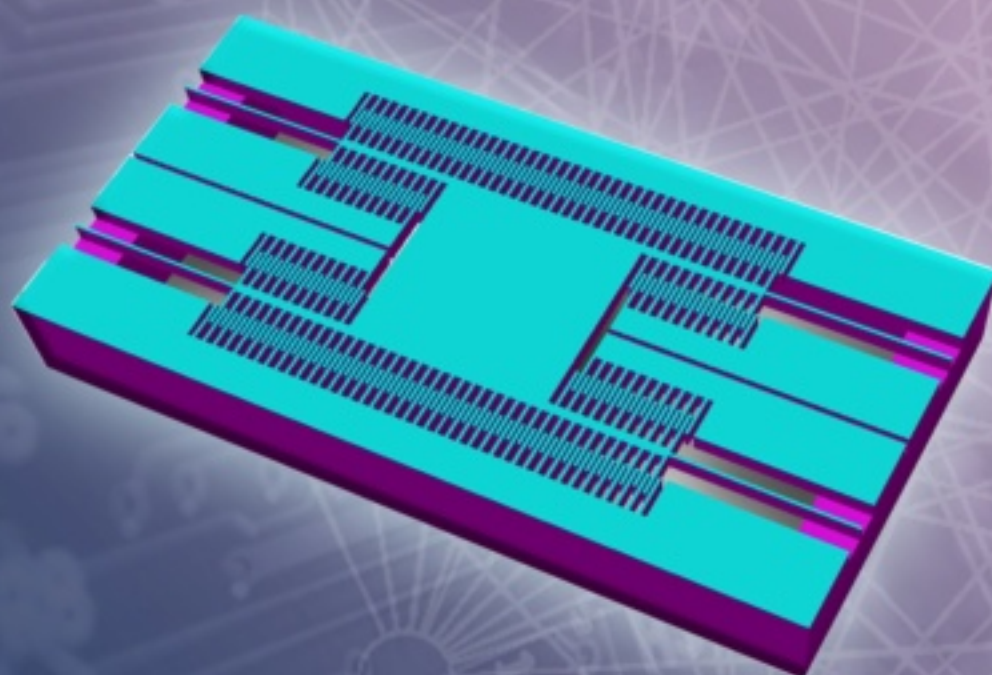


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# Contents

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ISSN 1726-5479

## Research Articles

### Foreword

*Dr. Mohd Haris, Md Khir* ..... I

### Modeling and Layout Design of Resonant Lateral Comb Magnetic Sensor

*F. Ahmad, J. O. Dennis, M. H. Md Khir and N. H. Hamid* ..... 1

### DC Characterization and Post-CMOS Processing of a Microcantilever Sensor

*A. Mirza, N. H. Hamid, M. H. Md. Khir, J. O. Dennis, K. Ashraf* ..... 13

### Enhanced Performances of a Wireless System-on-Chip for MEMS Biomedical Plantar Pressure Sensor

*Abdul Hadi Abdul Razak and Yufridin Wahab* ..... 22

### Simulation of Liquid Material for Microfluidic-based Acoustic Sensor

*M. F. A. Rahman, M. R. Arshad and A. A. Manaf* ..... 30

### Design, Simulation and Fabrication of a Mass Sensitive CMOS-MEMS Resonator

*A. Y. Ahmed, J. O. Dennis, M. H. Md Khir, M. N. Mohamad Saad and M. R. Buyong* ..... 40

### Artificial Neural Network-based Electronic Nose for the Detection of Sulfate-reducing Bacteria

*Earn Tzeh Tan, Zaini Abdul Halim, Darah Ibrahim, Rashidah Abdul Rahim, Junita Mohamad Saleh, Umadevi Chandaran* ..... 50

### Microcontroller Based Neural Network for Landmine Detection Using Magnetic Gradient Data

*Mohamed Elkattan, Ahmed Salem, Fouad Solima, Aladin Kamel and Hadia El-Hennawy* ..... 60

### An Intelligent ANN Based Control of A Quasi Six-Phase Voltage Source Inverter

*Mohammad Shahid Jamil, Mohammad Ibrahim Al-Naemi, Mohd. Arif Khan, Atif Iqbal, Shaikh Moinuddin* ..... 70

