lecture. There were a total of 9 plenary lectures. The lecturers include Prof Qi-Feng Zhou, President of IUPAC, Prof Dr Bonnie A Charpentier, President of American Chemical Society (ACS), Prof Chi-Huey Wong, Past President of Academia Sinica, Dr Marinda L Wu, Past President of ACS and Prof W W Yam, FACS Foundation Lecture Awardee from University of Hong Kong. At the Presidential Symposium, Datuk ChM Dr Soon presented a lecture on “FACS: Forty Year of Advancing Chemistry in Asia and the Pacific”.

Datin ChM Dr Zuriati also presented her FACS Citation Award 2019 Lecture on Technologies in Meeting the Sustainable Development Goals in a Tropical Climate. Assoc Prof ChM Dr Juan also made an oral presentation on Photocatalytic Activity of Mesoporous Material for Sustainable Wastewater Treatment.

On the evening of 9th December 2019, President Reuben Hwu hosted a Chairman’s Dinner at The Grand Hotel Taipei for invited guests. On 10th December 2019, IKM hosted a dinner for our guests from Cambodia, Indonesia and the Philippines. The guests were treated to a sumptuous seafood steamboat dinner. A Culture Tour was organized for the overseas delegates on 11th December 2019.





The Gala Dinner & Celebration of 40th Anniversary of FACS was held at DEN WELL, Taipei for invited guests and conference participants. At this function, Datuk ChM Dr Soon presented a slide show on 40 Years of FACS. The Closing Ceremony of 18ACC was held on 12 December 2019 at 3.00 pm. The next FACS 21GA and 19ACC will be held in Istanbul, Turkey from 4 – 10th September 2021 to be hosted by the Turkish Chemical Society. All in all, close to 2,000 participants took part in 18ACC with about 650 coming from overseas. There were a total of about 850 presentations.

A report by:  
**Datuk ChM Dr Soon Ting Kueh**  
Date: 30th December 2019

# 16<sup>th</sup> Pacific Polymer Conference 8th to 12th December 2019, Singapore

The 16<sup>th</sup> Pacific Polymer Conference (PPC16), a biennial international event, was held at the Suntec Singapore Convention and Exhibition Centre from 8<sup>th</sup> to 12<sup>th</sup> December 2019. 2019 marked the 30<sup>th</sup> year anniversary of the PPC, under the custody of the Council of the Pacific Polymer Federation (PPF), which has emerged as a leading international conference in polymer science and engineering.

The PPF is an active regional organization with primary focus of driving and synergizing efforts in polymer research and innovation. To date, PPF counts numerous scientific societies across 16 different countries bordering the Pacific Rim as its proud members. Since its inception in 1987, the PPF has grown rapidly into a renowned organization which provides multiple enabling platforms and opportunities to fulfil the ambitions of its members, as well as bridge international polymer research organizations for value addition.

The inaugural PPC was held in Maui (Hawaii), USA in 1989. Since then, the conference has been organized every 2 years by various Pacific Rim countries. The following is a list of the host countries and the venues of the various editions of the PPC:

- PPC-1 Maui, USA (1989)
- PPC-2 Otsu, Japan (1991)
- PPC-3 Gold Coast, Australia (1993)
- PPC-4 Kauai, USA (1995)
- PPC-5 Kyongju, Korea (1997)
- PPC-6 Guangzhou, China (1999)
- PPC-7 Oaxaca, Mexico (2001)
- PPC-8 Bangkok, Thailand (2003)
- PPC-9 Maui, USA (2005)
- PPC-10 Kobe, Japan (2007)
- PPC-11 Cairns, Australia (2009)
- PPC-12 Jeju, Korea (2011)
- PPC-13 Kaohsiung, Taiwan (2013)
- PPC-14 Kauai, USA (2015)
- PPC-15 Xiamen, China (2017)
- PPC-16 Singapore (2019)



Prof. Dr. Xiao Hu, organizing chair of PPC16 (left) and Prof. Ts. ChM. Dr. Chan Chin Han (right)





Prof. Dr. Valentina Vladimirovna Vasilevskaya, Moscow State University, Russia (left) and Prof. Dr. Atsushi Kajiwara, Nara University of Education, Japan (center) – regular speakers for conferences organized by IKM over the years

PPC16 had the following symposia:

- ◆ Polymer synthesis and characterization
- ◆ Polymer physics: structure, properties, and processing
- ◆ Polymer surfaces and interfaces
- ◆ Functional and self-assembled materials
- ◆ Composite and Hybrid materials
- ◆ Polymers in 3D/4D printing and additive manufacturing
- ◆ Polymers for biomedicine and personal care
- ◆ Polymers and the environment
- ◆ Polymers for optoelectronics, smart electronics and energy
- ◆ Polymeric membranes: Innovations and applications
- ◆ Women in Polymer Science
- ◆ Cyber Physiochemical Interfaces: Flexible Electronics

Prof. Ts. ChM. Dr. Chan Chin Han from Faculty of Applied Sciences, Universiti Teknologi MARA (UiTM), council member of Institut Kimia Malaysia (IKM) presented one invited lecture entitled “Low frequency dielectric relaxation and conductance of polymer electrolytes of neat polymers and its blends”. Prof. Dr. Ho Chee Cheong, from Universiti Tunku Abdul Rahman and council member of IKM, attended PPC16 Council Meeting. He is the IKM representative of the PPF Council. He presented his invited lecture entitled: “Interfacial phenomena underpin innovation in dipping of medical gloves”.



