



UNIVERSITY OF  
**KELANIYA**

Faculty of  
Graduate Studies



# JOURNAL OF **MULTIDISCIPLINARY & TRANSLATIONAL RESEARCH (JMTR)**



# **Journal of Multidisciplinary and Translational Research (JMTR)**



UNIVERSITY OF  
**KELANIYA** | Faculty of  
Graduate Studies

**Published by**  
**Faculty of Graduate Studies, University of Kelaniya, Sri Lanka**  
**Volume 10, Issue I, June 2025**

## About the Journal

The Journal of Multidisciplinary and Translational Research (JMTR) is an open-access, peer-reviewed journal that is published online biannually by the Faculty of Graduate Studies, University of Kelaniya, Sri Lanka.

To expand the readership, starting with volume 8 issue II (2023), JMTR will only publish articles in English.

The Faculty of Graduate Studies, University of Kelaniya, Sri Lanka covers the cost of publication on behalf of the authors on acceptance of their article.

ISSN (E-Copy) : ISSN 3051-5262  
ISSN (Hard copy) : ISSN 3051-5602

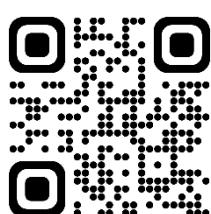


Journal of Multidisciplinary and Translational Research (JMTR) © 2023 by Faculty of Graduate Studies, University of Kalaniya, Sri Lanka is licensed under [CC BY-NC-SA](#)

**Cover Design** : Mr. Dilshan Sanjeeva

**Layout Design** : Ms. D.S.R.E.S. Gunawardhana

Web : <https://journals.kln.ac.lk/jmtr/index.php>  
Email : [jmtr@kln.ac.lk](mailto:jmtr@kln.ac.lk)  
Telephone : +94 112 90 39 55  
: +94 715 17 95 02



## **Editorial Director**

### **Snr. Prof. N.A.K.P.J. Seneviratne**

Senior Professor in Chemistry

Department of Chemistry, Faculty of Science, University of Kelaniya, Sri Lanka  
B.Sc. (Kelaniya, Sri Lanka), Ph.D. (Wayne State, USA), Postdoctoral Fellow (UBC, Canada), Commonwealth Fellow Leeds UK, Fulbright Fellow Massachusetts USA

## **Editor in Chief**

### **Prof. N. Jayathilaka**

Professor in Molecular Biology and Biochemistry

Department of Chemistry, Faculty of Science, University of Kelaniya, Sri Lanka  
B. Sc. (UW Superior, USA), Ph.D. (USC, USA), Postdoctoral Fellow (UCSD, USA)  
OWSD Early Career Fellow

## **Editorial Board**

### **Prof. P.A.D.H. Nayana Gunathilaka**

Professor, Department of Parasitology, Faculty of Medicine, University of Kelaniya, Sri Lanka  
B.Sc. (Hons), Ph.D. (Kelaniya), MI Biol (Sri Lanka), C. Biol (Sri Lanka)

## **Copy Editors**

### **Dr. Thilomi Samarakoon**

Lecturer, Department of Zoology and Environmental Management, Faculty of Science, University of Kelaniya, Sri Lanka  
B.Sc. (Sri Lanka), M.Sc. (Thailand), Ph.D. (Japan)

## **Editorial Secretary**

### **Mr. K.B.S.L. Wijeratne**

Deputy Registrar, Faculty of Graduate Studies, University of Kelaniya, Sri Lanka  
B.A. (Kelaniya), MBA (PIM - SJP)

## **Editorial Assistant**

Ms. D.S.R.E.S. Gunawardhana

B.A. (Kelaniya)

