

A. H. M. ZAHIRUL ALAM



- KULLIYAH OF ENGINEERING
- IIUM Gombak Campus
- Email address:
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ACADEMIC QUALIFICATION

- Ph.D in Natural Science & Technology
- Master in Electrical and Electronic Engineering
- Bachelor in Electrical and Electronic Engineering

TEACHING RESPONSIBILITIES

ANALOG CIRCUIT DESIGN	2008/2009 2009/2010 2010/2011 2011/2012 2012/2013 2013/2014 2014/2015 2015/2016
CIRCUIT, SIGNALS AND FILTERS	2019/2020
COMPUTER AND INFORMATION ENGINEERING LAB III	2008/2009 2009/2010 2010/2011
DIGITAL COMMUNICATIONS	2003/2004
ELECTRIC CIRCUITS	2003/2004 2004/2005 2005/2006 2006/2007 2007/2008 2008/2009 2009/2010 2010/2011 2011/2012 2013/2014 2016/2017 2017/2018
ELECTRICAL AND COMPUTER ENGINEERING LAB I	2013/2014 2017/2018
ELECTRONIC CIRCUITS	2011/2012 2012/2013 2013/2014 2014/2015 2015/2016 2016/2017 2017/2018 2018/2019 2019/2020 2020/2021
ENGINEERING LAB I	2005/2006 2006/2007 2007/2008 2009/2010 2012/2013
FINAL YEAR PROJECT II	2020/2021
INTEGRATED CIRCUIT TECHNOLOGY	2008/2009 2016/2017 2017/2018 2018/2019 2019/2020 2020/2021
MICROELECTRONIC CIRCUITS	2004/2005 2005/2006 2006/2007
PROJECT I	2018/2019
SEMICONDUCTOR DEVICES	2007/2008 2011/2012 2017/2018 2018/2019
VLSI DESIGN	2003/2004 2004/2005 2005/2006 2006/2007 2007/2008 2008/2009 2009/2010 2010/2011

RESEARCH PROJECTS

In Progress

- 2019 - Present** Critical Prediction Modeling for Integrated Circuits (IC) Electromagnetic Compatibility (EMC) in Smart Automotive Industry
- 2019 - Present** Empirical Model for Volatile Organic Compound Selectivity Prediction of Polymer-based Acoustic Wave Sensor Array through Machine Learning Algorithm
- 2018 - Present** Development of Continuous-time Non-invasive Glucose Sensing System
- 2018 - Present** Development of circuit simulator model for Negative Capacitance Field Effect Transistors for Low Power IoT Devices applications
- 2018 - Present** Verifying the Mechanical Power Transformation Effectiveness of Brushless DC Motor and its Characteristics
- 2017 - Present** Theoretical modeling of lung cancer biomarkers in exhaled breath using silicon compatible electroacoustic microsensors
- 2017 - Present** Electrical Characterization of Capacitive Sensing Design for Wireless Sensor.
- 2016 - Present** Modelling and Optimisation of Stepped Waveform Generation for Multilevel Inverters Topology Applications
- 2015 - Present** Proposing with Analysis a Multi-Level Inverter Using Optimized Pulse-Width-Modulation Approach with Reduced Harmonics and Switching Losses
- 2013 - Present** IIUM Centre of Excellence for Electric Mobility (ICEM)
- 2013 - Present** ESTABLISHMENT OF THE IIUM CENTRE OF EXCELLENCE FOR ELECTRIC MOBILITY(ICEM)

Completed

- 2017 - 2020** Theoretical modeling of lung cancer biomarkers in exhaled breath using silicon compatible electroacoustic microsensors
- 2017 - 2019** Electrical Characterization of Capacitive Sensing Design for Wireless Sensor.
- 2016 - 2019** Modelling and Optimisation of Stepped Waveform Generation for Multilevel Inverters Topology Applications
- 2015 - 2019** Proposing with Analysis a Multi-Level Inverter Using Optimized Pulse-Width-Modulation Approach with Reduced Harmonics and Switching Losses
- 2015 - 2018** Characterization for Verification of Electrostatic Generator's Effectiveness for Power Generation
- 2013 - 2017** Development of Green Transportation System
- 2013 - 2017** Exploration on CMOS Capacitance Based Structural Health Monitoring by Energy Harvested Wireless Sensor Networks

