

# MSPP NEWSLETTER

Special Issue: April 2021



## MSPP 2020/22 President's Message

Welcome to the Malaysian Society of Pharmacology and Physiology!

The year 2020 has seen unprecedented times with the world characterized by the many uncertainties during this pandemic. We have learned to communicate via technology where we conduct administrative, academic or scientific meetings via the diverse virtual platforms at our disposal. Not only that, when the pandemic just started, we have had to be accustomed to giving voice-over lectures which then changed to live telecast or synchronous lectures. For many of us, it was not a rapid transition but an immediate one. I would like to congratulate the Past President and her executive committee for holding for the very first time, a virtual AGM on December 10, 2020. It probably is the way to go as we had record breaking attendance as people did not have to make travel and accommodation arrangements.

MSPP has grown to become a sizable community of scientists. Many years ago, the society started with a single activity and that was a scientific meeting every two years. The change to having an annual scientific meeting was not an option but a necessity as it provides young lecturers and scientists as well as postgraduate students with the opportunity to share their research findings through oral and poster presentations at the numerous free paper and poster sessions.

As the universities that provided a medical program increased, the society quickly realised that there were many young academicians that would benefit from a refresher course in the teaching of pharmacology and physiology. In addition, to encourage continuity of high quality of scientific investigations and teaching, MSPP introduced 'The Young Investigator Award' and 'The Young Teacher's Award' which I am proud to say received much interest reflected by the number of submissions for these events.

The society has undertaken a very important endeavour which is a community outreach program. I am very proud of this initiative as this provides the society with an avenue to offer the community with current findings on a healthy lifestyle. We now also have an electronic newsletter twice a year to keep members in touch with the activities of the society which is not only carried out by the executive community but members themselves.

On that note, I invite all members to submit ideas in the form of a concept paper on what they'd like to do under the name of the society. We look forward to receiving your ideas and how best to implement them. You may submit these to the Secretary, Dr. Azlini Ismail ([dr\\_azlini@iiium.edu.my](mailto:dr_azlini@iiium.edu.my)). We had our first executive committee meeting on December 18th and although the constitution requires us to meet only four times till the next AGM, I am pleased to inform that we plan to meet every other month which will allow us to discuss your ideas sooner.

We hope that many more will join the society. Why join MSPP? We are a self-organizing society, which means that members drive the society activities. While attending conferences, getting feedback on ideas and papers, networking with peers and senior professors, a discounted members fee for some events, members find they also benefit from contributing to the Society in many ways. See your ideas being transformed into reality! You may also serve on subcommittees which the executive committee members will lead – come and join us!

I hope many will participate in the Society activities planned for 2021 – The Young Investigator Award, The Young Teacher's Award, community outreach program and many more – please check our website and FB for events. This work comes with the benefit of interaction with scholars. Through it, together we grow intellectually and academically, and we absorb and reckon with global concerns in our field. For many of us, our MSPP friendships and collaborations have become some of the most rewarding relationships of our lives.

I am also delighted to announce that the MSPP Scientific Meeting 2021, hosted by Monash University in collaboration with the Society will be held virtually, on 15-17 July 2021. Hope to see you there!

We look forward to your involvement with MSPP.

**Professor Dr. Nafeeza Mohd Ismail**

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## Editorial Message

Dear MSPP members,

It is indeed a great honour to be the MSPP Newsletter Editor for the term 2020-2022, and it is an immense pleasure to launch this special issue for 2021.

This issue was published to highlight the new MSPP President's message, introduce the new MSPP Executive Committee for the 2020-2022 term and promote our upcoming events.

Looking back at 2020, what a year it has been! As part of the MSPP Executive Committee for 2018-2020, we apologize that many MSPP signature events especially the MSPP Scientific Meeting had to be postponed. We did manage to conduct several webinars and a refresher course that was very well-received. The society ended 2020 with a successful Annual Grand Meeting which was held virtually and well-attended. The general election was also held during the meeting, where the MSPP leadership was handed over to our new president, Prof. Dr. Nafeeza Mohd Ismail. We would all like to thank the outgoing president, Prof. Dr. Norfilza Mohd Mokhtar for her outstanding leadership in steering the society.

