

---

---

## CONTENTS

---

---

1.	Preliminary Design and Development of Open Field Antenna Test Site <i>Ignatius Agung Wibowo Mohammad Zarar Mohamed Jenu and Alireza Kazemipour</i>	1
2.	A Numerical Study on Magnetic Fields Effects on Stem Cell Differentiation <i>Jatendra Uslama and Azizi Miskon</i>	7
3.	Reflectarray Antenna with Radar Cross-Section Reduction <i>Norbahiah Misran, M. Y. Ismail and M. T. Islam</i>	17
4.	Structural and Electrical Properties of TiO <sub>2</sub> Thin Film Derived from Sol-gel Method using Titanium (IV) Butoxide <i>Isrihetty Senain, Nafarizal Nayanand Hashim Saim</i>	29
5.	Design and Development of a Portable Pulse Oximetry System <i>Mohamed A. Zaltum, M. Shukri Ahmad, Ariffuddin Joret and M. Mahadi Abdul Jamil</i>	37
6.	Ionospheric Drift Motions and Velocities at UTHM's Parit Raja Station During Periods of Low Solar and Geomagnetic Activities <i>Abdull Zubi Bin Ahmad, Ahmad Faizal Bin Mohd Zain and Karthigesu Nagarajoo</i>	45
7.	Fabrication and Analysis of Dye-Sensitized Solar Cell using Natural Dye Extracted from Dragon Fruit <i>Riyaz Ahmad Mohamed Ali and Nafarizal Nayan</i>	55



---

---

**INTERNATIONAL JOURNAL OF INTEGRATED ENGINEERING**  
**(ISSUE ON ELECTRICAL AND ELECTRONIC ENGINEERING)**  
**Volume 2 No. 3 December 2010 ISSN : 2229-838X**

---

---

**CHIEF EDITOR**

Abdul Aziz Abdul Samad, Universiti Tun Hussein Onn Malaysia

**EDITORIAL BOARD**

Nafarizal Nayan

Karthigesu Nagarajoo

Muhammad Yusof Ismail

Muhammad Mahadi Abdul Jamil

**EDITORIAL ADVISORY BOARD**

Morgan Denyer  
School of Life Science,  
University of Bradford

Mohd Zarar Mohd Jenu  
Professor and Head  
Centre for Electromagnetic Compatibility,  
Universiti Tun Hussein Onn Malaysia

Christos Christopoulos  
Director of the George Green Institute for  
Electromagnetics Research (GGIEMR),  
School of Electrical and Electronic Engineering,  
University of Nottingham

Norman Mariun  
Professor of Electrical Engineering,  
Faculty of Engineering,  
Universiti Putra Malaysia

Allam Mousa  
Electrical Engineering Department,  
An-Najah University

Koichi Sasaki  
Plasma Nanotechnology Research Center  
(PLANT),  
Nagoya University

---

---

## SCIENTIFIC COMMITTEE

---

---

Norbahiah Misran, Universiti Kebangsaan  
Malaysia.

Muhammad Amin, Space and Upper Atmospheric  
Research Commission, Pakistan.

Mohd Fareq Abd Malek, Universiti Malaysia  
Perlis.

Muhammad Ramlee Kamarudin, Universiti  
Teknologi Malaysia.

Uda Hashim, Universiti Malaysia Perlis.

Mohamad Hafiz Mamat, Universiti Teknologi  
MARA.

Salehudin Hamdan, Universiti Teknologi  
Malaysia

Faridah Mohd Nor, Universiti Kebangsaan  
Malaysia.

Harlisya Harun, Universiti Kebangsaan Malaysia

Mandeep Singh, Universiti Kebangsaan Malaysia

Hazizulden Abdul Aziz, Universiti Malaysia  
Pahang

Ayib Rosdi Harun, Universiti Malaysia Pahang

Mohamad Huzaimy Jusoh, Universiti Teknologi  
MARA

### DISCLAIMER

The publication of papers in International Journal of Integrated Engineering (Issue on Electrical and Electronic Engineering) does not imply that the editorial board, reviewers or publisher accept, approve or endorse the data and conclusions of authors.

International Journal of Integrated Engineering (Issue on Electrical and Electronic Engineering)  
ISSN 2229-838X

---

---

## **WELCOME FROM THE CHIEF EDITOR**

---

---

The Editorial welcomes all readers to our second issue of International Journal of Integrated Engineering focus on Electrical and Electronic Engineering. Special thanks to all contributing authors for their technical papers. We would also like to express our acknowledgement to our scientific committee for their invaluable comment and suggestion to ensure quality of the paper published in our journal.

To ensure the continuity of the next volume (which will be due on June 2011), we look forward to receive scholarly written article from our respected audiences.

Chief Editor

International Journal of Integrated Engineering  
(Issue on Electrical and Electronic Engineering)