Prof. Dr. Ho Chee Cheong

Prepared by Prof ChM Ts Dr Chan Chin Han  
16th December 2019

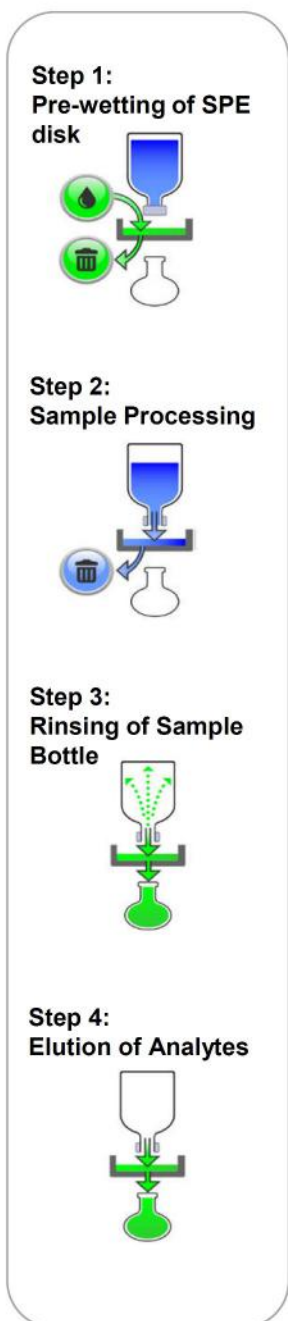


# Fast & Easy Analysis of Pesticide Residues in Water & Wastewater Sample

## Analytical Scheme:



### Automated SPE Process of Horizon 5000:



- ✓ **Short processing time\***
  - as fast as 3 samples per hour (1 Horizon 5000 + 1 DryVap)
  - OR 6 samples per hour ( 2 Horizon 5000 + 1 DryVap)
- ✓ **Accurate & reliable results\***
  - High recovery, 94 - 115%
  - Consistent result, RSD < 8%
- ✓ **Minimum manpower requirement**
  - highly automated
- ✓ **Fully compliance with EPA, APHA & ISO methods**

\* Can only be achieved with **47mm SPE Disk**

#### Application Includes:

- Pharmaceutical and Personal Care Products (PPCPs) residues
- Endocrine Disrupting Hormones residues
- Pesticide residues
- PAHs
- PCBs
- Oil & Grease



Contact us for more details of Biotage® Horizon System

# Tablet Dissolution Accessories



- ◆ USP Compliance
- ◆ Meets specification of Original Equipment Manufacturer (OEM)
- ◆ All serialized QLA parts – like baskets, paddles and vessel come with a Certificate of Conformance (COC)
- ◆ Compatible with **ALL** brands of dissolution systems

## General Consumables



Baskets



Paddle & Basket Shafts



Vessels – glass/plastic



Capsule Sinkers



Sampling Cannula & Stoppers



Cannula Filters

## Accessories



Basket Tool



Spin Shaft Tightening & Loosening Tool



Vessel Stand



Water Bath Algacide



Basket Holder



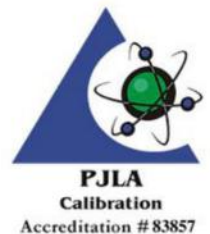
Basket Shaft/Paddle Holders

**NEW**



Basket Wash Holder

- Holds up to 6 units of baskets
- Basket is not damaged easily







**I U P A C**

**53<sup>rd</sup> General Assembly &  
50<sup>th</sup> World Chemistry Congress 2025**  
11-18 July 2025



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**Kuala Lumpur, Malaysia**  
**Your Perfect Host**



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ALAM SEKITAR DAN PERUBAHAN IKLIM**



# LabAsia 2021

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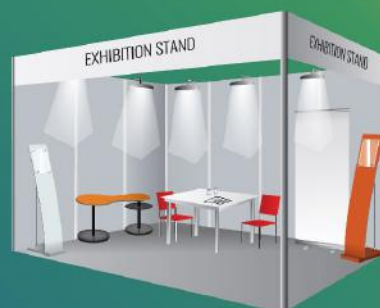
**United Business Media (M) Sdn Bhd**  
Suite 5-01, Level 5, Sunway VISIO Tower, Lingkaran SV,  
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**Ms. Joanne Tham**

 [Joanne.Tham@informa.com](mailto:Joanne.Tham@informa.com)



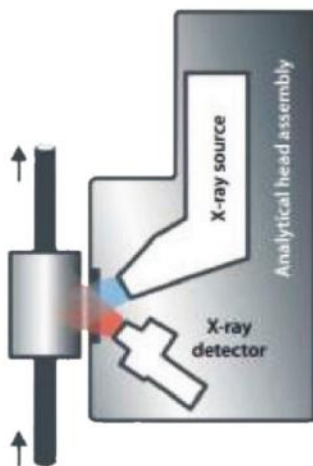


# Reaction Monitoring – Process Analytical

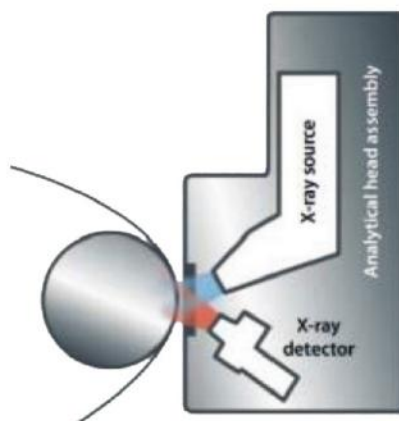
## Rigaku Nex OL EDXRF Multi-element Process Analyzer

Nex OL compact multi-element process analyser for liquid streams or fixed position web application.

- Real time process control
- Measure element Aluminum (Al) to Uranium (U)
- From ppm levels to weight percentage (wt%) concentration
- Multiple flow cell design for liquid streams and web or coils thickness process



Flow cell for liquid streams



Fixed roller mount for web coils



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IXRF SYSTEMS

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Tel 603-8948 1638, Fax no. +603-8943 9637, Email info@rgscnet.com, www.rgscnet.com/index.php





**RGS Corporation**

# Technology

## Rigaku Smartlab with Reaction Chamber

Smartlab multi-purpose X-ray diffractometer for powder diffraction, operando measurements. Various parameters are possible to control by multiple chambers.

- Non-ambient measurement : -190° to 2300°C
- Relative humidity : 5% to 95%
- Pressure : 1 bar to 100 bar
- Atmospheres – Vacuum, air, inert gas and reactive gas



## Nanalysis NMReady-60Pro

NMReady-60PRO is the compact NMR spectrometers which has multinuclear capabilities.

- 60 MHz NMR (1.4T)
- Using standard 5mm NMR Tubes
- Support nuclei :  $^1\text{H}$ ,  $^7\text{Li}$ ,  $^{11}\text{B}$ ,  $^{13}\text{C}$ ,  $^{19}\text{F}$ ,  $^{31}\text{P}$
- NMReady-Flow cell kit allow continuous monitor the reaction in the process Integrate the NMReady a centralized control system or Laboratory Information Management Systems (LIMS)





## Knowledge Exchange

Thermo Fisher Scientific is committed to helping scientists and chemists in Malaysia make the world healthier, cleaner and safer. In this series, we focus on the latest environmental concerns as well as new announcements and industry accolades to help scientists, chemists and other lab professionals achieve their goals.

