

**Volume 2 Issue 11, October 2014**

**International Journal of Innovative  
Science and Modern Engineering**

ISSN : 2319 - 6386 (Online)

Website: [www.ijisme.org](http://www.ijisme.org)



**Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd.**  
**Exploring Innovation: A Key for Dedicated Services**

**Address:**

# 22, First Floor, ShivLoka Phase-IV,  
Khajuri Kala, BHEL-Piplani, Bhopal (M.P.)-462021, India

Website: [www.blueeyesintelligence.org](http://www.blueeyesintelligence.org)

Email: [director@blueeyesintelligence.org](mailto:director@blueeyesintelligence.org), [blueeyes@gmail.com](mailto:blueeyes@gmail.com)

Cell #: +91-9669981618, WhatsApp #: +91-9669981618, Viber #: +91-9669981618

Skype #: beiesp, Twitter #: beiesp

## **Editor In Chief**

### **Dr. Shiv K Sahu**

Ph.D. (CSE), M.Tech. (IT, Honors), B.Tech. (IT)

Director, Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd., Bhopal (M.P.), India

### **Dr. Shachi Sahu**

Ph.D. (Chemistry), M.Sc. (Organic Chemistry)

Additional Director, Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd., Bhopal(M.P.), India

## **Vice Editor In Chief**

### **Dr. Vahid Nourani**

Professor, Faculty of Civil Engineering, University of Tabriz, Iran

### **Prof. (Dr.) Anuranjan Misra**

Professor & Head, Computer Science & Engineering and Information Technology & Engineering, Noida International University, Noida (U.P.), India

## **Chief Advisory Board**

### **Prof. (Dr.) Hamid Saremi**

Vice Chancellor of Islamic Azad University of Iran, Quchan Branch, Quchan-Iran

### **Dr. Uma Shanker**

Professor & Head, Department of Mathematics, CEC, Bilaspur(C.G.), India

### **Dr. Rama Shanker**

Professor & Head, Department of Statistics, Eritrea Institute of Technology, Asmara, Eritrea

### **Dr. Vinita Kumari**

Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd., India

### **Dr. Kapil Kumar Bansal**

Head (Research and Publication), SRM University, Gaziabad (U.P.), India

### **Dr. Deepak Garg**

Professor, Department of Computer Science and Engineering, Thapar University, Patiala (Punjab), India, Senior Member of IEEE, Secretary of IEEE Computer Society (Delhi Section), Life Member of Computer Society of India (CSI), Indian Society of Technical Education (ISTE), Indian Science Congress Association Kolkata.

### **Dr. Vijay Anant Athavale**

Director of SVS Group of Institutions, Mawana, Meerut (U.P.) India/ U.P. Technical University, India

### **Dr. T.C. Manjunath**

Principal & Professor, HKBK College of Engg, Nagawara, Arabic College Road, Bengaluru-560045, Karnataka, India

### **Dr. Kosta Yogeshwar Prasad**

Director, Technical Campus, Marwadi Education Foundation's Group of Institutions, Rajkot-Morbi Highway, Gauridada, Rajkot, Gujarat, India

### **Dr. Dinesh Varshney**

Director of College Development Counseling, Devi Ahilya University, Indore (M.P.), Professor, School of Physics, Devi Ahilya University, Indore (M.P.), and Regional Director, Madhya Pradesh Bhoj (Open) University, Indore (M.P.), India

### **Dr. P. Dananjayan**

Professor, Department of Department of ECE, Pondicherry Engineering College, Pondicherry, India

### **Dr. Sadhana Vishwakarma**

Associate Professor, Department of Engineering Chemistry, Technocrat Institute of Technology, Bhopal(M.P.), India

### **Dr. Kamal Mehta**

Associate Professor, Deptment of Computer Engineering, Institute of Technology, NIRMA University, Ahmedabad (Gujarat), India

### **Dr. CheeFai Tan**

Faculty of Mechanical Engineering, University Technical, Malaysia Melaka, Malaysia

### **Dr. Suresh Babu Perli**

Professor & Head, Department of Electrical and Electronic Engineering, Narasaraopeta Engineering College, Guntur, A.P., India