## Table of Contents

Article Number	Title of the paper	Page No.
JMTR/25/92	<b>Parasitological screening of vector mosquitoes and molecular biological identification of larval filarial parasites among the wild-caught <i>Mansonia</i> mosquito species at selected areas in the district of Gampaha, Sri Lanka, a re-emerging focus of Brugian filariasis</b>  N. Gunathilaka <sup>1*</sup> , U. Wimalasiri <sup>1</sup> , N. Chandrasena <sup>1</sup> and R. Dalpadadu <sup>2</sup>	1-9
JMTR/25/101	<b>Enhanced adsorption of MCPA pesticide using a novel sand/graphene oxide composite</b>  Ruwant. Perera <sup>1,3*</sup> , Rajith. A. Perera <sup>2,3</sup> , N.M.N. Ruwanthi <sup>1</sup> , A.V.A.P. Vitharama <sup>1</sup> , Amila T. Kannangara <sup>2</sup> , Janitha A. Liyanage <sup>2,3</sup> , and A.R. Kumarasinghe <sup>4</sup>	10-24
JMTR/25/147	<b>Assessing the synaptic transmission speed (ms) and action potential frequency (Hz) of water in relation to its behaviour in theoretical and computational neuroscience field</b>  M.S. Adiaha <sup>1,2,3*</sup>	25-32
JMTR/25/97	<b>Micro facial expression recognition using generative adversarial network generated super resolution images</b>  Janotheepan Mariyathas <sup>1*</sup> , Yanusha Mehendran <sup>1</sup> , Mohamed Muath <sup>1</sup> , Fathima Lasna <sup>1</sup> , Sangaralingam Jathukulan <sup>1</sup> and Jayalath Ekanayake <sup>1</sup>	33-41
JMTR/25/141	<b>Decoding the multiple tube fermentation method used in coliform testing</b>  M.M. Gunawardane <sup>1</sup>	42-49
JMTR/25/209	<b>Assessment of the cellulose-based dipstick method for bacterial and fungal DNA extraction</b>  Nimroth Ambanpola <sup>1*</sup> , Tashmi Manilgama <sup>1</sup> , Pavithra Somarathna <sup>1</sup> , Kapila N. Seneviratne <sup>1</sup> , Nimanthi Jayathilaka <sup>1</sup>	50-65
JMTR/25/173	<b>Adoption of Best Cultivation Practices and Post-Harvest Techniques among Maize Farmers in Anuradhapura District, Sri Lanka</b>  R.M.D.H. Rathnayake <sup>1*</sup> and D.T.P.S. Dharmawardhana <sup>1</sup>	66-76

---

JMTR/25/185	<b>Prospecting bioassays and enzyme inhibitory activities of <i>Alysicarpus vaginalis</i>, <i>Biophytum reinwardtii</i>, <i>Mikania cordata</i>, and <i>Plumeria obtusa</i></b>	<b>77-93</b>
	T.D.A.D.K. Kulathunge <sup>1,2,*</sup> , L. Jayasinghe <sup>2</sup> , P.A.S.R. Wickramarachchi <sup>1</sup> , J.M.N. Marikkar <sup>2</sup> and N.K.B. Adikaram <sup>2</sup>	
JMTR/25/145	<b>Link Lifetime Approximation in Vehicular Communication using a Comparative Movement and Vehicle Control Maneuver-driven Technique</b>	<b>94-105</b>
	Patikiri Arachchige Don Shehan Nilmantha Wijesekara <sup>1*</sup>	
JMTR/25/186	<b>A Review of Phytochemical Composition, Conservation Strategies, and Food and Therapeutic Applications of Citrus Species</b>	<b>106-122</b>
	H.R. Palangasinghe <sup>1*</sup> , G.S.A. Senanayake <sup>2</sup> , P.C. Palangasinghe <sup>3</sup> , M.P. Wickramasinghe <sup>3</sup> , R.W. Ravindu Thiwanka <sup>2</sup>	

---



UNIVERSITY OF  
**KELANIYA**

Faculty of  
Graduate Studies



**ISSN (E-Copy) : ISSN 3051-5262**

**ISSN (Hard copy) : ISSN 3051-5602**



+ (94) 71 5 179 502



fgsj@kln.ac.lk  
editorjmtr@kln.ac.lk



[www.journals.kln.ac.lk/jmtr](http://www.journals.kln.ac.lk/jmtr)