## Importance of Quantification and Screening for PFAS Analysis

PFAS, or perfluoroalkyl substances, are a group of man-made chemicals that include PFOA, PFOS, and Gen-X.

United States Environmental Protection Agency (U.S. EPA) has published the Program Update February 2020<sup>1</sup> for their PFAS Action Plan which includes issuing groundwater cleanup guidance to propose a positive regulatory determination for both PFOA and PFOS.

Recent estimates suggest that there are at least 6,000 variants of polyfluorinated, linear and branched compounds.

Human exposure to PFAS compounds comes from a wide variety of sources including:

- food packaging materials
- commercial household products
- workplace environments such as the electronics industry
- drinking water sources
- living organisms in which these substances have been shown to accumulate and persist over time



<sup>1</sup>Reference: U.S. EPA website at [epa.gov/pfas/epa-actions-address-pfas](https://www.epa.gov/pfas/epa-actions-address-pfas)

Concern for perfluorinated organic compounds (PFCs) and PFAS have increased dramatically in recent years and the health risks are becoming well known across the globe.

For instance, PFAS compounds have been linked to:

- low infant birth weight
- effects on the immune system
- cancer (for PFOA)
- thyroid hormone disruption (for PFOS)

For researchers, scientists and lab professionals in Malaysia who partner with various federal and state agencies as well as local communities to protect human health, it is important to quantify and screen the levels of PFAS in the environment.

## Complete solutions for accurate and low-level detection of known and unknown PFAS compounds

To help scientists, researchers and lab professionals in Malaysia achieve optimal analysis for PFAS compounds, Thermo Fisher Scientific has developed several tools. Check out our PFAS kit at [thermofisher.com/AutoTrace280-pfas-in-drinking-water](https://thermofisher.com/AutoTrace280-pfas-in-drinking-water) to gain access to the following resources:

- Application note: Direct analysis of PFAS in water
- Application note: Validation EPA Method 537.1 for detecting PFAS in drinking water
- Critical Information for Robust PFAS Analysis
- mzCloud Library for PFAS Testing





## Enhanced Capabilities for Accurate, Low-level Detection of Known and Unknown PFAS Compounds

Concern for perfluorinated organic compounds and PFAS have increased dramatically in recent years. Due to the large number of possible PFAS compounds and the lack of standards, PFAS analysis often involves screening unknowns.

**Thermo Scientific™ Dionex™ AutoTrace™ 280 PFAS instrument** is designed to ensure acceptable performance in automated sample preparation for PFAS analysis in drinking water. The instrument offers lab professionals an efficient and reliable solid-phase extraction method for the determination of per- and poly-fluorinated compounds in drinking water per U.S. EPA Method 537.1.

Learn more about the AutoTrace 280 PFAS and Thermo Fisher's range of solutions for PFAS analysis at [thermofisher.com/pfas](https://thermofisher.com/pfas)



Thermo Scientific™ Dionex™  
AutoTrace™ 280 PFAS instrument

Speaking at the webinar are Matthew MacLennan, Ph.D., Senior Scientist and Director of LC/MS at Pacific Rim Laboratories based in British Columbia, Canada and Richard Jack, Ph.D., Senior Director of Vertical Marketing at Thermo Fisher Scientific.

This free on-demand webinar has attracted participants from around the world who are keen to learn about the following:

- The mission and work being performed by Pacific Rim Laboratories for PFAS testing in water samples
- Method compliance using EPA 537.1 using offline SPE followed by mass spectrometry quantification of PFAS compounds
- Robust, sensitive, targeted mass spectrometry methods for confident quantitation of known PFAS compounds

Registered attendees for this webinar include professionals in academic laboratories performing analytical chemistry research on emerging and existing environmental and food contaminants, state level or country level testing laboratories responsible for environmental and food safety in their region, and public water utilities or contract testing laboratories performing targeted PFAS testing.

Register for this webinar at [thermofisher.com/lab-validation-of-pfas-in-drinking-water](https://thermofisher.com/lab-validation-of-pfas-in-drinking-water)



### Free On-Demand Webinar

## New Global Webinar: Lab Validation and Performance Requirements for the Analysis of PFAS Compounds in Drinking Water

Join experts from Pacific Rim Laboratories and Thermo Fisher Scientific on the overview of PFAS analysis using MS/MS for compliance monitoring methods and to examine the requirements for the analysis of PFAS in water and soil.

## Simple and Seamless Routine Analysis

Pharmaceutical, food and industrial laboratories can optimize their routine testing and quality control (QC) workflows with an enhanced high-performance liquid chromatography (HPLC) system that delivers maximized instrument uptime and precision for any operator, regardless of experience.

The new **Thermo Scientific™ Vanquish™ Core HPLC systems**, built on the innovative Vanquish platform, provide exceptional analytical precision, detector sensitivity, and operational simplicity to enable unprecedented reliability and robustness.

Designed specifically for routine analysis laboratories, the Vanquish Core HPLC systems:

- Minimize unexpected downtime
- Simplify integration with all major CDS software, including the new enterprise-level Thermo Scientific Chromeleon 7.3 CDS software
- Facilitate seamless method transfer
- Provide an intuitive user interface for operators of all experience levels

Learn more about Vanquish Core HPLC systems at [thermofisher.com/vanquishcore](http://thermofisher.com/vanquishcore)



Thermo Scientific™ Vanquish™ Core HPLC system

## New Chromatography Data System (CDS) software

Laboratory scientists and IT experts in industrial, chemical and pharmaceutical fields can benefit from improved productivity and reduced system administration costs with a new enterprise CDS software that can leverage cloud technology to standardize systems for increased connectivity, flexibility and security.