**Dr. Binod Kumar**

Associate Professor, School of Engineering and Computer Technology, Faculty of Integrative Sciences and Technology, Quest International University, Ipoh, Perak, Malaysia

**Dr. Chiladze George**

Professor, Faculty of Law, Akhaltsikhe State University, Tbilisi University, Georgia

**Dr. Kavita Khare**

Professor, Department of Electronics & Communication Engineering, MANIT, Bhopal (M.P.), INDIA

**Dr. C. Saravanan**

Associate Professor (System Manager) & Head, Computer Center, NIT, Durgapur, W.B. India

**Dr. S. Saravanan**

Professor, Department of Electrical and Electronics Engineering, Muthayamal Engineering College, Resipuram, Tamilnadu, India

**Dr. Amit Kumar Garg**

Professor & Head, Department of Electronics and Communication Engineering, Maharishi Markandeshwar University, Mullana, Ambala (Haryana), India

**Dr. T.C.Manjunath**

Principal & Professor, HKBK College of Engg, Nagawara, Arabic College Road, Bengaluru-560045, Karnataka, India

**Dr. P. Dananjayan**

Professor, Department of Department of ECE, Pondicherry Engineering College, Pondicherry, India

**Dr. Kamal K Mehta**

Associate Professor, Department of Computer Engineering, Institute of Technology, NIRMA University, Ahmedabad (Gujarat), India

**Dr. Rajiv Srivastava**

Director, Department of Computer Science & Engineering, Sagar Institute of Research & Technology, Bhopal (M.P.), India

**Dr. Chakunta Venkata Guru Rao**

Professor, Department of Computer Science & Engineering, SR Engineering College, Ananthasagar, Warangal, Andhra Pradesh, India

**Dr. Anuranjan Misra**

Professor, Department of Computer Science & Engineering, Bhagwant Institute of Technology, NH-24, Jindal Nagar, Ghaziabad, India

**Dr. Robert Brian Smith**

International Development Assistance Consultant, Department of AEC Consultants Pty Ltd, AEC Consultants Pty Ltd, Macquarie Centre, North Ryde, New South Wales, Australia

**Dr. Saber Mohamed Abd-Allah**

Associate Professor, Department of Biochemistry, Shanghai Institute of Biochemistry and Cell Biology, Yue Yang Road, Shanghai, China

**Dr. Himani Sharma**

Professor & Dean, Department of Electronics & Communication Engineering, MLR Institute of Technology, Laxman Reddy Avenue, Dundigal, Hyderabad, India

**Dr. Sahab Singh**

Associate Professor, Department of Management Studies, Dronacharya Group of Institutions, Knowledge Park-III, Greater Noida, India

**Dr. Umesh Kumar**

Principal: Govt Women Poly, Ranchi, India

**Dr. Syed Zaheer Hasan**

Scientist-G Petroleum Research Wing, Gujarat Energy Research and Management Institute, Energy Building, Pandit Deendayal Petroleum University Campus, Raisan, Gandhinagar-382007, Gujarat, India.

**Dr. Jaswant Singh Bhomrah**

Director, Department of Profit Oriented Technique, 1 – B Crystal Gold, Vijalpore Road, Navsari 396445, Gujarat. India

## **Technical Advisory Board**

### **Dr. Mohd. Husain**

Director MG Institute of Management & Technology, Banthara, Lucknow (U.P.), India

### **Dr. T. Jayanthi**

Principal, Panimalar Institute of Technology, Chennai (TN), India

### **Dr. Umesh A.S.**

Director, Technocrats Institute of Technology & Science, Bhopal(M.P.), India

### **Dr. B. Kanagasabapathi**

Infosys Labs, Infosys Limited, Center for Advance Modeling and Simulation, Infosys Labs, Infosys Limited, Electronics City, Bangalore, India

### **Dr. C.B. Gupta**

Professor, Department of Mathematics, Birla Institute of Technology & Sciences, Pilani (Rajasthan), India