- 2013 - 2015** Studies on Carbon Nanotubes (CNTs) for Developing High Performance CNTFETs for Designing Low Power High Speed Logic Gates
- 2013 - 2015** Analysis And Characterization Of Chipless Rfid Tag For Investigating The Scope Of Uses In Malaysia
- 2012 - 2015** A Development of a Top Down Silicon Nanowire into Field Effect Transistor
- 2012 - 2014** Development of Electrical Vehicle by Converting Proton SAGA Conventional Car
- 2012 - 2013** Design of IR-UWB Pulse Generator for 802.11a & WIMAX Interference Avoidance
- 2012 - 2019** Investigation of Current Leakage Mechanisms on InAs Nanoisland Diodes for Radiation Hardness
- 2012 - 2015** Design and development of MEMS Acoustic Energy Harvester
- 2011 - 2012** Study of the Electrical Properties of Radiation Hard Devices Based on III-V Materials
- 2011 - 2011** Design And Development Of RFID Tag Antenna For The Use Of Metallic Item
- 2011 - 2015** Novel Vertically Integrated Nano GHz Surface Acoustic Wave Oscillator for RF Applications
- 2010 - 2014** Electromagnetic Actuated CVT System for Medium Size Passenger Car
- 2010 - 2011** Modeling and Characterization of Magnetic materials at low Frequencies for Nano-sensor fabrication
- 2010 - 2013** Characterization of Radio Channel for Body Area Networks
- 2009 - 2011** Design and Stimulation of Adaptive Beamforming Algorithm and Linear Array Antenna for Smart Antenna System
- 2009 - 2013** MULTI-GB/S HIGH SPEED SERIAL TRANSCEIVER (HSST) SUITABLE AS PHYSICAL LAYER FOR PCIE 2.0, SATA 3.0 AND USB 3.0 SUPER SPEED APPLICATIONS
- 2009 - 2011** Design of Capacitance Voltage Converter for Development of High Frequency Band Sensor Transducer for Capacitive Measuring Systems
- 2009 - 2011** Design and analysis of analog to digital Conversion circuit using Multi-Valued Logic
- 2009 - 2012** Modeling of a Novel Integrated Surface Acoustic Wave Resonator
- 2009 - -1** Sigma-to-beta Converter Analysis, Simulation and Experimental Details.
- 2008 - 2010** Wireless Data Acquisition for Monitoring of Civil Structures with Embedded Sensors - Experimental Results
- 2008 - 2010** Characterization of Indoor Powerlines As Data Channels- Experimental Details and Results
- 2007 - 2009** Characterization of Direct Sensor-to-Microcontroller Interfacing

- 2006 - 2008** Design and Fabrication of High Performance RF-MEMS Switches
- 2006 - 2010** Measurement of Specific Absorption Rate from Wireless LAN Radiation in International Islamic University Campus

PUBLICATIONS

Article

- 2020** [Design an ultra-wideband modified wilkinson power divider fed-by balanced antipodal vivaldi antenna array for imaging applications.](#) Journal of Advanced Manufacturing Technology , 14 (1)
- 2020** [Modeling and performance analysis of an adaptive PID speed controller for the BLDC Motor.](#) International Journal of Advanced Computer Science and Applications (IJACSA) , 11 (7) pp.272-276
- 2020** [Control BLDC Motor Speed using PID Controller.](#) International Journal of Advanced Computer Science and Applications , 11 (3) pp.477-481
- 2019** [PLL-based 3 \$\phi\$ inverter circuit for microgrid system operated by electrostatic generator.](#) IIUM Engineering Journal , 20 (1) pp.177-193
- 2019** [Design and implementation of a series switching SPSI for PV cell to use in carrier based grid synchronous system.](#) Bulletin of Electrical Engineering and Informatics , 8 (2) pp.349-366
- 2019** [Designing large-scale antenna array using sub-array.](#) Bulletin of Electrical Engineering and Informatics , 8 (3) pp.906-915
- 2019** [Design and parametric evaluation of UWB antenna for array arrangement.](#) Bulletin of Electrical Engineering and Informatics , 8 (2) pp.644-652
- 2019** [Frequency dependency analysis for differential capacitive sensor.](#) Bulletin of Electrical Engineering and Informatics , 8 (3) pp.789-797
- 2019** [Parasitic consideration for differential capacitive sensor.](#) Bulletin of Electrical Engineering and Informatics , 8 (3) pp.798-807
- 2018** [An analysis of a flexible dry surface electrodes.](#) Indonesian Journal of Electrical Engineering and Computer Science , 10 (1) pp.74-83
- 2018** [Effects of inter-element spacing and number of elements on planar array antenna characteristics.](#) Indonesian Journal of Electrical Engineering and Computer Science , 10 (1) pp.230-240
- 2018** [High gain UWB horn antenna for concealed metal detection and microwave imaging application.](#) Sindh University Research Journal (Science Series) , 50 (3D) pp.161-164
- 2018** [Design and optimization of ultra-wideband antipodal vivaldi antenna for radar and microwave imaging application.](#) Sindh University Research Journal (Science Series) , 50 (3D) pp.6-9