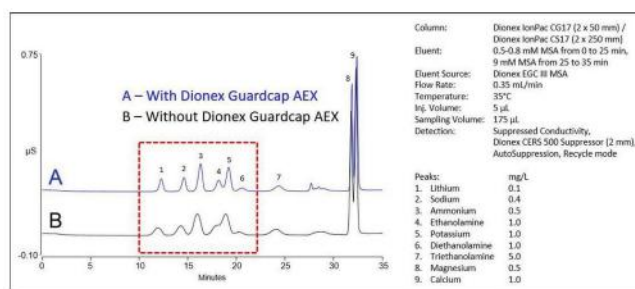
The new **Thermo Scientific™ Chromeleon™ 7.3 CDS** software is designed to provide greater automation and better workflow support to help customers achieve significant productivity gains of up to 33%.

Learn more about Chromeleon 7.3 CDS software at [thermofisher.com/chromeleon73cds](http://thermofisher.com/chromeleon73cds)



For sample preparation, the new **Thermo Scientific™ Dionex™ Guardcap™ AEX vial caps** enable easy inline removal of anions and particulates from samples and neutralization of acidic samples. Dionex Guardcap AEX vial caps contain strong anion-exchange resin in the borate form embedded in a high-density polyethylene filter matrix and are designed to be used with 5 mL Dionex PolyVials in Thermo Scientific™ Dionex™ AS-DV autosamplers. Use them with reduced volume sample transfer lines to maximize the capacity of Dionex Guardcap AEX.

Learn more about Dionex Guardcap at [thermofisher.com/Guardcap](http://thermofisher.com/Guardcap)



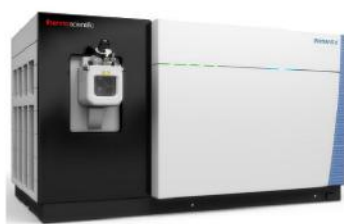


Thermo Fisher Scientific is honored that our analytical technology has received industry recognition through these distinguished awards, and that our instruments will continue to play a critical role in scientific advancement. Here are the award-winning analytical solutions that are enabling scientists and organizations to make the world healthier, cleaner and safer by unlocking a greater understanding of the human proteome, advancing development of novel biotherapeutics and enhancing the analysis of time-critical samples within routine testing environments.

### R&D World Magazine's R&D 100 Award

The **Thermo Scientific™ Orbitrap ID-X™ Tribid™ Mass Spectrometer** was a recipient of the R&D 100 Award for the Analytical/Test category by R&D World magazine.

The Orbitrap ID-X Tribid Mass Spectrometer was recognized for its easy-to-use analytical platform and advanced capabilities to confidently identify and characterize small molecules.



Thermo Scientific™ Orbitrap ID-X™ Tribid™ Mass Spectrometer

### The Medicine Maker's 2019 List

Enabling biopharmaceutical laboratories to replace the complicated sequence of methods required to characterize protein-based therapeutics with a single, verified mass spectrometry-based workflow, the **Thermo Scientific™ HR Multi-Attribute Method (MAM)** was included in The Medicine Maker's 2019 list of groundbreaking drug development and manufacturing technologies.



### The Analytical Scientist's Top 15 Innovations of 2019

The two innovative products:

- **Thermo Scientific™ VeriSpray™ PaperSpray Ion Source** for its ability to simplify sample preparation and increase throughput for a wide range of routine mass spectrometry-based applications, including drug analyte testing and drugs of abuse analysis.
- **Thermo Scientific™ Orbitrap™ Exploris™ 480 Mass Spectrometer** for its innovation. This is a new-generation system that is advancing quantitative proteomics and translational research.

### 2019 Life Science Industry Awards

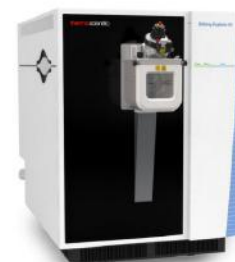
As a winner of the Gold Award for Best New Product for Protein Analysis at the 2019 Life Science Industry Awards (LSIA), the **Thermo Scientific™ Orbitrap™ Exploris™ 480 Mass Spectrometer** was recognized for its ability to deliver enhanced quantitative performance across label-free and tandem mass tag (TMT) experiments, as well as access new Thermo Scientific™ SureQuant™ methods for ultra-sensitive targeted protein assays.

### Scientists' Choice Award

The **Thermo Scientific™ Orbitrap™ Exploris™ 480 Mass Spectrometer** was nominated by the SelectScience community for the Scientists' Choice Award for Best New Drug Discovery & Development Product of 2019.



Thermo Scientific™ VeriSpray™ PaperSpray Ion Source for mass spectrometry



Thermo Scientific™ Orbitrap™ Exploris™ 480 Mass Spectrometer

## IKM Northern Branch



IKM Northern Branch Committee 2020/2021			
ChM Dr. Hj. Mas Rosemal Hakim bin Mas Haris	<b>Chairman</b>	ChM Nur Izzah binti Abd Azes	<b>Committee Members</b>
ChM Marhayani binti Md Saad	<b>Vice Chairman</b>	ChM Dr. Lee Hooi Ling	
ChM Dr. Kathiresan a/l Sathasivam	<b>Honorary Secretary</b>	ChM Dr. Shangeetha a/p Ganesan	
ChM Buvearasan a/l Muniandy	<b>Honorary Treasurer</b>	ChM Lim Hooi Sung	
ChM Dr. Nor Aziyah binti Bakhari	<b>Assist. Hon. Secretary</b>	ChM Damien Khoo Yiyuan	<b>Co-opted Committee Members</b>
ChM Dr. Melati binti Khairuddean	<b>Assist. Hon. Treasurer</b>	ChM Shaari bin Desa	
		ChM Zaiton binti Abu Baidah	
		ChM Suriati binti Shaidin	<b>Internal Auditors</b>
		ChM Dr. Nur Farhana binti Jaafar	
		ChM Lin Kee Heng	
		ChM Doreen NB Chandra Siri	

**Contact details:**

ChM Dr. Hj. Mas Rosemal Hakim bin Mas Haris

Email: rosemalharis@gmail.com



An Induction Program of IKM was conducted at Hotel UiTM Penang on 11<sup>th</sup> January 2020 and was attended by 46 registered chemists. An outline of the program is as follows:

11:30 am – 12:30 pm: **“The Roles and Functions of Institut Kimia Malaysia”**

Keynote Speaker: *Datin ChM Dr. Zuriati binti Zakaria*

12:30 pm – 1:30 pm: **“Chemist role and contribution in environmental sustainability”**

Invited Speaker: *ChM. Buvearasan a/l Muniandy*

1:30 pm – 1:50 pm : Q&A and Concluding Remarks

1:50 pm – 3:00 pm : Lunch

Comments and recommendation received during lunch from participants are encouraging and commendable. Many requested that such a program / seminar is to be conducted at the Northern branch (covering Penang, Kedah and Perlis) again.