Breezing into 2021, we promise you that all our events will be back albeit on a different platform. So don't forget to register for our virtual MSPP Scientific Meeting 2021!

Last but not least, let's all do our part to ensure that we break the Covid-19 chain soon enough, so that we can go back to normalcy. It is my wish that our MSPP Scientific Meeting could be conducted physically again as per normal practice and we could see eye to eye. Till then, stay safe and I hope to see you all virtually at our MSPP Scientific Meeting 2021 on the 15<sup>th</sup> of July!

Dr. Izuddin Fahmy Abu

## ABOUT MSPP

The Malaysian Society of Pharmacology and Physiology (MSPP) was registered in 1974. The MSPP is an affiliate of the Federation of the Asian and Oceania Physiological Societies (FAOPS) and Asia Pacific Federation of Pharmacologists (APFP).

To date, MSPP is proud to have organized 32 scientific meetings, attracting not only local participants but also many international participants from various countries such as India, Pakistan, Iran, Iraq, Indonesia, Kuwait, Nigeria, Australia and Finland.

## VISIT OUR WEBSITE AND FOLLOW OUR SOCIAL MEDIA PLATFORMS

 <http://www.mspp.com.my/>

 [Malaysian Society of Pharmacology & Physiology](#)

 [mspp.secretariat](#)

### Quote of the issue...



Take young researchers, put them together in virtual seclusion, give them an unprecedented degree of freedom and turn up the pressure by fostering competitiveness.

— James D. Watson —

(Co-discovered the DNA structure with Francis Crick)



Be a contributor for MSPP Newsletter.  
Send your articles/write-up to us at:  
[mspp.secretariat@gmail.com](mailto:mspp.secretariat@gmail.com)

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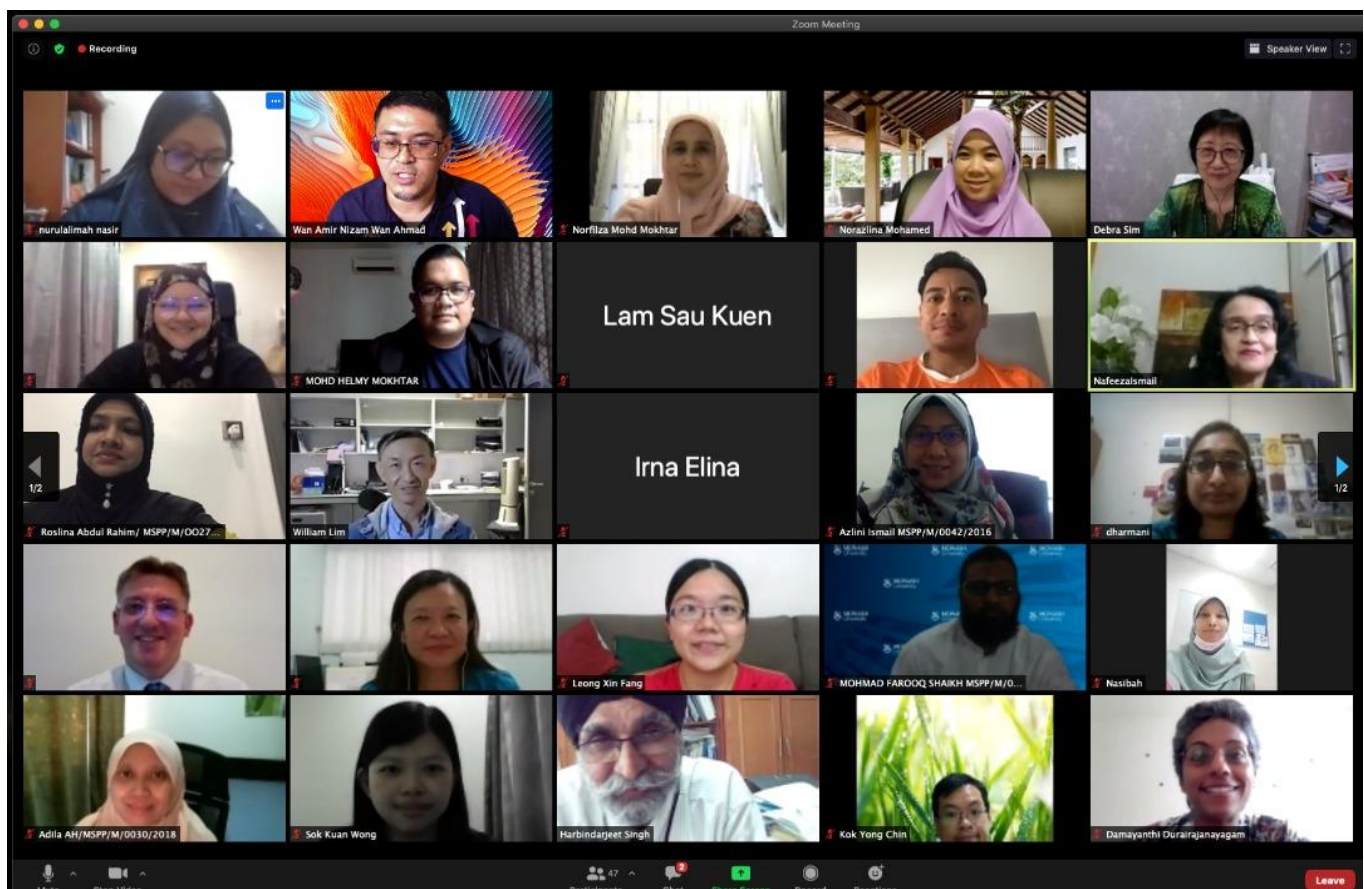


