

MALAYSIAN JOURNAL OF
Medicine and Health Sciences
Vol. 18 No. SUPP10, Sept 2022
Supplementary Issue:
The 4th International Conference on
Bioinformatics, Biotechnology, and
Biomedical Engineering 2021
(BioMIC 2021)

Malaysian Journal of Medicine and Health Sciences Vol. 18 No. SUPP10, Sept 2022

MALAYSIAN JOURNAL OF

Medicine and Health Sciences

Vol. 18 No. SUPP10 / Sept 2022

*Supplementary Issue:
The 4th International Conference on
Bioinformatics, Biotechnology, and
Biomedical Engineering 2021
(BioMIC 2021)*



Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
43400 UPM Serdang
Selangor Darul Ehsan
Malaysia
<http://medic.upm.edu.my/>

UPM Press
Universiti Putra Malaysia
43400 UPM Serdang
Selangor Darul Ehsan
Malaysia
<http://penerbit.upm.edu.my>

PENERBIT
UPM
UNIVERSITI PUTRA MALAYSIA
P R E S S



A scientific journal published by Universiti Putra Malaysia Press

About the Journal

The Malaysian Journal of Medicine and Health Sciences (MJMHS) is published by the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia. The main aim of the MJMHS is to be a premier journal on all aspects of medicine and health sciences in Malaysia and internationally. The focus of the MJMHS will be on results of original scientific research and development, emerging issues and policy analyses pertaining to medical, biomedical and clinical sciences. The Malaysian Journal of Medicine and Health Sciences is now indexed in the following data bases: Scopus, EBSCOhost, ISC, and Rubriq.

Editorial Board

Editor in Chief:

Prof. Dr. Normala Ibrahim

Members:

Prof. Dr. Rukman Awang Hamat

Prof. Dr. Christopher Lim Thiam Seong

Prof. Dr. Ching Siew Mooi

Prof. Dr. Sharmili Vidyadaran

Assoc. Prof. Dr. Rajesh Ramasamy

Assoc. Prof. Dr. Sethu Thakachy Subha

Assoc. Prof. Dr. Loh Su Peng

Assoc. Prof. Dr. Nor Afiah Mohd Zulkefli

Assoc. Prof. Dr. Wan Aliaa Wan Sulaiman

Assoc. Prof. Dr. Ling King Hwa

Assoc. Prof. Dr. Habibah Abdul Hamid

Assoc. Prof. Dr. Zubaidah Nor Hanipah

Assoc. Prof. Dr. Intan Hakimah Ismail

Assoc. Prof. Dr. Ho Yu Bin

Assoc. Prof. Dr. Karmegam Karuppiah

Assoc. Prof. Dr. Subapriya Suppiah

Assoc. Prof. Dr. Omar Ahmed Fahmy Ahmed

Dr. Navin Kumar A/L Devaraj

Dr. Raymond Yeak Dieu Kiat

Dr. Razif Abas@Buang

Dr. Sandra Maniam

Lead Guest Editor:

Dr. Gunadi

Guest Editors:

Dr. Heni Susilowati

Dr. Junaedy Yunus

Dr. Yekti Asih Purwestri

Technical Coordinator:

Dr. Tan Kit Aun

Dr. Manraj Singh Cheema

International Advisory Board

Prof. Dr. Cecilia A. Essau

Prof. Dr. David Brendan Price

Prof. Dr. S Suresh Kumar

Assoc. Prof. Dr. Sean Semple

Dr. Martin Wong Chi Sang