## IKM Terengganu Branch



### IKM Terengganu Branch Committee 2020/2021

ChM Teo Chook Kiong	<b>Chairman</b>
ChM Noor Dina Ali	<b>Vice Chairman</b>
ChM Shamsilawati Mustafar	<b>Honorary Secretary</b>
ChM Mohd Shafizi Ab Aziz	<b>Honorary Treasurer</b>
ChM Nordiana Salleh	<b>Assist. Hon. Secretary</b>
ChM Mohd Sabri Yaacob	<b>Assist. Hon. Treasurer</b>
ChM Mohd Fajariatudin Mustaffa	<b>Committee Members</b>
Assoc. Prof. ChM Dr Kamarul Ain Mustafa	
Assoc. Prof. ChM Ts Dr Wan Mohd Khairul Wan Mohamed Zin	
ChM Radi Hairil Mat Jusoh @ Ramli	
ChM M A Rauf A Wahid	
ChM Jumardi Abu Bakar	<b>Internal Auditors</b>
ChM Wan Rohaslina Wan Abdullah	

IKM Terengganu Branch held its 24th AGM on 14th March 2020 at Paya Bunga Hotel, Kuala Terengganu. The AGM was chaired by ChM Teo Chook Kiong, Chairman of IKM Terengganu Branch. He welcomed IKM members with warm greeting and expressed his thanks to all IKM members, particularly the committee members' for their support and commitment towards to the success of IKMTB activities / programs in 2019.

Pre-AGM Talks were conducted by two speakers; ChM Mohd Sabri Yaacob on "Introduction to Asphalt Tipco" and Assoc. Prof ChM Dr Kamarul Ain Mustafa on "E-numbers". A total of 25 members attended and IKM President, Datuk ChM Dr Soon Ting Kueh, officiated the 24th AGM. During his opening speech, the President encouraged IKM members continue to play his/her role in promoting public understanding and appreciation of chemistry to the younger generation.





## IKM Perak Branch



### IKM Perak Branch Committee 2020/2021

ChM Hwang Chin Hor	<b>Lifetime Advisor</b>
ChM Khairul Hadi Bin Haji Abd Raof	<b>Chairman</b>
ChM Dr Hayyiratul Fatimah Mohd Zaid	<b>Vice Chairman</b>
ChM Jocelyn Agnes Lazarus	<b>Honorary Secretary</b>
ChM Dr Wong Lai Peng	<b>Honorary Treasurer</b>
ChM Norziana Anis Binti Mohamed Mostar	<b>Assist. Hon. Secretary</b>
ChM Ng Choon Heng	<b>Assist. Hon. Treasurer</b>
ChM Muhammad Abdul Faiz Bin Zainuddin	<b>Committee Members</b>
ChM Yong Pui San	
ChM Chon Huey Chian	
ChM Ahmad Nazri Bin Husain	
ChM Nithya Ambika Muniandy	
Assoc Prof ChM Dr Chong Fai Kait	<b>Internal Auditors</b>
ChM Amar Singh s/o Banta Singh	

IKM Perak Branch held its Annual General Meeting on the 14<sup>th</sup> of March 2020 at Kinta Riverfront Hotel, Ipoh. The dinner started at around 7.30 pm and at about 8.30 pm, a physiotherapist, Ms Khor Jai Ying who practises at Pantai Hospital Ipoh gave the attendees an informative talk on *Common Ergonomic Hazards: Neck and Back Pain*.

In her talk, Ms Khor told us the common causes and consequences of neck and back pain, which is mainly our posture when standing, lifting things, lying down and when sitting at the computer, using devices etc. She also told us how we can prevent neck and back pain mainly by improving our posture. These tips were very useful to the dinner attendees as most of the attendees had desk jobs which required long hours at a desk on the computer, or referring to their devices. The informative talk ended at around 9.10 pm.





Our new Chairman, ChM Khairul Hadi Bin Haji Abd Raof presented Ms Khor with a token of appreciation for graciously attending and giving us this useful information. The dinner ended at around 9.15 pm.



## IKM Southern Branch



### IKM Southern Branch Committee 2020/2021

ChM Yap Fei Ching	<b>Chairman</b>
Assoc. Prof ChM Dr Jafariah Jaafar	<b>Vice Chairman</b>
ChM Poo Sher Lin	<b>Honorary Secretary</b>
ChM Dr Cassy Chong Mun Hwa	<b>Honorary Treasurer</b>
ChM Dr Sheela Chandren	<b>Assist. Hon. Secretary</b>
ChM Dr Mohd Bakri Bakar	<b>Assist. Hon. Treasurer</b>
Ms Amelia Cheng Guay Neo	<b>Committee Members</b>
ChM Dr Tay Chong Seng	
Assoc. Prof ChM Dr See Hong Heng	
ChM Leong Lee Siah	
ChM Soh Ee Shan	<b>Internal Auditors</b>
ChM Sim Yu Hwa	
ChM Chong Quek Phin	

#### Contact details:

ChM Yap Fei Ching  
Email: ikmselatan@gmail.com  
/ rachelyap0609@gmail.com

A Health Talk on Gastroesophageal Reflux Disease was held on 7 March 2020. The speaker was Dr Lim Huey Cheen, General Surgeon, Upper GIT, Bariatric Surgery from Regency Specialist Hospital Masai, Johor. A total of 31 people attended this talk.