### **Dr. Sunandan Bhunia**

Associate Professor & Head,, Dept. of Electronics & Communication Engineering, Haldia Institute of Technology, Haldia, West Bengal, India

### **Dr. Jaydeb Bhaumik**

Associate Professor, Dept. of Electronics & Communication Engineering, Haldia Institute of Technology, Haldia, West Bengal, India

### **Dr. Rajesh Das**

Associate Professor, School of Applied Sciences, Haldia Institute of Technology, Haldia, West Bengal, India

### **Dr. Mrutyunjaya Panda**

Professor & Head, Department of EEE, Gandhi Institute for Technological Development, Bhubaneswar, Odisha, India

### **Dr. Mohd. Nazri Ismail**

Associate Professor, Department of System and Networking, University of Kuala (UniKL), Kuala Lumpur, Malaysia

### **Dr. Haw Su Cheng**

Faculty of Information Technology, Multimedia University (MMU), Jalan Multimedia, 63100 Cyberjaya

### **Dr. Hossein Rajabalipour Cheshmehgaz**

Industrial Modeling and Computing Department, Faculty of Computer Science and Information Systems, Universiti Teknologi Malaysia (UTM) 81310, Skudai, Malaysia

### **Dr. Sudhinder Singh Chowhan**

Associate Professor, Institute of Management and Computer Science, NIMS University, Jaipur (Rajasthan), India

### **Dr. Neeta Sharma**

Professor & Head, Department of Communication Skills, Technocrat Institute of Technology, Bhopal(M.P.), India

### **Dr. Ashish Rastogi**

Associate Professor, Department of CSIT, Guru Ghansi Das University, Bilaspur (C.G.), India

### **Dr. Santosh Kumar Nanda**

Professor, Department of Computer Science and Engineering, Eastern Academy of Science and Technology (EAST), Khurda (Orisa), India

### **Dr. Hai Shanker Hota**

Associate Professor, Department of CSIT, Guru Ghansi Das University, Bilaspur (C.G.), India

### **Dr. Sunil Kumar Singla**

Professor, Department of Electrical and Instrumentation Engineering, Thapar University, Patiala (Punjab), India

### **Dr. A. K. Verma**

Professor, Department of Computer Science and Engineering, Thapar University, Patiala (Punjab), India

### **Dr. Durgesh Mishra**

Chairman, IEEE Computer Society Chapter Bombay Section, Chairman IEEE MP Subsection, Professor & Dean (R&D), Acropolis Institute of Technology, Indore (M.P.), India

### **Dr. Xiaoguang Yue**

Associate Professor, College of Computer and Information, Southwest Forestry University, Kunming (Yunnan), China

**Dr. Veronica Mc Gowan**

Associate Professor, Department of Computer and Business Information Systems, Delaware Valley College, Doylestown, PA, Allman China

**Dr. Mohd. Ali Hussain**

Professor, Department of Computer Science and Engineering, Sri Sai Madhavi Institute of Science & Technology, Rajahmundry (A.P.), India

**Dr. Mohd. Nazri Ismail**

Professor, System and Networking Department, Jalan Sultan Ismail, Kuala Lumpur, MALAYSIA

**Dr. Sunil Mishra**

Associate Professor, Department of Communication Skills (English), Dronacharya College of Engineering, Farrukhnagar, Gurgaon (Haryana), India

**Dr. Labib Francis Gergis Rofaiel**

Associate Professor, Department of Digital Communications and Electronics, Misr Academy for Engineering and Technology, Mansoura City, Egypt

**Dr. Pavol Tanuska**

Associate Professor, Department of Applied Informatics, Automation, and Mathematics, Trnava, Slovakia

**Dr. VS Giridhar Akula**

Professor, Avanthi's Research & Technological Academy, Gunthapally, Hyderabad, Andhra Pradesh, India

**Dr. S. Satyanarayana**

Associate Professor, Department of Computer Science and Engineering, KL University, Guntur, Andhra Pradesh, India

**Dr. Bhupendra Kumar Sharma**

Associate Professor, Department of Mathematics, KL University, BITS, Pilani, India