- 2018** [Recognition of metal objects inside wall using antipodal vivaldi antenna.](#) Indonesian Journal of Electrical Engineering and Computer Science , 11 (1) pp.27-35
- 2018** [A single LC tank based active voltage balancing circuit for battery management system.](#) IIUM Engineering Journal , 19 (1) pp.158-167
- 2017** [Reduction of cavity length dependence and improvement of characteristics of 1.55 \$\mu\text{m}\$ quantum dot based LASER using Indium Nitride.](#) Journal of Optoelectronics and Advanced Materials , 19 (5-6 (May-June)) pp.298- 302
- 2017** [A study on controllable aluminium doped zinc oxide patterning by chemical etching for MEMS application.](#) Microsystems Technologies , 23 (9) pp.3851-3862
- 2017** [Improvement of temperature dependence of carrier characteristics of quantum dot solar cell using InN quantum dot.](#) International Journal of Renewable Energy Research , 7 (1) pp.330-335
- 2017** [A comparative analysis of the effect of temperature on band-gap energy of gallium nitride and its stability beyond room temperature using a Bose-Einstein model and Varshni'S model.](#) IIUM Engineering Journal , 18 (2) pp.151-157
- 2016** [Analysis on the effect of stimulator parameters in electrical stimulation procedure on the human bicep muscle.](#) Jurnal Teknologi , 78 (7-5) pp.15-22
- 2016** [Development of high frequency 14 nm CNTFET model.](#) Materials Today: Proceedings , 3 (2) pp.258-264
- 2016** [Low value capacitance measurement system for the application of monitoring human body.](#) ARPJ Journal of Engineering and Applied Sciences , 11 (1) pp.327-330
- 2016** [Daily activity monitoring of an elderly Person for determining their wellness.](#) International Journal of Smart Home , Vol. 10 (8) pp.339-346
- 2016** [Efficient capacitance sensing for wireless health monitoring system..](#) IIUM Engineering Journal , 17 (2) pp.21-29
- 2016** [Non-intrusive monitoring of everyday behavioral activities in an indoor environment.](#) Journal of Electronic Science and Technology , 14 (3) pp.205-210
- 2015** [Obtaining hysteresis loops at low frequency for characterization of materials to be used in biomedical applications.](#) IIUM Engineering Journal , 16 (1) pp.19-32
- 2015** [On the issue of fly-back spikes in PWM operated single-phase transformer-less grid-tied inverter.](#) MAGNT Research Report , 3 (5) pp.1-5
- 2015** [Piezoelectric thin films for double electrode CMOS MEMS surface acoustic wave \(SAW\) resonator.](#) Microsystems Technologies , 21 pp.1931-1940
- 2015** [Multi-frequency CMOS oscillator based on CMOS MEMS SAW resonator.](#) Microsystems Technologies , 21 (9) pp.1915-1922
- 2015** [Medium voltage range energy harvester application using boost converter.](#) ARPJ Journal of Engineering and Applied Sciences , 10 (21) pp.9744-9747
- 2015** [A DC-DC circuit using boost converter for low voltage energy harvesting application.](#) American Journal of Applied Sciences , 12 (4) pp.272-275

- 2015** [Multi-frequency CMOS oscillator based on CMOS MEMS SAW resonator.](#) Microsystems Technologies , 21 (9) pp.1915-1922
- 2014** [Analysis and evaluation of differential inductive transducers for transforming physical parameters into usable output frequency signal.](#) International Journal of Physical Sciences , 9 (15) pp.339-349
- 2014** [Small band-gap-based CNT for modeling of nano sensor.](#) Procedia Computer Science , 42 pp.122-129
- 2014** [Mems-based oscillators: a review.](#) IIUM Engineering Journal , 15 (1) pp.1-15
- 2014** [Analysis of carbon nanotube device physics .](#) American Journal of Nano Research and Application , 2 (6) pp.112-115
- 2014** [Development of electric vehicle: public perception and attitude, the Malaysian approach.](#) World Review of Business Research , 5 (2) pp.149-167
- 2014** [Development of electric vehicle: public perception and attitude, the Malaysian approach.](#) World Review on International Transportation Research , 5 (2) pp.149-167
- 2014** [LM555 timer-based inverter low power pure sinusoidal AC output.](#) World Applied Sciences Journal , 30 pp.141-143
- 2014** [Current Loss Comparison of PWM Operated Transformer-Based and Transformer-Less Inverter.](#) International Journal of Advanced Research in Electronics and Communication Engineering (IJARECE) , 3 (3) pp.343-346
- 2014** [DC-DC boost converter for grid-tied renewable energy generation systems.](#) World Applied Sciences Journal , 30 pp.144-147
- 2014** [A study on health monitoring system: recent advancements.](#) IIUM Engineering Journal , 15 (2) pp.87-99
- 2014** [Carbon nanotubes: a review on future generation nano device.](#) Middle-East Journal of Scientific Research , 20 (1) pp.74-81
- 2014** [Design and simulation of RF-CMOS SPST switch for reconfigurable RF front-end.](#) International Journal of Advancement in Electronics and Electrical Engineering , 4 (1) pp.13-23
- 2013** [Investigation on carbon nanotube electronics structure .](#) Pensee Journal , 75 (11) pp.123-129
- 2013** [A qualitative review for wireless health monitoring system .](#) IOP Conference Series: Materials Science and Engineering , 53 (1) pp.1-7
- 2013** [Environmental friendly device: modeling of carbon nanotube with optimum chirality.](#) Australian Journal of Basic and Applied Sciences , 7 (8) pp.648-652
- 2013** [Design and Development of a Simulator for Modelling Carbon Nanotube.](#) IOP Conference Series: Materials Science and Engineering , 53(1) (012049) pp.1-6
- 2013** [Transforming human gait for signature signals characterization.](#) Materials Science and Engineering , 53 pp.1-7

