IIUM ENGINEERING JOURNAL

Volume 9 Number 2 2008



IIUM JOURNALS

Devoted to the Idea of Integration, Islamization, Internationalization and Comprehensive Excellence (IIICE)

INTELLECTUAL DISCOURSE

the Flagship Journal of the International Islamic University Malaysia

AT-TAJDĪD

the Flagship Journal (in Arabic) of the International Islamic University Malaysia

HUM JOURNAL OF ECONOMICS AND MANAGEMENT

of the Kulliyyah of Economics and Management Sciences

IIUM LAW JOURNAL

of the Ahmad Ibrahim Kulliyyah of Laws

IIUM ENGINEERING JOURNAL

of the Kulliyyah of Engineering

EDUCATIONAL AWAKENING

of the Institute of Education

and

JOURNAL OF ISLAM IN ASIA

of the Kulliyyah of Islamic Revealed Knowledge and Human Sciences

All published by the International Islamic University Malaysia Press twice a year

For further information please contact:

IIUM Press

Research Management Centre

P. O. Box 10, 50728 Kuala Lumpur, Malaysia.

Tel: 603-6196 5010; Fax: 603-6196 4862; E-Mail: rescentre@iium.edu.my

ISSN 1511-788X



IIUM (INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA)

ENGINEERING JOURNAL

CHIEF EDITOR

Ahmad Faris Ismail

EXECUTIVE EDITOR

Ahmed S. Ashour

ASSOCIATE EDITOR

Hamzah Mohd, Salleh

EDITORIAL BOARD

A.K.M. Nurul Amin

Mohammad Umar Siddigi

Ashraf Ali Omar

Mohiuddin AKM

Abd El-Fattah Anwar A.Rezk

Momoh Salami

Khalid Al-Khateeb

Shahjahan Mridha

Abdullah Al-Mamun

AIMS & SCOPE OF HUM ENGINEERING JOURNAL

The IIUM Engineering Journal, published biannually, is a carefully refereed international publication of International Islamic University Malaysia (IIUM). Contributions of high technical merit are to span the breadth of engineering disciplines; covering the main areas of engineering: Electrical and Computer Engineering; Mechanical and Manufacturing Engineering; Automation and Mechatronics Engineering; Material and Chemical Engineering; Environmental, and Civil Engineering; Biotechnology and Bioengineering; Engineering Mathematics and Physics; and Computer Science and Information Technology. Contributions from other areas of Engineering and Applied Science are also welcome. The IIUM Engineering Journal publishes contributions under Regular papers, Invited review papers, Short communications, Technical notes, and Letters to the editor (no page charge). Book reviews, reports of and/or call for papers of conferences, symposia and meetings, and advances in research equipment could also be published in IIUM Engineering Journal with minimum charges.

REFEREES NETWORK

All papers submitted to IIUM Engineering Journal will be subjected to a rigorous reviewing process through a worldwide network of specialized and competent referees. Each accepted paper should have at least two positive referee's assessments.

SUBMISSION OF A MANUSCRIPT

An original and two copies of the original manuscript should be sent to: Editor, IIUM-Engineering Journal, www.eng.iiu.edu.my/ejournal, e-mail: ashour@iiu.edu.my Faculty of Engineering, International Islamic University Malaysia (IIUM), P.O. Box 10, 50728, Kuala Lumpur, Malaysia. *Phone:* (603) 6196 4506, Fax: (603) 6196 4853

CHIEF EDITOR	HUM ENGINEERING JOURNAL
Ahmad Faris Ismail	A Biannual Publication of the International Islamic University Malaysia
EXECUTIVE EDITOR	
	Vol. 9, No. 2, 2008
Ahmed S. Ashour	Articles
ASSOCIATE EDITOR	Spot Welding Copper–1%Cr Electrode Tips Produced via Equal Channel Angular Pressing
	L. B. Hussain, A.A. Aljuboury , M.A.M. Gebril, Nurulakmal M. Sharif1
Hamzah Mohd. Salleh	E-Waste: Ethical Implications for Education and Research Muaz Hawari and Mohamed H. Hassan
EDITORIAL BOARD	A New Method for the Determination of Toxic Dye Using FTIR Spectroscopy
A.K.M. Nurul Amin	Mohamed E. S. Mirghani, Nassereldeen A. Kabbashi, Isam Y. Qudsieh and Faiz A. Elfaki27
Abd El-Fattah Anwar A.Rezk	Toward Software Engineering Principles Based on Islamic Ethical Values Shihab A. Hameed
Abdullah Al-Mamun	Theoretical Evaluation of Nonlinear Effects on Optical WDM Networks with Various Fiber Types Yasin M. Karfaa, M. Ismail, F. M. Abbou, A. S. Shaari
Ashraf Ali Omar	
Khalid Al-Khateeb	
Mohammad Umar Siddiqi	
Mohiuddin AKM	
Momoh Salami	
Shahjahan Mridha	

IIUM (INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA)

ENGINEERING JOURNAL

INTERNATIONAL ADVISORY COMMITTEE

Prof. Abdel Magid Hamouda	
Abu Syed Wais Kurny, Bangladesh	
Ashraf Jawaid, UK	
Bassam Jubran, Canada	
El-Sayed A. El-Badawy, Egypt	
Hany H. Ammar, USA	
Juan Antonio Rojas Estrada, Mexico	
K. B. Ramachandran, India	
Masjuki Hassan, Malaysia	
Minoru Okada, Japan	
Mohammed Al-Rubaei, Ireland	
Mohd Ali Hassan, Malaysia	
Mohd Nazmul Karim, USA	
Kasmiran Jumari, Malaysia	
Tengku Mohd Azzman Shariffadeen, Malaysia	
Tharek Abd. Rahman, Malaysia	