**Dr. Praveen Agarwal**

Associate Professor & Head, Department of Mathematics, Anand International College of Engineering, Jaipur (Rajasthan), India

**Dr. Manoj Kumar**

Professor, Department of Mathematics, Rashtriya Kishan Post Graduate Degree, College, Shamli, Prabh Nagar, (U.P.), India

**Dr. Shaikh Abdul Hannan**

Associate Professor, Department of Computer Science, Vivekanand Arts Sardar Dalipsing Arts and Science College, Aurangabad (Maharashtra), India

**Dr. K.M. Pandey**

Professor, Department of Mechanical Engineering, National Institute of Technology, Silchar, India

**Prof. Pranav Parashar**

Technical Advisor, International Journal of Soft Computing and Engineering (IJSCE), Bhopal (M.P.), India

**Dr. Biswajit Chakraborty**

MECON Limited, Research and Development Division (A Govt. of India Enterprise), Ranchi-834002, Jharkhand, India

**Dr. D.V. Ashoka**

Professor & Head, Department of Information Science & Engineering, SJB Institute of Technology, Kengeri, Bangalore, India

**Dr. Sasidhar Babu Suvanam**

Professor & Academic Coordinator, Department of Computer Science & Engineering, Sree Narayana Gurukulam College of Engineering, Kadayiuruppu, Kolenchery, Kerala, India

**Dr. C. Venkatesh**

Professor & Dean, Faculty of Engineering, EBET Group of Institutions, Kangayam, Erode, Caimbatore (Tamil Nadu), India

**Dr. Nilay Khare**

Assoc. Professor & Head, Department of Computer Science, MANIT, Bhopal (M.P.), India

**Dr. Sandra De Iaco**

Professor, Dip.to Di Scienze Dell'Economia-Sez. Matematico-Statistica, Italy

**Dr. Yaduvir Singh**

Associate Professor, Department of Computer Science & Engineering, Ideal Institute of Technology, Govindpuram Ghaziabad, Lucknow (U.P.), India

**Dr. Angela Amphawan**

Head of Optical Technology, School of Computing, School Of Computing, Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia

**Dr. Ashwini Kumar Arya**

Associate Professor, Department of Electronics & Communication Engineering, Faculty of Engineering and Technology, Graphic Era University, Dehradun (U.K.), India

**Dr. Yash Pal Singh**

Professor, Department of Electronics & Communication Engg, Director, KLS Institute Of Engg.& Technology, Director, KLSIET, Chandok, Bijnor, (U.P.), India

**Dr. Ashish Jain**

Associate Professor, Department of Computer Science & Engineering, Accurate Institute of Management & Technology, Gr. Noida (U.P.), India

**Dr. Abhay Saxena**

Associate Professor & Head, Department of Computer Science, Dev Sanskriti University, Haridwar, Uttrakhand, India

**Dr. Judy. M.V**

Associate Professor, Head of the Department CS &IT, Amrita School of Arts and Sciences, Amrita Vishwa Vidyapeetham, Brahmasthanam, Edapally, Cochin, Kerala, India

**Dr. Sangkyun Kim**

Professor, Department of Industrial Engineering, Kangwon National University, Hyoja 2 dong, Chunche0nsi, Gangwondo, Korea

**Dr. Sanjay M. Gulhane**

Professor, Department of Electronics & Telecommunication Engineering, Jawaharlal Darda Institute of Engineering & Technology, Yavatmal, Maharastra, India

**Dr. K.K. Thyagarajan**

Principal & Professor, Department of Informational Technology, RMK College of Engineering & Technology, RSM Nagar, Thiruyallur, Tamil Nadu, India

**Dr. P. Subashini**

Assoc. Professor, Department of Computer Science, Coimbatore, India

**Dr. G. Srinivasrao**

Professor, Department of Mechanical Engineering, RVR & JC, College of Engineering, Chowdavaram, Guntur, India

**Dr. Rajesh Verma**

Professor, Department of Computer Science & Engg. and Deptt. of Information Technology, Kurukshetra Institute of Technology & Management, Bhor Sadian, Pehowa, Kurukshetra (Haryana), India