# INSTITUTE OF MATERIALS, MALAYSIA



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- Certified Coating Quality Control Technician
- Corrosion Control by Protective Paints Course
- Certified Thermal Spray Coating Applicator
- Certified IMM-SSPC C7 Abrasive Blasting
- Certified IMM-SSPC C12 Spray Application
- Certified B1B2 Assistant Blaster and Painter

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- Certified Coating Fingerprint Quality Controller Level 1 & 2
- Certified Coating Fingerprint Quality Controller Level 2
- Certified Coating Fingerprint Quality Controller Refresher Course
- Certified Coating Fingerprint Trainer

### CORROSION PROTECTION

- Certified Corrosion Technician Level 1 & 2
- Certified Cathodic Protection Technician Level 1 & 2
- Certified Cathodic Protection Engineer
- Corrosion Control by Cathodic Protection Course

### VIBRATION TECHNOLOGY

- Certified Vibration Practitioner Category 1 & 2
- Certified Vibration Specialist Category 3 & 4

### MECHANICAL JOINT INTEGRITY (MJI)

- Certified Technician in MJI for Small-bore Piping, Tubing and Valves
- Certified Technician in MJI for Flange Bolted Connections

### MATERIALS

- Materials Selection & Corrosion Course
- Metallurgical Failure Investigation Course
- Basic Course on Operation of Mobile Air Compressor

### THERMAL INSULATION

- Introduction to Thermal Insulation Course
- Certified Thermal Insulation Installer

### WELDING INSPECTION

- Certified Welding Inspector
- Certified IMM-JWES Associate Welding Engineer
- Certified IMM-JWES Welding Engineer
- Certified IMM-JWES Senior Welding Engineer
- Welding Repair Welding of Pressure Equipment in Refineries & Chemical Plants Course
- Welding & Joining Technology for Non-Welding Personnel Course
- Steel Technology for Non-Technical Personnel Course
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- Certified Thermit Welding Senior Practitioner (Level 2)

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IMM certified schemes are recognized in oil and gas, shipbuilding, construction industries etc. and by PETRONAS. Training courses for the related certification schemes are available at IMM Accredited Training Bodies.

IMM Competency Certificate holders are recognised as possessing supplementary knowledge in materials technology and engineering and are better placed for employment, career advancement and usually enjoy higher remunerations.

For information on training and competency assessments contact IMM Secretariat.



## IKM Pahang Branch



IKM Pahang Branch Committee 2020/2021			
ChM Tn. Hj. Shafek Hamlan bin Abdul Hamid	<b>Advisor</b>	Assoc. Prof ChM Dr Gaanty Pragas Maniam	<b>Committee Members</b>
Assoc. Prof ChM Dr Chong Kwok Feng	<b>Chairman</b>	ChM Aznor bin Yahya	
ChM Wan Ahmad Ashadi bin Wan Mohd Kamil	<b>Vice Chairman</b>	ChM Muhammad Fidzrus bin Abdul Hamid	
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		Prof ChM Dr Shafida binti Abdul Hamid	
		ChM Aw Wai Boon	

**Contact details:**

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## IKM Sabah & FT Labuan Branch



IKM Sabah & FT Labuan Branch Committee 2020/2021			
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ChM Debbie Annabell Peter	<b>Honorary Secretary</b>	Prof Madya ChM Dr Collin G. Joseph	
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		ChM Dr Moh Pak Yan	

**Contact details:**

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Email: jenny1318@gmail.com

or

ChM Debbie Annabell Peter  
Email: deborahpeter@live.com

## IKM Sarawak Branch



IKM Sarawak Branch Committee 2020/2021	
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Prof ChM Dr Lau Seng	<b>Committee Members</b>
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ChM Dr Tay Meng Guan	
Prof ChM Dr Zainab Binti Ngaini	
ChM Nur Ainiza Binti Zakaria	
ChM Mohd Riduan Bin Md Bakhir	<b>Co-opted Committee Members</b>
ChM Dr Devagi A/p Kanakaraju	
ChM Lai Wei Seng	
ChM Jong Poh Chan	
ChM Pung Tiong Seng	<b>Internal Auditors</b>
ChM Ruth Wong Wen Ting	

In conjunction with the 34<sup>th</sup> Annual General Meeting (7 Mac 2020), IKM Sarawak hosted a talk on “River Pollution and Conservation – Multisectorial Perspectives” by ChM Dr Lau Seng. ChM Dr Lau shared the overall findings from the Seminar on River Pollution and Conservation, a seminar jointly organized by IKM Sarawak with Natural Resources and Environment Board, (NREB) Sarawak, Department of Environment (DOE) and Universiti Malaysia Sarawak (UNIMAS) on 5 Mac 2020. ChM Dr Lau was the Organizing Chairman of the seminar. The talk covers the management of water resources in the country with specific focus on the status of rivers in Malaysia, the threats encountered, the conservative initiatives and the way forward. The talk was attended by 30 members and 7 non-members.



**Contact details:**

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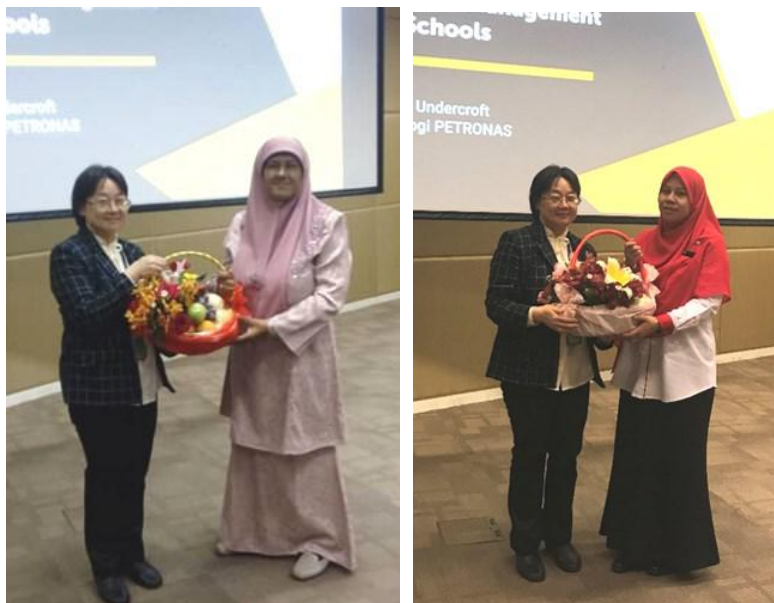
[www.icpackk2020.org](http://www.icpackk2020.org)



## IKM Perak Branch Outreach Programme

The workshop on “Basic Laboratory Skills and Chemicals Management” was successfully co-organized with UTP and in collaboration with Kimia Perak on 21<sup>st</sup> October, 2019 at Universiti Teknologi PETRONAS. Fifty schools from nine Pejabat Pendidikan Daerah (PPDs) were invited for the program (Batang Padang, Manjung, Kerian, Kuala Kangsar, Hilir Perak, Larut/Matang/Selama, Perak Tengah, Kinta Utara and Kinta Selatan).