## MSPP Annual Grand Meeting & Election of Office Bearers 2020/2022

For the first time ever, the MSPP Annual Grand Meeting 2020 was held virtually via ZOOM platform on 10<sup>th</sup> December 2020. The meeting was attended by a record-breaking 74 MSPP members.

The election of MSPP office bearers for the 2020/2022 term was also conducted where the votes were casted using an e-voting software. Adapting with new norms and technology, our first virtual AGM was a great success!

Flip to the next page to see our 2020/2022 MSPP office bearers.



Some of the members who attended the MSPP AGM 2020

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Special Issue: April 2021



## MSPP Executive Committee 2020/2022

### PRESIDENT



**Prof. Dr. Nafeeza Mohd Ismail**  
School of Medicine,  
International Medical University (IMU).  
**Research Interest:** Metabolic Health.  
Nafeezalsmail@imu.edu.my

### VICE PRESIDENT



**Dr. Wan Amir Nizam Wan Ahmad**  
Biomedical Program, School of Health Sciences,  
Universiti Sains Malaysia.  
**Research Interest:** Cardiovascular Pharmacology,  
Endocrine Pharmacology, Pharmacodynamic.  
wanamir@usm.my

### SECRETARY



**Dr. Azlini Ismail**  
Department of Fundamental Dental and  
Medical Sciences, Kulliyah of Dentistry  
International Islamic University Malaysia.  
**Research Interest:** Cardiovascular  
Pharmacology, Natural Product,  
Pharmacognosy.  
dr\_azlini@ium.edu.my

### TREASURER



**Assoc. Prof. Dr. Dharmani A/P Murugan**  
Department of Pharmacology, Faculty of  
Medicine, University of Malaya.  
**Research Interest:** Vascular Pharmacology –  
Metabolic & Cardiovascular Diseases and  
Oxidative Stress.  
dharmani79@um.edu.my

### EXCO



**Dr. Nurul Alimah Abdul Nasir**  
Department of Pharmacology, Faculty of  
Medicine, Universiti Teknologi MARA.  
**Research Interest:** Ocular Pharmacology,  
Tocotrienol, Metabolic Diseases.  
nurulalimah@uitm.edu.my