**Dr. Pawan Kumar Shukla**

Associate Professor, Satya College of Engineering & Technology, Haryana, India

**Dr. U C Srivastava**

Associate Professor, Department of Applied Physics, Amity Institute of Applied Sciences, Amity University, Noida, India

**Dr. Reena Dadhich**

Prof. & Head, Department of Computer Science and Informatics, MBS MArg, Near Kabir Circle, University of Kota, Rajasthan, India

**Dr. Aashis. S. Roy**

Department of Materials Engineering, Indian Institute of Science, Bangalore Karnataka, India

**Dr. Sudhir Nigam**

Professor Department of Civil Engineering, Principal, Lakshmi Narain College of Technology and Science, Raisen, Road, Bhopal, (M.P.), India

**Dr. S. Senthil Kumar**

Doctorate, Department of Center for Advanced Image and Information Technology, Division of Computer Science and Engineering, Graduate School of Electronics and Information Engineering, Chon Buk National University Deok Jin-Dong, Jeonju, Chon Buk, 561-756, South Korea Tamilnadu, India

**Dr. Gufran Ahmad Ansari**

Associate Professor, Department of Information Technology, College of Computer, Qassim University, Al-Qassim, Kingdom of Saudi Arabia (KSA)

**Dr. R. Navaneetha krishnan**

Associate Professor, Department of MCA, Bharathiyar College of Engg & Tech, Karaikal Puducherry, India

**Dr. Hossein Rajabalipour Cheshmejjaz**

Industrial Modeling and Computing Department, Faculty of Computer Science and Information Systems, Universiti Teknologi Skudai, Malaysia

**Dr. Veronica McGowan**

Associate Professor, Department of Computer and Business Information Systems, Delaware Valley College, Doylestown, PA, Allman China

**Dr. Sanjay Sharma**

Associate Professor, Department of Mathematics, Bhilai Institute of Technology, Durg, Chhattisgarh, India

**Dr. Taghreed Hashim Al-Noor**

Professor, Department of Chemistry, Ibn-Al-Haitham Education for pure Science College, University of Baghdad, Iraq

**Dr. Madhumita Dash**

Professor, Department of Electronics & Telecommunication, Orissa Engineering College, Bhubaneswar, Odisha, India

**Dr. Anita Sagadevan Ethiraj**

Associate Professor, Department of Centre for Nanotechnology Research (CNR), School of Electronics Engineering (Sense), Vellore Institute of Technology (VIT) University, Tamilnadu, India

**Dr. Sibasis Acharya**

Project Consultant, Department of Metallurgy & Mineral Processing, Midas Tech International, 30 Mukin Street, Jindalee-4074, Queensland, Australia

**Dr. Neelam Ruhil**

Professor, Department of Electronics & Computer Engineering, Dronacharya College of Engineering, Gurgaon, Haryana, India

**Dr. Faizullah Mahar**

Professor, Department of Electrical Engineering, Balochistan University of Engineering and Technology, Pakistan

**Dr. K. Selvaraju**

Head, PG & Research, Department of Physics, Kandaswami Kandars College (Govt. Aided), Velur (PO), Namakkal DT. Tamil Nadu, India

**Dr. M. K. Bhanarkar**

Associate Professor, Department of Electronics, Shivaji University, Kolhapur, Maharashtra, India

**Dr. Sanjay Hari Sawant**

Professor, Department of Mechanical Engineering, Dr. J. J. Magdum College of Engineering, Jaysingpur, India

**Dr. Arindam Ghosal**

Professor, Department of Mechanical Engineering, Dronacharya Group of Institutions, B-27, Part-III, Knowledge Park, Greater Noida, India

**Dr. M. Chithirai Pon Selvan**

Associate Professor, Department of Mechanical Engineering, School of Engineering & Information Technology Manipal University, Dubai, UAE

**Dr. S. Sambhu Prasad**

Professor & Principal, Department of Mechanical Engineering, Pragati College of Engineering, Andhra Pradesh, India.

**Dr. Muhammad Attique Khan Shahid**

Professor of Physics & Chairman, Department of Physics, Advisor (SAAP) at Government Post Graduate College of Science, Faisalabad.