A total of thirty-one schools accepted the invitation and the total participants was fifty-nine. Feedback from participants on the programme was very encouraging. There were requests to conduct similar program in the future with more focus on laboratory skills.





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# Fun Chemistry Demonstration in conjunction with STEM Week at SMK Convent Bukit Nanas

Institut Kimia Malaysia (IKM) was invited to join chemistry sharing session at SMK Convent Bukit Nanas (CBN) in conjunction with STEM week from 24-28 Feb 2020. The event was held on 25 February 2020 at Dewan Perpaduan SMK CBN, starting from 8.00 am to 2.00pm for 890 students from SMK CBN. The team from Malaysian Young Chemists Network (MYCN) took part in this event by displaying Borax Bouncy Ball experiment. This event was led by Assoc. Prof. ChM Dr. Juan Joon Ching (MYCN Chairman) and Dr Lee Hwei Voon together with the MYCN member and postgraduate students from University of Malaya.







Some basic chemistry principles such as borax chemistry and its uses; polymers and polymerization process; as well as observation on formation of polymer networks that relate to viscosity and elasticity characteristics were explained to the students. The bouncy borax ball is a polymer that is linked together by intramolecular covalent and intermolecular hydrogen bonds. When slight force is applied, it can stretch and bounce due to the elasticity of the polymers.

When stronger force is applied, the polymer chain disintegrates due to cleavage of hydrogen bonds. The students from SMK CBN enjoyed preparing their own borax ball. The hands-on demonstration allow them to understand the concept of polymerisation reaction between borax and Polyvinyl alcohol (PVA).