### EXCO



**Dr. Mohd Helmy Mokhtar**  
Department of Physiology, Faculty of  
Medicine, Universiti Kebangsaan Malaysia.  
**Research Interest:** Reproductive Physiology,  
Natural Product.  
helmy@ukm.edu.my

### EXCO



**Assoc. Prof. Dr. William Lim Kiong Seng**  
Department of Paraclinical Sciences,  
Faculty of Medicine and Health Sciences,  
Universiti Malaysia Sarawak.  
**Research Interest:** Neurological Drug  
Discovery, G-protein Coupled Receptor,  
Problem-Based Learning.  
kslim@unimas.my

### EXCO



**Assoc. Prof. Dr. Roslina Abdul Rahim**  
Department of Basic Medical Science,  
Kulliyah of Medicine, International Islamic  
University Malaysia.  
**Research Interest:** Natural Products,  
Molecular mechanism of Non-alcoholic  
steatohepatitis (NASH) and non-alcoholic  
fatty liver disease, Male infertility, PCOS.  
roslinaar@ium.edu.my

### EXCO



**Dr. Noor Azlina Abu Bakar**  
School of Basic Medical Sciences, Faculty  
of Medicine, Universiti Sultan Zainal Abidin.  
**Research Interest:** Pain and Inflammation,  
Cancer Research.  
noorazlina@unisza.edu.my

### EXCO



**Dr. Izuddin Fahmy Abu**  
Institute of Medical Science Technology,  
Universiti Kuala Lumpur.  
**Research Interest:** Pharmacogenomics,  
Neuropharmacology, Natural Products.  
izuddin@unikl.edu.my

### EXCO



**Dr. Priyia Pusparajah**  
Jeffrey Cheah School of Medicine and Health Sciences,  
Monash University Malaysia.  
**Research Interest:** Paediatrician/ Medical Education,  
Bioprospecting especially from plants and microbes.  
priyia.pusparajah@monash.edu

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Special Issue: April 2021



## MSPP Past & Upcoming Events

MSPP's first event for the new terms is a **GLOBAL LECTURE SERIES** titled The Carbohydrate - Insulin Model of Obesity was held on the 20<sup>th</sup> of April 2021. In collaboration with the International Medical University (IMU), the lecture featured Prof. Dr. David S. Ludwig from Harvard Medical School and moderated by our own MSPP President, Prof. Dr. Nafeeza Ismail. The lecture was conducted on Zoom platform and attended by more than 80 participants.

**GLOBAL LECTURE SERIES**  
The Carbohydrate –  
Insulin Model of Obesity  
Date: 20 April 2021, Tuesday  
Time: 8.00pm – 9.30pm  
<https://imu-edu-my.zoom.us/j/94398370588>

**SPEAKER**  
  
Prof Dr David S. Ludwig, MD, PhD  
The John F. Crigler, Jr. & Mary A.S. Crigler Chair in Pediatric Endocrinology  
Co-director, New Balance Foundation Obesity Prevention Center  
Boston Children's Hospital  
Professor of Pediatrics, Harvard Medical School  
Professor of Nutrition, Harvard School of Public Health  
Research Editor, The BMJ  
Associate Editor, Am J Clin Nutr

**MODERATOR**  
  
Prof Dr Nafeeza Mohd Ismail  
Immediate Past Dean  
Founder Global Lecture Series,  
School of Medicine, IMU, Malaysia



## MSPP YOUNG TEACHER'S AWARD 2021 *competition*

We are pleased to invite academic members from pharmacology and physiology discipline to participate in the MSPP Young Teacher's Award 2021 competition.