**Dr. Kuldeep Pareta**

Professor & Head, Department of Remote Sensing/GIS & NRM, B-30 Kailash Colony, New Delhi 110 048, India

**Dr. Th. Kiranbala Devi**

Associate Professor, Department of Civil Engineering, Manipur Institute of Technology, Takyelpat, Imphal, Manipur, India

**Dr. Nirmala Mungamuru**

Associate Professor, Department of Computing, School of Engineering, Adama Science and Technology University, Ethiopia

**Dr. Srilalitha Giriya Kumari Sagi**

Associate Professor, Department of Management, Gandhi Institute of Technology and Management, India

**Dr. Vishnu Narayan Mishra**

Associate Professor, Department of Mathematics, Sardar Vallabhbhai National Institute of Technology, Ichchhanath Mahadev Dumas Road, Surat (Gujarat), India

**Dr. Yash Pal Singh**

Director/Principal, Somany (P.G.) Institute of Technology & Management, Garhi Bolni Road , Rewari Haryana, India.

**Dr. Sripada Rama Sree**

Vice Principal, Associate Professor, Department of Computer Science and Engineering, Aditya Engineering College, Surampalem, Andhra Pradesh. India.

**Dr. Rustom Mamlook**

Associate Professor, Department of Electrical and Computer Engineering, Dhofar University, Salalah, Oman. Middle East.

**Managing Editor**

**Mr. Jitendra Kumar Sen**

International Journal of Innovative Science and Modern Engineering (IJISME)

**Editorial Board**

**Dr. Saeed Balochian**

Associate Professor, Gonaabad Branch, Islamic Azad University, Gonabad, Iratan

**Dr. Mongey Ram**

Associate Professor, Department of Mathematics, Graphics Era University, Dehradun, India

**Dr. Arupratan Santra**

Sr. Project Manager, Infosys Technologies Ltd, Hyderabad (A.P.)-500005, India

**Dr. Ashish Jolly**

Dean, Department of Computer Applications, Guru Nanak Khalsa Institute & Management Studies, Yamuna Nagar (Haryana), India

**Dr. Israel Gonzalez Carrasco**

Associate Professor, Department of Computer Science, Universidad Carlos III de Madrid, Leganes, Madrid, Spain

**Dr. Guoxiang Liu**

Member of IEEE, University of North Dakota, Grand Forks, N.D., USA

**Dr. Khushali Menaria**

Associate Professor, Department of Bio-Informatics, Maulana Azad National Institute of Technology (MANIT), Bhopal (M.P.), India

**Dr. R. Sukumar**

Professor, Sethu Institute of Technology, Pulloor, Kariapatti, Virudhunagar, Tamilnadu, India

**Dr. Cherouat Abel**

Professor, University of Technology of Troyes, France

**Dr. Rinkle Aggrawal**

Associate Professor, Department of Computer Science and Engineering, Thapar University, Patiala (Punjab), India

**Dr. Parteek Bhatia**

Associate Professor, Department of Computer Science & Engineering, Thapar University, Patiala (Punjab), India

**Dr. Manish Srivastava**

Professor & Head, Computer Science and Engineering, Guru Ghasidas Central University, Bilaspur (C.G.), India

**Dr. B. P. Ladgaonkar**

Assoc. Professor&Head, Department of Electronics, Shankarrao Mohite Mahavidyalaya, Akuj, Maharashtra, India

**Dr. E. Mohan**

Professor & Head, Department of Computer Science and Engineering, Pallavan College of Engineering, Kanchipuram, Tamilnadu, India



**Dr. M. Shanmuga Priya**

Assoc. Professor, Department of Biotechnology, MVJ College of Engineering, Bangalore Karnataka, India

**Dr. Leena Jain**

Assoc. Professor & Head, Dept. of Computer Applications, Global Institute of Management & Emerging Technologies, Amritsar, India

**Dr. S.S.S.V Gopala Raju**

Professor, Department of Civil Engineering, GITAM School of Technology, GITAM, University, Hyderabad, Andhra Pradesh, India

