



## Matrix Science Pharma (MSP)



### ADDRESS OF PUBLISHER & EDITOR'S OFFICE

**C-3A-15 Centrio Pantai Hill Park 59200 Kuala Lumpur,  
Malaysia**  
**Tel.: +60 327332657**  
**Fax: +60 327332658**

### EDITORIAL STAFF:

#### Editor In Chief

Prof. Dr. Urban John Arnold D' Souza  
Faculty of Medicine and Health Sciences  
University Malaysia Sabah  
Kota Kinabalu Sabah, Malaysia

#### Managing Editor

Dr Che Suraya Haji Mohd Zin  
Deputy Dean Postgraduate and Research  
Kulliyyah of Pharmacy  
International Islamic University Malaysia  
Jalan Sultan Ahmad Shah, Bandar Indera Mahkota  
25200 Kuantan, Pahang  
Malaysia

Dr Laila Jafri  
Institute of Chemical Sciences  
Bahauddin Zakariya University  
Multan, Pakistan

Dr. Zinayyera Subhani  
Department of Biochemistry  
University of Agriculture  
Faisalabad, Pakistan.

### Associate Editor

Dr. Yusmazura Zakaria  
School of Health Sciences  
Health Campus  
Universiti Sains Malaysia  
Kota Bharu, Kelantan

Assoc. Prof. Dr. Muna Bt Sabri  
Faculty of Medicine and Health Sciences  
University Malaysia Sarawak  
Kota Samarahan  
Sarawak, Malaysia

**Frequency :** Bi-annual (2 issue per year)

ISSN: 2521-0815 (Print)  
ISSN: 2521-0432 (Online)

### Price:

Single issue: 50 MYR  
Price for abroad  
Single issue: 25 USD

### Web:

<https://www.zibelinepub.com>

### E-mail:

[info@zibelinepub.com](mailto:info@zibelinepub.com)

## Contents

No	Editorial	Pages
1	EDITORIAL: PROBLEM BASED LEARNING: A WAY FORWARD FOR THE MODERN TIMES	1-2
2	ANIMAL STRESS MODELS IN THE STUDY OF STRESS AND STRESS RELATED PHYSIOLOGICAL AND PSYCHOLOGICAL DERANGEMENTS	3-5
3	ANTIOXIDANT ACTIVITY AND OPTIMISATION OF ULTRASONIC-ASSISTED EXTRACTION BY RESPONSE SURFACE METHODOLOGY OF ARONIA MELANOCARPA ANTHOCYANINS	6-9
4	ADVERSE EFFECT OF OXALIS CORNICULATA ON GROWTH PERFORMANCE OF BROILER CHICKS DURING AFLATOXICOSIS	10-13
5	GASTROPROTECTIVE EFFECT OF AVENA SATIVA (OAT) SEED GRAINS AGAINST GASTRIC ULCER INDUCED BY INDOMETHACIN IN HEALTHY ADULT MALE ALBINO RABBITS	14-18
6	RENAL CLEARANCE AND URINARY EXCRETION OF MOXIFLOXACIN IN HEALTHY MALE VOLUNTEERS	19-22

## Editorial

Matrix Science Pharma (MSP) is the journal for pharmaceutical scientists concerned with the physical, chemical and biological properties of devices and delivery systems for drugs, vaccines and biologicals, including their design, manufacture and evaluation. This includes evaluation of the properties of drugs, excipients such as surfactants and polymers and novel materials. The journal has special sections on pharmaceutical nanotechnology and personalized medicines, and publishes research papers, reviews, commentaries and letters to the editor as well as special issues.

## Scientific Board

### Editorial Team

Dr. Balamurugan Tangiisuran  
School of Pharmaceutical Sciences,  
Universiti Sains Malaysia,  
Pulau Pinang, Malaysia

Assoc. Prof. Dr. Nurzalina Abdul Karim Khan  
School of Pharmaceutical Sciences  
Universiti Sains Malaysia  
Pulau Pinang, Malaysia

Dr. Salizawati Muhamad Salhimi  
School of Pharmaceutical Sciences  
Universiti Sains Malaysia  
Pulau Pinang, Malaysia

Assoc. Prof. Dr. Djuli Acun Darmawan  
Faculty of Medicine and Health Sciences  
University Malaysia Sabah  
Kota Kinabalu Sabah, Malaysia

Assoc. Prof. Dr. Wan Himratul Aznita Binti Wan Harun  
Department of Oral Biology &  
Biomedical Sciences Faculty of  
Dentistry University of Malaya Kuala Lumpur

Associate Prof. Dr. Subha A/P Bhasu  
Institute of Biological Sciences  
Faculty of Science University of  
Malaya Kuala Lumpur, Malaysia

Dr. Wan Syaidatul Aqma Wan Mohd Noor  
School of Biosciences and Biotechnology  
Faculty of Science and Technology  
Universiti Kebangsaan Malaysia  
Bangi, Selangor, Malaysia

Dr. Bong Chui Wei  
Institute of Biological Sciences  
Faculty of Science University of  
Malaya Kuala Lumpur, Malaysia

Dr. Mohammad Mustafizur Rahman  
Kulliyah of Science International Islamic  
University Malaysia, Jalan Sultan Ahmad Shah, Kuantan,  
Pahang.

Dr. Jamilah Syafawati Bt Yaacob  
Institute of Biological Sciences  
Faculty of Science University of  
Malaya Kuala Lumpur, Malaysia

Dr. Tang Swee Seong  
Institute of Biological Sciences  
Faculty of Science University of Malaya  
Kuala Lumpur, Malaysia

Dr. Sorayya Bibi Malek Binti Malek Abd Rashid  
Institute of Biological Sciences  
Faculty of Science  
University of Malaya Kuala  
Lumpur, Malaysia

Dr. Khanom Binti Simarani  
Institute of Biological Sciences  
Faculty of Science  
University of Malaya  
Kuala Lumpur, Malaysia

Dr Hasmah Abdullah  
School of Health Sciences  
Health Campus  
Universiti Sains Malaysia  
Kota Bharu, Kelantan

Dr Nik Fakhuruddin Nik Hassan  
School of Health Sciences Health  
Campus Universiti Sains  
Malaysia Kota Bharu, Kelantan