

IIUM ENGINEERING JOURNAL

Volume 2

Number 2

2001



INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

IIUM (INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA) ENGINEERING JOURNAL

CHIEF EDITOR

Ahmad Faris Ismail

EDITOR

Ahmed S. Ashour

EDITORIAL BOARD

- AKM Nurul Amin
- Hamzah Mohd. Salleh
- Khalid Al-Khateeb
- Sufyan Al-Irhayim
- Momoh Salami

INTERNATIONAL ADVISORY COMMITTEE

- Abdul Raouf, GIK Institute, Pakistan
- Amr Baz, U. of Maryland, USA
- Anwarul Azim, BUET, Bangladesh
- Ashraf Jawaid, Coventry U., UK
- Bassam Jubran, U. of Jordan, Jordan
- Ebrahim Mamdani, I.C, U. of London, UK
- El-Sayed A. El-Badawy, Alexandria U., Egypt
- Essamddin Badreddin, Mannheim U., Germany
- Jacques Lewiner, U. of Paris VI, ESPCI, France
- M. Mansour, ETH, Zurich, Switzerland
- Mohamed I. Elmasry, U. of Waterloo, Canada
- Mohamed Kamel, U. of Waterloo, Canada
- Mohd Azzman Shariffadeen, President and CEO, MIMOS, Malaysia
- Mohd Ridzuan B. Hj. Salleh, IIUM, Malaysia
- Mustafa Abushagur, U. of Alabama, USA
- Said I. El-Khamy, U. of Alexandria, Egypt
- Shaker A. Meguid, U. of Toronto, Canada

AIMS & SCOPE OF IIUM 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; they are to cover 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 Bio Engineering; Engineering Mathematics and Physics; and Computers 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, symposiums 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-in-Chief, IIUM-Engineering Journal, Faculty of Engineering, International Islamic University Malaysia (IIUM),
Jalan Gombak, 53100 Kuala Lumpur, Malaysia.

Phone: (603) 2056 4506, Fax: (603) 2056 4853.

CHIEF EDITOR**Ahmad Faris Ismail****EDITOR****Ahmed S. Ashour****EDITORIAL BOARD****Hamzah Mohd. Salleh****Khalid Al-Khateeb****Momoh Salami****Sufyan Al-Irhayim****AKM Nurul Amin****INTERNATIONAL****ADVISORY COMMITTEE****Abdul Raouf, Pakistan****Amr Baz, USA****Anwarul Azim, Bangladesh****Ashraf Jawaid, UK****Bassam Jubran, Jordan****Ebrahim Mamdani, UK****El-Sayed A. El-Badawy,
Egypt****Essam Badreddin,
Germany****Jacques Lewiner, France****M. Azzman Shariffadeen,
Malaysia****M. Mansour, Switzerland****Mohamed I. Elmasry,
Canada****Mohamed Kamel, Canada****Mohd Ridzuan Salleh,
Malaysia****Mustafa Abushagur, USA****Said I. El-Khamy, Egypt****Shaker A. Meguid, Canada****IUM ENGINEERING JOURNAL**

A Biannual publication of the International Islamic University Malaysia

Vol. 2, No. 2, 2001**Articles**

Application of Ion Beam Processing Technology in Production of Catalysts.

Mykola G. Bannikov, Javed A. Chattha, Vladimir N. Zlobin, Igor P. Vasilev, Jury A. Cherkasov and Piotr N. Gawrilenko 1

Separation of Aqueous Isopropanol Through Chitosan/Poly (Vinyl Alcohol) Blended Membranes by Pervaporation.

S. H. Tan, A. L. Ahmad, M. G. Mohd. Nawawi and H. Hassan 7

Application of Digital Cellular Radio for Mobile Location Estimation.

Farhat Anwar..... 13

A New Fast Approximate Hilbert Transform with Different Applications.

Abdulnasir Hossen..... 21

Anti-Plane Surface Disturbance.

M. Azram..... 29

IIUM JOURNALS

*Devoted to the Idea of Integration, Islamization,
Internationalization, Comprehensive Excellence*

INTELLECTUAL DISCOURSE
of the Kulliyah of
Islamic Revealed Knowledge and Human Sciences

IIUM JOURNAL OF ECONOMICS AND MANAGEMENT
of the Kulliyah of Economics and Management Sciences

IIUM LAW JOURNAL
of the Kulliyah of Laws

IIUM ENGINEERING JOURNAL
of the Kulliyah of Engineering

and

THE GOMBAK REVIEW
of the Department of English Language and Literature

also

AT-TAJDĪD
the University Journal in Arabic

All published by the Research Centre, IIUM twice a year

For further information please contact :

Research Centre

International Islamic University Malaysia

Jalan Gombak, 53100 Kuala Lumpur

Tel: 603-20565006 Fax: 603-20564862

E-mail: rescentre@iiu.edu.my

ISSN 1511-788X



9 771511 788008