**Dr. Ani Grubisic**

Department of Computer Science, Teslina 12, 21000 split, Croatia

**Dr. Ashish Paul**

Associate Professor, Department of Basic Sciences (Mathematics), Assam Don Bosco University, Guwahati, India

**Dr. Sivakumar Durairaj**

Professor, Department of Civil Engineering, Vel Tech High Tech Dr.Rangarajan Dr.Sakunthala Engineering College, Avadi, Chennai Tamil Nadu, India

**Dr. Rashmi Nigam**

Associate Professor, Department of Applied Mathematics, UTI, RGPV, Airport Road, Bhopal, (M.P.), India

**Dr. Mu-Song Chen**

Associate Professor, Department of Electrical Engineering, Da-Yeh University, Rd., Dacun, Changhua 51591, Taiwan R.O.C., Taiwan, Republic of China

**Dr. Ramesh S**

Associate Professor, Department of Electronics & Communication Engineering, Dr. Ambedkar Institute of Technology, Bangalore, India

**Dr. Nor Hayati Abdul Hamid**

Associate Professor, Department of Civil Engineering, Universiti Teknologi Mara, Selangor, Malaysia

**Dr. C.Nagarajan**

Professor & Head, Department of Electrical & Electronic Engineering Muthayammal Engineering College, Rasipuram, Tamilnadu, India

**Dr. Ilaria Cacciotti**

Department of Industrial Engineering, University of Rome Tor Vergata Via del Politecnico Rome-Italy

**Dr. V.Balaji**

Principal Cum Professor, Department of EEE &E&I, Lord Ayyappa Institute of Engg & Tech, Uthukadu, Walajabad, Kanchipuram, Tamil Nadu, India

**Dr. G. Anjan Babu**

Assoc. Professor, Department of Computer Science, S V University, Tirupati, Andhra Pradesh, India

**Dr. Damodar Reddy Edla**

Assoc. Professor, Department of Computer Science & Engineering, National Institute of Technology, Goa, India

**Dr. D.Arumuga Perumal**

Professor, Department of Mechanical Engg, Noorul Islam University, Kanyakumari (Dist), Tamilnadu, India

**Dr. Roshdy A. AbdelRassoul**

Professor, Department of Electronics and Communications Engineering, Arab Academy for Science and Technology, Electronics and Communications Engineering Dept., POBox 1029, Abu-Qir, Alexandria, Egypt

**Dr. Aniruddha Bhattacharya**

Assoc. Professor & Head, Department of Computer Science & Engineering, Amrita School of Engineering, Bangalore, India

**Dr. P Venkateswara Rao**

Professor, Department of Mechanical Engineering, KITS, Warangal, Andhra Pradesh, India

**Dr. V.Mahalakshmi M.L**

Assoc. Professor & Head, Institute of Management Studies, Chennai CID Quarters, V.K.Iyer Road, Mandaveli, Chennai