- 2013** [Modeling of a carbon nanotube sensing device.](#) Middle-East Journal of Scientific Research , 17 (10) pp.1475-1478
- 2012** [Design of microstrip patch antenna using slotted partial ground and addition of stairs and stubs for UWB application .](#) Cyber Journals : Multidisciplinary Journals in Science and Technology, Journal of Selected Areas in Telecommunications (JSAT)
- 2012** [Fuzzy knowledge-based model for prediction of traction force of an electric golf car.](#) Journal of Terramechanics , 49 (1) pp.13-25
- 2012** [Kinematics and nonlinear control of an electromagnetic actuated CVT system for passenger vehicle.](#) Journal of Mechanical Science and Technology , 26 (7) pp.1-9
- 2012** [Development of a 2-digit multi valued analog-to-digital converter.](#) World Applied Sciences Journal , 17 (5) pp.622-625
- 2012** [Design of a multiple valued logic analog to digital converter using 0.13 \$\mu\$ m CMOS process.](#) Science Series Data Report , 4 (3) pp.(1-8)
- 2011** [Design and implementation of potentiometer-based nonlinear transducer emulator.](#) IIUM Engineering Journal , 12 (1) pp.77-87
- 2011** [An investigation of soft magnetic and non magnetic materials under low frequency.](#) IIUM Engineering Journal , 12 (6) pp.59-70
- 2011** [Design of a multi valued current mode comparator.](#) Australian Journal of Basic and Applied Sciences , 5 (10) pp.662-666
- 2011** [Development of economical maximum power point tracking system for solar cell.](#) Australian Journal of Basic and Applied Sciences , 5 (5) pp.700-713
- 2010** [Tunning fork type ultra wide band \(UBW\) antenna .](#) pp.41
- 2010** [Fade margin analysis due to duststorm based on visibility data measured in a desert.](#) American Journal of Applied Sciences , 7 (4) pp.551-555
- 2010** [Design of capacitance to voltage converter for capacitive sensor transducer.](#) American Journal of Applied Sciences , 7 (10) pp.1353-1357
- 2010** [Prediction of signal attenuation due to duststorms using mie scattering.](#) IIUM Engineering Journal , 11 (1) pp.71-87
- 2009** [Microelectrical mechanical systems switch for designing multi-band antenna.](#) Journal of Computer Science , 5 (7) pp.479-486
- 2009** [Design of a high-speed, reconfigurable digital rank order filter.](#) IIUM Engineering Journal , 10 (1) pp.19-30
- 2009** [Tunable bandpass filter using RF MEMS switches.](#) IIUM Engineering Journal , 10 (2) pp.69-80
- 2009** [Design of multi-valued quaternary based analog-to-digital converter.](#) American Journal of Applied Sciences , 6 (8) pp.1522-1527
- 2009** [Effects of MEMS material on designing a multi-band reconfigurable antenna.](#) Iranian Journal of Electrical and Computer Engineering , 8 (2) pp.112-118

- 2009 [Characterization of indoor power lines as data communication channels experimental details and results.](#) International Journal of Electrical and Computer Engineering , 4 (10) pp.647-651
- 2008 [Rule-based fuzzy logic controller with adaptable reference.](#) International Journal of Electrical and Computer Engineering , 3 (1) pp.7-11
- 2008 [Design of a planar structure of multifrequency patch antenna.](#) IJCSES International Journal of Computer Sciences and Engineering Systems, , 2 (3) pp.207-211
- 2008 [Capacitive transducer circuits for liquid level measurement.](#) International Journal of Computer Sciences and Engineering Systems , 2 (3) pp.195-197
- 2008 [Analysis and implementation of nonlinear transducer response over a wider response range.](#) Sensors & Transducers Journal , 89 (3) pp.61-70
- 2008 [Design and implementation of an optimal fuzzy logic controller using genetic algorithm.](#) Journal of Computer Science , 4 (10) pp.799-806
- 2007 [A high accuracy measurement circuit for soil moisture detection.](#) World Academy of Science, Engineering and Technology , 1 (11) pp.947-950