### Comparative Study and Analysis of Suspension Systems using Adaptive Fuzzy Control

*LAIQ Khan and M. Umair Khan* ..... 81

### Development of NOx Emission Model Using Particle Swarm Optimized Least-Squared SVR (PSO-LSSVR) Hybrid Algorithm

*Elangeshwaran Pathmanathan, Rosdiazli Ibrahim, Vijanth Asirvadam* ..... 98

### Development and Implementation of Hybrid Controllers for Flow Control Application

*M. Iqbal Ab Ghafar, R. Ibrahim, Zulfadhli Mazlan* ..... 110

### Capability of Optical Approach in Condition Based Monitoring of Lubricant Oil

*M. F. M. Idros, Hadzli Hashim, Md. Shabiul Islam, Sawal Hamid Ali* ..... 125

<b>Extracting Broadband Tissue Optics Parameters from One Source-Detector CW Diffuse Optical Spectroscopy</b> <i>Aulia Nasution</i> .....	135
<b>A Low Ripple Charge Pump Using Low-Voltage CMOS Process</b> <i>Lee Fu New, Zulfiqar Ali bin Abdul Aziz and Mun Fook Leong</i> .....	147
<b>Experimental Study on a Directional Cylindrical Dielectric Resonator Antenna (CDRA) At 5 to 6 GHz</b> <i>M. A. Zakariya, Z. Baharudin, M. H. Md Khir, A. J. Jamali, M. F. Ain, Z. A. Ahmad</i> .....	158
<b>RF Energy Harvester: Harvesting Power from WiFi Signals for Low Power RFID Application</b> <i>S. S. B. Hong, R. Ibrahim, M. H. Md Khir, M. A Zakariya, H. Daud</i> .....	168
<b>Analytical Investigation of Frequency Dependence of Average Power of a Vibration Energy Harvester</b> <i>K. Ashraf, M. H. Md. Khir, J. O. Dennis</i> .....	176
<b>Trapezoidal Electrodes Array for Electret-Based Electrostatic Energy Harvester</b> <i>Mohamad Radzi Ahmad and Mohd Haris Md Khir</i> .....	186
<b>Power Management for USB2.0 5 V Supply Using Load Resistive and Switch Capacitive Detection Approach</b> <i>Tan Thiam Loong, Dr. Anwar Hasni bin Abu Hassan</i> .....	199
<b>DSP Sensorless Controller of Switched Reluctance Motor-Generator Approaching to AM Modulation</b> <i>A. Moraveji, A. Siadatan, E. Afjei, M. Rafiee and E. Zarei Ali Abadi</i> .....	208
<b>Optimal Feedforward Zero Phase Error Tracking Control for High Precision X-Y Table</b> <i>Hashimah Ismail, Norlela Ishak, Mazidah Tajjudin, Mohd Hezri Fazalul Rahiman, Ramli Adnan</i> .....	217
<b>Implementation and Optimization of Human Tracking System Using ARM Embedded Platform</b> <i>Shen Khang Teoh, Vooi Voon Yap, Chit Siang Soh, Patrick Sebastian</i> .....	226
<b>Effectiveness of the Polymer Electrolyte Membrane Fuel Cell in High Humidity Climate</b> <i>Z. Jalauddin, N. M. Nor, T. Ibrahim, and Y. T. Sin</i> .....	234
<b>Permittivity and Conductivity Dispersions of Properly and Non-properly Slaughtered Goat Meat</b> <i>Abdullah MOHIRI, Zainal Arif BURHANUDIN and Idris ISMAIL</i> .....	247
<b>Utilizing Bi2Te3 TE Pellet as the Condenser of Thermal Power Plant</b> <i>M. Rafiee, A. Siadatan, E. Zarei Ali Abadi and E. Afjei</i> .....	257