**Aim:** To promote excellence in pharmacology & physiology teaching amongst young MSPP members

### WHO CAN COMPETE?

MSPP members who are a PhD holder with not more than 5 years teaching experience

**REGISTRATION DEADLINE:**  
7th May 2021 (Friday)

**REGISTRATION FEE:**  
FREE OF CHARGE

**LIVE JUDGING SESSION:**  
3rd June 2021 (Thursday)  
9.30 – 11.30 am (Physiology session)  
2.30 – 4.30 pm (Pharmacology session)  
Zoom platform

### TOPICS

**Physiology**  
Blood pressure regulation  
in shock

**Pharmacology**  
Calcium channel blocker in hypertension

### FORMAT

**20** minutes of pre-recorded teaching video

**10** minutes of live Q&A session



Register now at :  
<https://forms.gle/yv5fUH2ZL1saAMXyZ>



The Annual MSPP Young Teacher's Award is back!

We are pleased to invite MSPP members from all disciplines of pharmacology and physiology to participate in our annual **MSPP YOUNG TEACHER'S AWARD 2021** competition to be held in June 2021.

The aim of this program is to promote excellence in pharmacology and physiology teaching amongst young MSPP members who are a PhD holder with not more than 5 years of teaching experience.

To register, follow the link below:

<https://forms.gle/yv5fUH2ZL1saAMXyZ>

Please refer to the poster for more detailed information. We look forward to receiving your application.

All the best!

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Special Issue: April 2021



## 34<sup>th</sup> MSPP Scientific Meeting 2021

On behalf of the Organizing Committee, we are pleased to inform all members that the 34<sup>th</sup> MSPP Scientific Meeting 2021 will be held virtually on 15-17 July 2021.

This meeting is expected to draw more than 200 delegates from Malaysia and around the world, and shall feature renowned local and international speakers. The theme for this year's scientific programme is 'Trailblazing The Translational Research'.

We are excited with the opportunities that this platform would foster, with the sharing and exchange of evidence-based practices and scientific endeavors among physiologists, pharmacologists, physicians, general practitioners, scientists, allied health professionals and students.

This three-day event aims to bring together representatives from the Ministry of Health, academicians from Australia, Malaysia and neighboring countries as well as healthcare providers from public hospitals, private clinics and industries.

Visit our website: <https://tinyurl.com/34thmssp> for more details and register now!

**HIGHLIGHTS**

- International Expert Speakers
- Themed Session
- MSPP Young Investigator Award 2021
- Oral and Poster Presentation Prize Sessions

**KEY DATES**

- Early Bird Registration Deadline: **14 May 2021**
- Call for Abstract: **15 March 2021**
- Abstract Submission Deadline: **31 May 2021**

Main Conference	Early Bird: Until 14 May 2021	Regular: From 15 May onwards
MSPP Members	RM100	RM150
Non-Members	RM150	RM200
Student with ID proof	RM50	RM75
International	USD50	USD100

For more information, please contact:  
✉ [34mssp@gmail.com](mailto:34mssp@gmail.com)  
🌐 <http://tiny.cc/34-MSPP-2021>

**Co-organised with:**

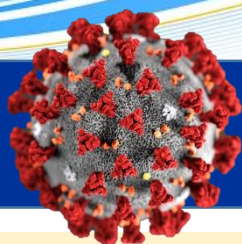
**In collaboration with:**

**Speakers:**

- Professor Dr Gordon Harold Williams, Harvard Medical School, USA
- Professor Dr Wayne Hodgson, Monash University, Australia
- Assoc Prof Dr Elizabeth Davis, Monash University, Australia
- Professor Renu Agarwal, International Medical University (IMU)
- Dr Satirah Zainalabidin, The National University of Malaysia (UKM)
- Professor Michael Fenech, University of South Australia
- Professor Ong Chin Eng, International Medical University (IMU)
- Dr Wan Amir Nizam Wan Ahmad, Universiti Sains Malaysia
- Dr Alan Yiu Wah Lee, Monash University, Malaysia
- Assoc Professor Naguib Bin Salleh, University of Malaya

Our amazing line-up of MSPP 2021 speakers:

- Prof. Dr. Gordon Harold Williams, Harvard Medical School, USA
- Prof. Dr. Wayne Hodgson, Monash University, Australia
- Prof. Dr. Michael Fenech, University of South Australia, Australia
- Prof. Dr. Ong Chin Eng, International Medical University, Malaysia
- Prof. Dr. Renu Agarwal, International Medical University, Malaysia
- Dr. Wan Amir Nizam Wan Ahmad, Universiti Sains Malaysia
- Assoc. Prof. Dr. Satirah Zainalabidin, Universiti Kebangsaan Malaysia
- Dr. Alan Yiu Wah Lee, Monash University, Malaysia
- Assoc. Prof. Dr. Naguib Salleh, University of Malaya



## News: SARS-CoV-2 Hijacks Two Key Metabolic Pathways to Rapidly Replicate in Host Cells

When SARS-CoV-2, the virus that causes COVID-19, infects a human cell, it quickly begins to replicate by seizing the cell's existing metabolic machinery. The infected cells churn out thousands of viral genomes and proteins while halting the production of their own resources. Researchers from Brigham and Women's Hospital, Massachusetts General Hospital (MGH), and the Broad Institute, studying cultured cells shortly after infecting them with the virus, now have more insight into the metabolic pathways co-opted by the virus. The findings, published in *Nature Communications*, highlight the potential therapeutic benefit of drugs such as methotrexate, which inhibit folate and one-carbon metabolic pathways appropriated by the virus.

In analyzing the amino acids and thousands of chemical metabolites produced by the cells, the researchers observed that infected cells had depleted stores of glucose and folate. They demonstrated that the SARS-CoV-2 virus diverts building blocks from glucose production to the assembly of purine bases, which are necessary for creating large amounts of viral RNA. Additionally, they found that the 1-carbon pathway used to metabolize folate was hyperactive, thus supplying the virus with more carbon groups for making bases for DNA and RNA.

Drugs that inhibit folate metabolism, like methotrexate, are often used to treat autoimmune conditions like arthritis and could be therapeutic candidates for COVID-19.

## “Blocking folate metabolism with oral, prophylactic drugs could reduce viral replication in infected cells”



"One of the things we're lacking in this pandemic is a pill that can be taken orally, as a prophylactic agent, before someone is hospitalized or even before they're infected," said corresponding author Benjamin Gewurz, MD, PhD, of the Division of Infectious Diseases. "Monoclonal antibodies have a lot of promise but need to be given intravenously. Blocking the metabolism pathways that viruses rely on to replicate could be a new strategy for treating patients at an early timepoint."

To identify which metabolic pathways to target, the researchers obtained samples of the virus and cultivated them in a highly protected facility called a BSL-3 laboratory, located at the Broad Institute. They then paired up with the laboratory of co-senior author Vamsi Mootha, MD, of MGH, to apply mass spectrometry approaches to identify the resources being consumed and produced by healthy cells and infected cells. They studied the infected cells at an "eclipse point," eight hours after infection, when the virus has begun manufacturing its RNA and proteins but has not yet exerted a serious effect on host cell growth and survival. They studied the infected cells at an "eclipse point," eight hours after infection, when the virus has begun manufacturing its RNA and proteins but has not yet exerted a serious effect on host cell growth and survival.

Methotrexate is currently being assessed as a treatment for the inflammation that accompanies more advanced COVID-19 infections, but the researchers suggest that it could also be beneficial early on. Their study also found that it could offer a synergistic effect when administered with the anti-viral drug remdesivir. Methotrexate's immune-suppressing properties could make its proper administration as a prophylactic challenging, however. Researchers would need to determine how to maximize the drug's antiviral effects without significantly compromising a patient's natural immune response.

Still, Gewurz points out that oral antivirals are an important addition to an arsenal of therapies for COVID-19, serving both as an immediate treatment for infection as well as a defense against new variants and other coronaviruses.

"We're hoping that, ultimately, we can find a way of preventing viruses from using cells' metabolism pathways to replicate themselves because that could limit the ability of viruses to evolve resistance," Gewurz said. "We're starting to see new viral variants, and we're hoping that we can stay ahead of that -- treating patients before the virus has the chance to make copies of itself that could become resistant to antibodies."