Conference or Workshop Item

- 2020 [Adaptive PID controller using for speed control of the BLDC motor.](#) In: **2020 IEEE International Conference on Semiconductor Electronics (ICSE)**
- 2019 [Adaptive neuro-fuzzy controller for grid voltage dip compensations of grid connected DFIG-WECS.](#) In: **2019 IEEE International Electric Machines & Drives Conference (IEMDC)**
- 2019 [UWB antenna based time-domain approach for through the walls gap estimation.](#) In: **2019 IEEE International Instrumentation and Measurement Technology Conference (I2MTC 2019)**
- 2019 [An Arduino microcontroller based RLC meter.](#) In: **2019 IEEE Regional Symposium on Micro and Nanoelectronics (RSM)**
- 2019 [Design and comparative validation of antipodal vivaldi antenna using periodic elliptical-slots with extended triangular-shaped as dielectric lens for microwave imaging applications.](#) In: **2019 IEEE 6th International Conference on Smart Instrumentation, Measurement and Applications (ICSIMA 2019)**
- 2019 [High-gain rectangular-fins shaped balanced antipodal vivaldi antenna array extended by dielectric for wide-band imaging application.](#) In: **2019 IEEE International Conference on Innovative Research and Development (ICIRD)**
- 2018 [Single Supply Differential Capacitive Sensor with Parasitic Capacitance and Resistance Consideration.](#) In: **7th International Conference on Computer and Communication Engineering 2018 (ICCCE 2018)**
- 2018 [Analysis of the frequency dependency to the single supply differential capacitive sensor.](#) In: **7th International Conference on Computer and Communication Engineering (ICCCE) 2018**
- 2018 [Improved radiation characteristic of balanced antipodal vivaldi antenna in array configuration.](#) In: **2nd International Conference on Intelligent Systems Engineering (ICISE) 2018**

- 2018 [Capacitive proximity floor sensing system for elderly tracking and fall detection.](#) In: **4th IEEE International Conference on Smart Instrumentation, Measurement and Applications, ICSIMA 2017**
- 2018 [Scalability analysis for designing large-scale antenna array using sub-array.](#) In: **2018 7th International Conference on Computer and Communication Engineering (ICCCE)**
- 2018 [Carrier based synchronous control and performance analysis of an S-PSI using PV for microgrid applications.](#) In: **7th International Conference on Computer and Communication Engineering (ICCCE) 2018**
- 2018 [Effects of inter element spacing on large antenna array characteristics.](#) In: **2017 IEEE International Conference on Smart Instrumentation, Measurement and Applications**
- 2018 [Design and analysis of 1-to-4 Wilkinson power divider for antenna array feeding network.](#) In: **2018 IEEE International Conference on Innovative Research and Development (ICIRD)**
- 2018 [Improvement of active power factor correction circuit for switch mode power supply using fly back and boost topology.](#) In: **2018 7th International Conference on Computer and Communication Engineering (ICCCE)**
- 2018 [Detection and analysis of metal impairment inside wall using UWB modified antipodal vivaldi antenna.](#) In: **2017 4th IEEE International Conference on Engineering Technologies and Applied Sciences (ICETAS)**
- 2018 [Comparative analysis of UWB balance Antipodal Vivaldi Antenna for array configuration.](#) In: **2018 7th International Conference on Computer Communication Engineering (ICCCE2018)**
- 2017 [Ultra-wideband antipodal vivaldi antenna for radar and microwave imaging application.](#) In: **IEEE 3rd International Conference on Engineering, Technologies and Social Sciences 2017 (ICETSS-2017)**
- 2017 [Negative bias temperature instability characterization and lifetime evaluations of submicron pMOSFET.](#) In: **2017 IEEE Symposium on Computer Applications & Industrial Electronics (ISCAIE 2017)**
- 2017 [Optimum concentric circular array antenna with high gain and side lobe reduction at 5.8 GHz.](#) In: **6th International Conference on Mechatronics - ICOM'17**
- 2017 [Three phase DC-DC converter with six inverter for EV application.](#) In: **3rd International Exchange and Innovation Conference on Engineering & Sciences**
- 2017 [Single supply differential capacitive sensor with energy harvester compatibility.](#) In: **2016 IEEE Industrial Electronics and Applications Conference (IEACon)**
- 2017 [A capacitive proximity sensing scheme for human motion detection.](#) In: **2017 IEEE International Instrumentation and Measurement Technology Conference (I2MTC)**
- 2017 [High gain UWB horn antenna for concealed metal detection and microwave imaging application.](#) In: **3rd International Conference on Engineering, Technologies and Applied Sciences 2017 (ICETAS-2017)**