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## Foreword

**Dr. Mohd Haris, Md Khir**

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The Electrical and Electronics Engineering Department of Universiti Teknologi PETRONAS (UTP) is proud to organize the 4<sup>th</sup> International Conference on Intelligent & Advanced Systems (ICIAS' 2012) from 12<sup>th</sup> to 14<sup>th</sup> June, 2012. This conference is the continuation of ICIAS' 2010, which was successfully held at the premier Kuala Lumpur Convention Centre (KLCC); the same conducive venue will host our upcoming ICIAS' 2012 conference. The theme of the conference is "Emerging Technologies for Sustainable Solutions". The conference is technically co-sponsored by the IEEE Malaysia Signal Processing Society and the IEEE Malaysia Circuits & Systems Society. For the 4<sup>th</sup> ICIAS 2012 conference, 194 papers have been selected to be presented in technical (154 papers) and poster (40 papers) sessions with 12 tracks as follows:

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- Image Processing & Multimedia Systems;
- Artificial Intelligence Methods;
- Wavelet & Filter Banks;
- Non-Linear Circuits & Systems;
- Sensory and Control Systems;
- Communication Systems;
- Signal Processing;
- Power Electronics & Power Systems;
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- Control & Instrumentation;
- Biomedical Systems.

The ICIAS' 2012 conference which is listed in IEEE website aims at bringing together experts and researchers in intelligent and advanced systems. All accepted papers which are presented at the conference will be archived in IEEE Xplore database (ISBN: 978-1-4577-1967-7) and indexed in SCOPUS. The authors of some selected papers (25 papers) related to sensors and intelligent systems have received invitations for submitting the extended versions of their papers to be published in Sensors & Transducers Journal (ISSN 1726-5479), Vol.17, Special Issue, December 2012.

*Dr. Mohd Haris.*

## Guest Editor



**Dr. Mohd Haris** received the B. Eng. degree in Electrical & Electronic engineering from Universiti Teknologi MARA, Selangor, Malaysia, in 1999, the Masters of Science degree in Computer & System Engineering from Rensselaer Polytechnic Institute, New York, USA, in 2001, and the Ph.D. degree in Systems Engineering from Oakland University, Michigan, USA, in 2010. Since 2002, He has been with Universiti Teknologi PETRONAS, Perak, Malaysia, where he is currently a Senior Lecturer in Electrical & Electronic Engineering Department. His research interests include Micro-Electro-Mechanical Systems (MEMS) sensors/actuators design and fabrication based on CMOS and MUMPS technologies. He has successfully fabricated a number of MEMS devices such as Accelerometers, micro-mirror, micro switches, energy harvester, electromagnetic sensors, gas sensors, and thermal electric generator (TEG) system.

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International Frequency Sensor Association (IFSA) Publishing

ADVANCES IN SENSORS:  
REVIEWS

1

## Modern Sensors, Transducers and Sensor Networks

**Sergey Y. Yurish, Editor**



Formats: printable pdf (Acrobat)  
and print (hardcover), 422 pages

ISBN: 978-84-615-9613-3,  
e-ISBN: 978-84-615-9012-4

*Modern Sensors, Transducers and Sensor Networks* is the first book from the Advances in Sensors: Reviews book Series contains dozen collected sensor related state-of-the-art reviews written by 31 internationally recognized experts from academia and industry.

Built upon the series Advances in Sensors: Reviews - a premier sensor review source, the *Modern Sensors, Transducers and Sensor Networks* presents an overview of highlights in the field. Coverage includes current developments in sensing nanomaterials, technologies, MEMS sensor design, synthesis, modeling and applications of sensors, transducers and wireless sensor networks, signal detection and advanced signal processing, as well as new sensing principles and methods of measurements.

*Modern Sensors, Transducers and Sensor Networks* is intended for anyone who wants to cover a comprehensive range of topics in the field of sensors paradigms and developments. It provides guidance for technology solution developers from academia, research institutions, and industry, providing them with a broader perspective of sensor science and industry.

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## Digital Sensors and Sensor Systems: Practical Design

Sergey Y. Yurish



Formats: printable pdf (Acrobat) and print (hardcover), 419 pages

ISBN: 978-84-616-0652-8,  
e-ISBN: 978-84-615-6957-1

The goal of this book is to help the practitioners achieve the best metrological and technical performances of digital sensors and sensor systems at low cost, and significantly to reduce time-to-market. It should be also useful for students, lectures and professors to provide a solid background of the novel concepts and design approach.