Prepared by  
ChM Dr Lee Hwei Voon



## IKM New Members

### New Members (MMIC)

Alyza Azzura binti Abd Rahman Azmi, Dr.  
M/5330/8722/20

Azizah binti Mohd Noordin  
M/5276/8635/20

Azizul bin Mohd Zahari  
M/5310/8688/20

Azlira binti Ahmad  
M/5284/8646/20

Cheong Kah Yein  
M/5280/8640/20

Chester Clement Chin  
M/5277/8637/20

Dian Nur Hamizah binti Hassan  
M/5350/8759/20

Emily Tan Hui Peng, Dr.  
M/5316/8698/20

Fazlyana binti Mustafa  
M/5283/8645/20

Gan Yen Shing  
M/5315/8697/20

Goh Jun Kai  
M/5337/8731/20

Hani Liyana binti Rahmat  
M/5340/8734/20

Ignatius Julian Dinshaw  
M/5318/8702/20

Irwan bin M. Tahir  
M/5313/8695/20

Ishak bin Ahmad, Prof. Dr.  
M/5349/8758/20

Jayakumar A/L Ponniasalan  
M/5287/8649/20

Jeyaletchumy a/p Yoganathan  
M/5299/8668/20

Khoo Soo Yee  
M/5326/8714/20

Kong Sieng Huat  
M/5279/8639/20

Lee Loong Chuen, Dr.  
M/5345/8743/20

Lee Sze Koon, Dr.  
M/5325/8712/20

Liew Sook Yee, Dr.  
M/5281/8641/20

Lim Wan Jing  
M/5304/8677/20

Mahashanon a/l Arumugam, Dr.  
M/5341/8735/20

Marina binti Mokhtar  
M/5296/8661/20

Maryam binti Sairi  
M/5343/8741/20

Mazlin binti Mohideen, Dr.  
M/5342/8737/20

Mohamad Nur Khairul Anwar bin Mohd Din  
M/5332/8724/20

Mohd Hassan bin Yusoff  
M/5273/8630/20

Mohd Kiram bin Abdullah  
M/5291/8658/20

Mohd. Filardy Ghairil Maghhubi B. Othman  
M/5352/8761/20

Muhammad Hafiz bin Abu Bakar  
M/5288/8654/20

Muhammad Zuhairi bin Borhan  
M/5292/8660/20

Muhd Faiz bin Isa  
M/5290/8656/20

Nabilah binti Daud  
M/5289/8655/20

Nadhirah binti Ahmad Kamal  
M/5305/8679/20

Nadiah binti Khaled  
M/5275/8634/20

Naszroul Haqimee bin Rahmat  
M/5272/8629/20

Ng Boon Seng  
M/5302/8673/20

Ng Hon Ming, Dr.  
M/5329/8720/20

Nicholas Junau Anak Lani  
M/5278/8638/20

Nithya a/p Rajendran  
M/5335/8728/20

Noor Wini binti Mazlan, Dr.  
M/5301/8672/20

Nor Azam bin Endot, Dr.  
M/5344/8742/20

Nor Suriani binti Sani, Dr.  
M/5286/8648/20

Norfarhah binti Abdul Razak  
M/5348/8756/20

Norliza binti Dzakaria, Dr.  
M/5334/8727/20

Norliza binti Md Jamoin  
M/5274/8631/20

Nornadia binti Jasin  
M/5271/8628/20

Norshilyla binti Mohd Jailani  
M/5312/8691/20

Norzilawati binti Ramli  
M/5308/8684/20

Nur Fasiah binti Mohamed Nazir  
M/5347/8750/20

Nur Faziera binti Yusof  
M/5311/8690/20

Nur Izzah binti Abd Azes  
M/5285/8647/20

Nur Nadia binti Dzulkifli, Dr.  
M/5339/8733/20

Nur Nazihah binti Md Shahari  
M/5351/8760/20

Nur Sofiah binti Abu Kassim, Dr.  
M/5338/8732/20

Nur Syafika binti Shah Bani  
M/5300/8669/20

Nuraini binti Mohamad Zainuddin  
M/5328/8719/20

Nurul Farah Athirah binti Shamsuri  
M/5297/8663/20

Nurul Husna binti Hussin  
M/5307/8682/20

Nurul Khalidah binti Abdul Kadir  
M/5321/8705/20

Ong Meng Chuan, Dr.  
M/5346/8745/20

Pua Swee Ping  
M/5327/8715/20





Regina Sisika a/p Sonthanasamy, Dr. M/5320/8704/20	Chu Kai Xuen L/2958/8753/20	Muhammad Sadan Tabin bin Suile L/2953/8747/20
Saiful 'Arifin bin Shafiee, Dr. M/5331/8723/20	Cyrril Marcella Anak Anek L/2933/8692/20	Nasuha binti Zainorin L/2940/8713/20
Siti Nur Liyana binti Azmi M/5314/8696/20	Faseha binti Jamali L/2943/8718/20	Noratiqah binti Mat Akhir L/2946/8730/20
Siti Shafiah binti Shazali, Dr. M/5282/8642/20	Fatin Amirah binti Mohd Yusof L/2911/8633/20	Norhaslina binti Abu Samah L/2937/8707/20
Suria a/p Kupan M/5333/8726/20	Foo Zhi Ling L/2948/8738/20	Nur Nashrullah bin Lokeng L/2944/8721/20
Suria binti Ramli, Dr. M/5319/8703/20	Harnish Kaur a/p Kartar Singh L/2952/8746/20	Nur Nayli binti Nazeri L/2932/8687/20
Suzana binti Mohd Jizan M/5323/8710/20	Hudal Nura binti Mohd Sallehuddin L/2961/8757/20	Nurin Lammert binti Mohd Adlan Lammert L/2951/8744/20
Suziani binti Muda M/5317/8701/20	Kuek Jing Yi L/2914/8644/20	Nursyamimi Izzaty binti Mohd Yusoff L/2919/8657/20
Teo Sook Liang, Dr. M/5324/8711/20	Lau Lee Teng L/2938/8708/20	Nurul Ain binti Nor Azman L/2942/8717/20
Thanalechumi a/p Paramalinggam, Dr. M/5306/8681/20	Lim Wen Hao L/2912/8636/20	Nurul Nadiah binti Armys L/2921/8574/20
Theenmullai a/p Yathavan M/5303/8674/20	Lin Sie Yau L/2913/8643/20	Ong Song Quan, Dr. L/2954/8748/20
Thiruventhan a/l Karunakaran, Dr. M/5322/8706/20	Loke Pei Yu L/2935/8699/20	Rayce Lim Rui Chi L/2936/8700/20
Tiew Shu Xian, Dr. M/5309/8685/20	Mintshe Tan L/2923/8665/20	Rosalinda Diana Gerald Lansing L/2928/8675/20
Wong Mun Yee, Dr. M/5295/8610/20	Mohamad Zawawi bin Pauzy L/2957/8752/20	Sarah Najihah binti Ahmad Ridzuan L/2909/8599/20
Yvonne Melse Laurence M/5270/8327/20	Mohammad Sufian bin Endra L/2959/8754/20	Sauntarya A/P Subramaniam L/2915/8650/20
Zetty Azalea binti Sutirman, Dr. M/5336/8729/20	Mohd Fadilah bin Rusdy L/2918/8653/20	See Itt Zheng L/2920/8659/20
Zul Helmi bin Salleh M/5298/8664/20	Mohd Hafiz bin Abdul Rahman L/2956/8751/20	Siti Nabila binti Hakimi L/2924/8666/20
<b>New Licentiate (LMIC)</b> Aizat bin Aminuldin L/2917/8652/20	Mohd Ridhuan bin Daud L/2949/8739/20	Siti Zahirah binti Dris L/2930/8678/20
Arnawaty binti Ayob L/2939/8709/20	Muhamad Azrin bin Sajahan L/2947/8736/20	Siti Zaleha binti Saubari L/2931/8680/20
Chai Pui Shan L/2916/8651/20	Muhammad bin Ismail L/2950/8740/20	Song Shiow Tien, Dr. L/2960/8755/20
Chang Huey Yng L/2922/8662/20	Muhammad Hasif bin Mohd Alias L/2925/8667/20	Tee Xiu Li L/2927/8671/20
Che Wan Insyirah binti Che Wan Takwa L/2941/8716/20	Muhammad Noorhaziq bin Razali L/2926/8670/20	Thamil Selvi a/p Nathan L/2945/8725/20

Thilagan a/l Muthiah  
L/2934/8693/20

Mohd Iqbal bin Lokman  
M/5354/6607/13/20

Shahrul Fatin Izzati binti Adnan  
M/5361/7053/15/20

Thulasiprevinnah a/p Santhanathas  
L/2955/8749/20

Muhammad Nur Faaizi bin Badarudin  
M/5359/7938/18/20

Siti Khadijah binti Mohamad Noor  
M/5357/6627/14/20

Yahmuna A/P Balakrishnan  
L/2910/8632/20

Nor Syafika binti Mohamad  
M/5365/7991/18/20

Sumathy a/p Rajendran  
M/5358/5437/08/20

Yeow Liya  
L/2929/8676/20

Nur Azhani binti Mohamed Alang  
M/5356/7547/16/20

Tan Hee Peng  
M/5364/6332/12/20

**Upgrade to Member (MMIC)**  
Aaron Khin Chee Hwa  
M/5353/7449/16/20

Nur Syafiqah Amira binti Mohd  
Zulkefli  
M/5363/7154/15/20

Teh Yu Jie  
M/5355/7660/17/20

Amalia Faqihah binti Ahmad Zahari  
M/5362/8233/18/20

Nurul Husna binti Zakaria  
M/5360/6486/13/20

**Upgrade to Fellow (FMIC)**  
How Siew Eng, Prof. Dr.  
F/0124/3939/99/20

Lee Shoek Yin  
M/5293/7756/17/20

Saidah binti Karim  
M/5294/8142/18/20



## APPLICATION FOR RETENTION ON THE REGISTER OF MEMBERS FOR YEAR 2020

IKM Members are required to renew their **membership annually**. Payment of retention fee must be made by **1st January of every year**. A late fee of **RM20.00** is imposed if the application for retention is received **after that date**.

**Section 23 of the Chemists (General) Rules 1977** reads as follows:

23. (1) An Application by a member for retention on the register for any year must be made in **Form 4** in the Schedule **before the 1st January of the year**.

23. (5) If no application for retention on the register is made by a member **before 30th June** of the year for which retention is due, his name shall be **removed from the register** and a **fresh application must be made** if he desires to be again admitted as a member of the Institute.





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