- 2017 [Development of ECG home monitoring system.](#) In: **2017 IEEE Regional Symposium on Micro and Nanoelectronics (RSM)**
- 2017 [Current behavior analysis of the single supply differential capacitive sensing.](#) In: **14th Student Conference on Research and Development, IEEE (SCORED2016)**
- 2017 [Analysis of the internal temperature of the cells in a battery pack during SOC balancing.](#) In: **3rd International Conference on Mechanical, Automotive and Aerospace Engineering 2016 (ICMAAE'16)**
- 2016 [An activity monitoring system for senior citizens living independently using capacitive sensing technique.](#) In: **Conference Record - IEEE Instrumentation and Measurement Technology Conference**
- 2016 [Capacitance-to-voltage converter design to measure small change in capacitance produced by human body movement.](#) In: **IEEE International WIE Conference on Electrical and Computer Engineering, WIECON-ECE 2015**
- 2016 [Health and wellness monitoring of elderly people using intelligent sensing technique.](#) In: **6th International Conference on Computer and Communication Engineering (ICCCE 2016)**
- 2016 [Wireless capacitor sensing for structural health monitor.](#) In: **World Congress on Engineering 2016**
- 2016 [Massive MIMO for Fifth Generation \(5G\): Opportunities and challenges.](#) In: **6th International Conference on Computer and Communication Engineering (ICCCE 2016)**
- 2016 [Triangular shaped silicon nanowire FET characterization using COMSOL multiphysics.](#) In: **6th International Conference on Computer and Communication Engineering (ICCCE 2016)**
- 2016 [Application of UWB wireless MIMO connectivity inside modern aircraft.](#) In: **2016 International Conference on Intelligent Systems Engineering (ICISE)**
- 2016 [Capacitance sensing and energy harvesting for wireless health monitoring system.](#) In: **2016 International Conference on Intelligent Systems Engineering (ICISE)**
- 2015 [Parametric sweep analysis of medium voltage range boost converter for energy harvester application.](#) In: **2015 IEEE International WIE Conference on Electrical and Computer Engineering (WIECON-ECE)**
- 2015 [A low cost capacitive sensing system for identifying and detecting falls of senior citizens.](#) In: **2015 IEEE 3rd International Conference on Smart Instrumentation, Measurement and Applications (ICSIMA)**
- 2015 [High frequency CNTFET-based logic gate.](#) In: **10th IEEE 2015 Regional Symposium on Micro and Nanoelectronics (RSM 2015)**
- 2015 [Passive monitoring techniques for elderly: a review on recent development and prospective.](#) In: **World Congress on Engineering and Computer Science 2015**

- 2015 [A low cost capacitive sensing system for monitoring and detecting falls of senior citizens.](#) In: **2015 IEEE 3rd International Conference on Smart Instrumentations, Measurement and Applications (ICSIMA 2015)**
- 2015 [A pressure sensor based inductive transducer designed for biomedical applications.](#) In: **2015 IEEE 3rd international conference on smart instrumentations, measurement and applications (ICSIMA 2015)**
- 2015 [Parametric analysis of single boost converter for energy harvester.](#) In: **2015 IEEE 3rd International Conference on Smart Instrumentations, Measurement and Applications (ICSIMA 2015)**
- 2015 [DIBL and subthreshold swing effect on carbon nanotube field effect transistor.](#) In: **World Congress on Engineering (WCE 2015)**
- 2015 [NEGF-based transport phenomena for semiconducting CNTFET.](#) In: **2015 5th National Symposium on Information Technology: Towards New Smart World (NSITNSW)**
- 2014 [Multi-level DC-AC inverter for grid-tied renewable energy systems.](#) In: **International Research, Invention and Innovation Exhibition 2014 (IRIIE2014)**
- 2014 [Spice model design for carbon nanotube field effect transistor \(CNTFET\).](#) In: **2014 IEEE International Conference on Semiconductor Electronics (ICSE)**
- 2014 [Modeling and simulation of CNTFET small signal model.](#) In: **2014 IEEE 6th International Nanoelectronics Conference(INEC)**
- 2014 [Investigation on grid synchronization for grid-tied DC-AC single phase inverters.](#) In: **International Conference on Computer & Communication Engineering 2014**
- 2014 [Application of UWB wireless MIMO connectivity inside ships.](#) In: **5th International Conference on Computer & Communication Engineering 2014**
- 2014 [Comparison of ITU-R predicted rainfall rates against measured data in Malaysia.](#) In: **2014 IEEE Symposium on Wireless Technology and Applications (ISWTA)**
- 2014 [Assessment of ITU-R conversion method for 1- minute integration time of precipitation intensity in Malaysia.](#) In: **2014 IEEE Symposium on Wireless Technology and Applications (ISWTA)**
- 2014 [CNTFET inverter: a high voltage gain logic gate.](#) In: **2014 IEEE International Conference on Smart Instrumentation, Measurement and Applications (ICSIMA 2014)**
- 2014 [Analysis of phase detection circuit for human activity.](#) In: **2014 IEEE International Conference on Smart Instrumentation, Measurement and Applications (ICSIMA)**
- 2014 [Automated person tracking using proximity capacitive sensors.](#) In: **2014 IEEE International Conference on Smart Instrumentation, Measurement and Applications (ICSIMA)**