### Book features include:

- Each of chapter can be used independently and contains its own detailed list of references
- Easy-to-repeat experiments
- Practical orientation
- Dozens examples of various complete sensors and sensor systems for physical and chemical, electrical and non-electrical values
- Detailed description of technology driven and coming alternative to the ADC a frequency (time)-to-digital conversion

*Digital Sensors and Sensor Systems: Practical Design* will greatly benefit undergraduate and at PhD students, engineers, scientists and researchers in both industry and academia. It is especially suited as a reference guide for practitioners, working for Original Equipment Manufacturers (OEM) electronics market (electronics/hardware), sensor industry, and using commercial-off-the-shelf components

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## Guide for Contributors

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### Aims and Scope

*Sensors & Transducers Journal* (ISSN 1726-5479) provides an advanced forum for the science and technology of physical, chemical sensors and biosensors. It publishes state-of-the-art reviews, regular research and application specific papers, short notes, letters to Editor and sensors related books reviews as well as academic, practical and commercial information of interest to its readership. Because of it is a peer reviewed international journal, papers rapidly published in *Sensors & Transducers Journal* will receive a very high publicity. The journal is published monthly as twelve issues per year by International Frequency Sensor Association (IFSA). In addition, some special sponsored and conference issues published annually. *Sensors & Transducers Journal* is indexed and abstracted very quickly by Chemical Abstracts, IndexCopernicus Journals Master List, Open J-Gate, Google Scholar, etc. Since 2011 the journal is covered and indexed (including a Scopus, Embase, Engineering Village and Reaxys) in Elsevier products.

### Topics Covered

Contributions are invited on all aspects of research, development and application of the science and technology of sensors, transducers and sensor instrumentations. Topics include, but are not restricted to:

- Physical, chemical and biosensors;
- Digital, frequency, period, duty-cycle, time interval, PWM, pulse number output sensors and transducers;
- Theory, principles, effects, design, standardization and modeling;
- Smart sensors and systems;
- Sensor instrumentation;
- Virtual instruments;
- Sensors interfaces, buses and networks;
- Signal processing;
- Frequency (period, duty-cycle)-to-digital converters, ADC;
- Technologies and materials;
- Nanosensors;
- Microsystems;
- Applications.

### Submission of papers

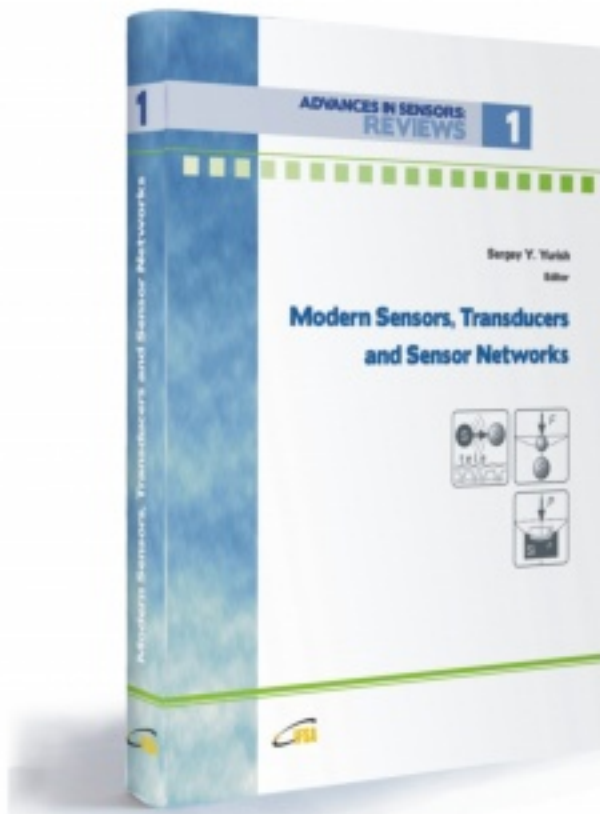
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**ADVANCES IN SENSORS:  
REVIEWS****1****Sergey Y. Yurish**  
Editor

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