- 2014 [Single-phase inverter for small voltage supplies for use in distributed measurement systems.](#) In: **2014 IEEE International Conference on Smart Instrumentation, Measurement and Applications (ICSIMA)**
- 2014 [Optimum performance of carbon nanotube field effect transistor.](#) In: **World Congress on Engineering and Computer Science 2014**
- 2014 [CNTFET SPICE model: design of a carbon nanotube field effect transistor.](#) In: **5th International Conference on Computer & Communication Engineering 2014**
- 2013 [Real-time bridge scour monitoring system by using capacitor sensor.](#) In: **3rd International Conference on Geotechnique, Construction Materials and Environment (GEOMATE 2013)**
- 2013 [Simple and efficient multibiometric technique for subject recognition using multilead electrocardiogram signal.](#) In: **IEEE International Conference on Smart Instrumentation, Measurement and Applications (ICSIMA)**
- 2013 [Modeling of small Band-gap CNT for designing of faster switching CNTFET.](#) In: **2013 IEEE Business Engineering and Industrial Applications Colloquium**
- 2013 [DC-DC boost converter for grid-tied renewable energy generation systems.](#) In: **International Conference on Innovation Challenges in Multidisciplinary Research & Practice (ICMRP 2013)**
- 2013 [Parametric analysis for designing low voltage and low frequency energy harvester booster.](#) In: **2013 IEEE Regional Symposium on Micro and Nano Electronics (RSM 2013)**
- 2013 [0.35 \$\mu\$ m SPDT RF CMOS switch for wireless communication application.](#) In: **2013 IEEE Regional Symposium on Micro and Nano Electronics (RSM 2013)**
- 2013 [High frequency small signal modeling of CNTFET.](#) In: **2013 IEEE Regional Symposium on Micro and Nano Electronics (RSM 2013)**
- 2013 [Development of a position detection technique for UWB chipless RFID tagged object.](#) In: **2013 International Conference on Computing, Electrical and Electronics Engineering (ICCEEE 2013)**
- 2013 [Modeling of optimum chiral carbon nanotube using DFT.](#) In: **13th IEEE International Conference on Nanotechnology**
- 2013 [Boost converter for low voltage energy harvesting applications: basic component selection.](#) In: **IEEE International Conference on Smart Instrumentation, Measurement and Applications (ICSIMA)**
- 2013 [Analysis of CNT electronics structure to design CNTFET.](#) In: **2013 IEEE 5th International Nanoelectronics Conference (INEC)**
- 2013 [Fast UWB wireless connectivity for MIMO multi-user.](#) In: **The 4th International Conference on Information & Communication Technology for the Muslim World (ICT4M)**
- 2013 [Development of green transportation system.](#) In: **IIUM Engineering Congress 2013(2-4July 2013)**

- 2012 [Tuning fork UWB antenna with unsymmetrical feed line.](#) In: **Progress In Electromagnetics Research Symposium**
- 2012 [Design of 0.13um CMOS multi-valued analog to digital converter.](#) In: **International Conference on Computer and Communication Engineering (ICCCE 2012)**
- 2012 [Investigation of inductive coupling approach for non-contact bidirectional transfer of power and signal.](#) In: **International Conference on Computer and Communication Engineering (ICCCE 2012)**
- 2012 [An experimental magneto-inductive sensing technique for categorization of magnetic and non-magnetic materials.](#) In: **International Conference on Computer and Communication Engineering (ICCCE 2012)**
- 2012 [Sub-nano seconds UWB pulse shaping with reduced ringing phenomenon.](#) In: **International Conference on Computer and Communication Engineering (ICCCE 2012)**
- 2012 [Pulse generation using avalanche transistor for ultra wide band communication: Analysis and simulation results.](#) In: **International Conference on Computer and Communication Engineering (ICCCE 2012)**
- 2012 [Design of a pierce oscillator for CMOS SAW resonator.](#) In: **International Conference on Computer and Communication Engineering (ICCCE 2012)**
- 2011 [Design of a current comparator for quaternary multi valued analog to digital converter.](#) In: **2011 IEEE Regional Symposium on Micro and Nanoelectronics (RSM)**
- 2011 [CMOS Op amp testing for capacitive measuring systems application.](#) In: **2011 IEEE Regional Symposium on Micro and Nanoelectronics (RSM 2011)**
- 2011 [A proposed vertical path adjustment factor for dust storm attenuation prediction.](#) In: **4th International Conference on Mechatronics (ICOM'11)**
- 2011 [Modeling of inductive coupling transducer for activation of low wattage electronic implants.](#) In: **2011 IEEE Regional Symposium on Micro and Nano Electronics (IEEE-RSM2011)**
- 2011 [Proposing a horizontal path adjustment factor for microwave link's attenuation prediction based on the analysis of dust storm behavior .](#) In: **10th Malaysia International Conference on Communications (MICC)11)**
- 2011 [A novel bandwidth enhancement technique for a compact right/left-handed \(CRLH\)transmission line \(TL\) based antenna.](#) In: **Progress in Electromagnetics Research Symposium Abstracts**
- 2011 [Intelligent electromagnetic actuated CVT system for passenger car.](#) In: **IEEE International Conference on Industrial Engineering and Engineering Management**
- 2011 [U-shaped planer UWB antenna with unsymmetrical feed.](#) In: **International Symposium on Antennas and Propagation (ISAP 2011)**
- 2011 [A low-cost first-order sigma-delta converter design and analysis.](#) In: **Instrumentation and Measurement Technology Conference (I2MTC), 2011 IEEE**

- 2011 [Characterization of materials using non-contact inductive sensor applications.](#) In: **The 4th International Conference on Mechatronics (ICOM'11)**
- 2011 [Analysis of rectifier circuits for low power and sensing applications.](#) In: **The 4th International Conference on Mechatronics (ICOM'11)**
- 2011 [Design of a 2-bit multi valued analog-to-digital converter .](#) In: **4th International Conference on Mechatronics (ICOM)**
- 2011 [Symmetrical analysis and evaluation of Differential Resistive Sensor output with GSM/GPRS network.](#) In: **2011 4th International Conference on Mechatronics: Integrated Engineering for Industrial and Societal Development (ICOM 2011)**
- 2011 [Capacitance-to-voltage converter for capacitance measuring system.](#) In: **2011 4th International Conference on Mechatronics: Integrated Engineering for Industrial and Societal Development (ICOM 2011)**
- 2011 [2.45 GHz passive RFID tag antenna mounting on various platforms.](#) In: **2011 IEEE International RF and Microwave Conference (RFM2011)**
- 2011 [Design of fuzzy based controller for modern elevator group with floor priority constraints.](#) In: **4th International Conference on Mechatronics (ICOM'11)**
- 2011 [Analysis of rectifier circuits for low power and sensing application.](#) In: **4th International Conference on Mechatronics (ICOM'11)**
- 2011 [Modelling of inductive coupling transducer for activation of low wattage electronic implants.](#) In: **2011 IEEE Regional Symposium on Micro and Nano Electronics, RSM 2011**
- 2010 [Smart antenna design based on direction of arrival \(DOA\) and beamforming optimization.](#) In: **IIUM Research, Innovation & Invention Exhibition (IRIIE 2010)**
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- 2010 [DATICS-2010: Welcome message from workshop organizers: FutureTech 2010.](#) In: **2010 5th International Conference on Future Information Technology, FutureTech 2010 - Proceedings**
- 2010 [Analysis of inductive powering harvesting circuit.](#) In: **2010 IEEE International Conference on Semiconductor Electronics (ICSE)**
- 2010 [Design of multi-band passive RFID tag antenna.](#) In: **International Conference on Computer and Communication Engineering (ICCCE 2010)**

- 2010 [Identification of Linearized Regions of Non-Linear Transducers Responses.](#) In: **International Conference on Computer and Communication Engineering (ICCCE 2010)**
- 2010 [Design and optimization of linear array antenna based on the analysis of direction of arrival \(DOA\) estimation and beamforming algorithms.](#) In: **International Conference on Computer and Communication Engineering (ICCCE 2010)**
- 2010 [Knowledge-based disk scheduling policy using fuzzy logic.](#) In: **International Conference on Computer and Communication Engineering (ICCCE 2010)**
- 2010 [Tuning fork type Ultra Wide Band \(UWB\) antenna.](#) In: **IIUM Research, Innovation & Invention Exhibition (IRIIE 2010)**
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- 2010 [Design of a low noise amplifier with GaAs MESFET at Ku-Band.](#) In: **International Conference on Computer and Communication Engineering (ICCCE 2010)**
- 2010 [Differential resistive transducer for power harvesting for implanted devices.](#) In: **IIUM Research, Innovation & Invention Exhibition (IRIIE 2010)**
- 2009 [Design of composite right/left-handed \(CRLH\) transmission line \(TL\) based leaky-wave array antenna.](#) In: **Proceedings of 2009 IEEE International Conference on Antennas, Propagation and Systems (INAS 2009)**
- 2009 [Rain fade and it's effect analysis for earth-to-satellite microwave link based on measured rainfall statistics in Bangladesh.](#) In: **IEEE 9th Malaysia International Conference on Communications (MICC 2009)**
- 2009 [Effects of linear array antenna parameters to the performance of LMS beamforming algorithms.](#) In: **Proceedings of the 7th International Conference on Robotics, Vision, Signal Processing & Power Applications (RoViSP 2009)**
- 2009 [Multivariable transducer interfacing circuit for wireless monitoring of smart implants.](#) In: **XIX IMEKO World Congress, Fundamental and Applied Metrology**
- 2009 [Reconfigurable patch antenna by RF MEMS switches.](#) In: **6th International Symposium on Mechatronics and its Applications (ISMA '09)**
- 2009 [Reconfigurable patch antenna by RF mems switches.](#) In: **International Symposium on Mechatronics and its Applications (ISMA09)**
- 2008 [A non-contact capacitance type level transducer for liquid characterization.](#) In: **International Conference on Computer and Communication Engineering 2008**
- 2006 [Design of MEMs-based reconfigurable antenna.](#) In: **International Conference on MEMS and Nanotechnology (ICMN'06)**

2014 [Advancements in computer and communications engineering](#). IIUM Press . ISBN 9789674182830

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- 2011 [Overview of Radio Frequency Microelectromechanical systems reconfigurable antennas](#). In: **Mechatronics book series: Selected papers from ICOM'01, ICOM'05 and ICOM'08** IIUM Press . ISBN 9789670225685 , pp.450-457
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