| S. No | <b>Volume-2 Issue-11, October 2014, ISSN: 2319-6386 (Online)</b><br><b>Published By: Blue Eyes Intelligence Engineering &amp; Sciences Publication Pvt. Ltd.</b>  |  | Page No. |
|-------|---|--|----------|
| 1.    | <b>Authors:</b>   | <b>S. Singaravelu, S. Seenivasan</b>   |          |
|       | <b>Paper Title:</b>   | <b>Simulation Study of a Monopole HVDC Transmission System Feeding a Very Weak AC Network with Firefly Algorithm Based Optimal PI Controller</b> |          |
|       | <p><b>Abstract:</b> This paper presents a simulation study of a line commutated converter (LCC) –monopole HVDC transmission system feeding a very weak AC network with firefly algorithm based optimal proportional integral (PI) controller for the rectifier and the inverter control and hybrid reactive power compensators (RPC's) at the inverter AC side. The hybrid compensator is an equal mix of fixed capacitor (FC) with any one of the following compensators: synchronous compensator (SC); static var compensator (SVC); static synchronous compensator (STATCOM). The HVDC transmission system model is simulated using Matlab. The transient performances of hybrid RPC's (FC+SC, FC+SVC and FC+STATCOM) are investigated during various fault conditions and the results are compared with the performance of the SC, SVC and STATCOM to focus the supremacy of the hybrid compensators. The simulation results confirm that the equal combination of FC and STATCOM has a steady and fastest response. The outcomes also demonstrate the superiority of the firefly algorithm based optimal PI controller over the conventional PI controller. The harmonic present in the inverter AC side is also observed under steady state operation to assure the quality of power supply.</p> <p><b>Keywords:</b> Firefly algorithm, Hybrid RPC's, Monopole HVDC, PI controller, Very weak AC system.</p> <p><b>References:</b></p> <ol style="list-style-type: none"> <li>Kamalapur, G. D., Sheelavant, V. R., Hyderabad, S., Pujar, A., "HVDC Transmission in India", IEEE Potentials, 2014, Vol. 33, no. 1, pp. 22-27.</li> <li>Gavrilovic, A., "AC/DC System Strength as Indicated by Short Circuit Ratios", IEEE International Conference on AC -DC Power Transmission, 1991, pp. 27-32.</li> <li>Rao, S., EHV-AC HVDC Transmission and Distribution Engineering, Khanna publishers, New Delhi, India., 2003.</li> <li>Nayak, O.B., Gole, A.N., "Dynamic Performance of Static and Synchronous Compensators at an HVDC Inverter Bus in a Very Weak AC System", IEEE Transactions on Power Delivery, 1994, Vol. 9, no. 3, pp. 1350-1358.</li> <li>Weindl, C., Herold, G., Retzmann, D., Cardona, H.A., Isaac, I.A., Lopez, G.J., "Feasibility of HVDC for Very Weak AC Systems with SCR below 1.5" IEEE International Conference on Power Electronics and Motion Control, 2006, pp. 1522-1527.</li> <li>Zhuang, Y., Menzies, R. W., "Dynamic Performance of a STATCON at the HVDC Inverter Feeding a Very Weak AC System", IEEE Transactions on Power Delivery, 1996, Vol. 11, no. 2, pp. 958-964.</li> <li>A. Routray, P. K. Dash, Sanjeev. K. Panda, "A Fuzzy Self-Tuning PI Controller for HVDC Links", IEEE Transactions on Power Electronics, 1996, Vol. 11, no. 5, pp. 699-679.</li> <li>Dash, P. K., Routary, A., Mishra, S., "A Neural Network based Feedback Linearising Controller for HVDC Links", Electrical Power Systems Research, 1999, Vol. 50, no. 2, pp. 125-132.</li> <li>Bawane, N., Kothari, A. G., Kothari, D. P., "ANFIS Based HVDC Control and Fault Identification of HVDC converter", HAIT Journal of Science and Engineering, 2005, Vol. 2, no. 5-6, pp. 673-689.</li> <li>X. Zhou, C. Chen, Fan Yang, M. Chen, "Optimization Design of Proportional-Integral Controllers in High-voltage DC System Based on an Improved Particle Swarm Optimization Algorithm", Electric Power Components and Systems, 2009, Vol. 37, no. 1, pp. 78-90.</li> <li>Singaravelu, S., Seenivasan, S., "Modelling and Simulation of Monopolar HVDC Transmission System Feeding a Strong AC Network with Firefly Algorithm based Optimal PI controller", International Journal of Computer Applications, 2014, Vol. 102, no. 10, pp. 13-19.</li> <li>Yang, X. S., Engineering Optimization: An Introduction to Metaheuristic Applications, Wiley, 2010.</li> <li>X. S. Yang, "Firefly Algorithms for Multimodal Optimization", Stochastic Algorithms: Foundations and Applications - Springer Berlin Heidelberg, 2009, Vol. 5792, pp. 169-178.</li> <li>Yang, X. S., He, X., "Firefly Algorithm: Recent Advances and Applications", International Journal of Swarm Intelligence, 2013, Vol. 1, pp. 36-50.</li> <li>Dufour, C., Mahseredjian, J., Belanger, J., "A Combined State-Space Nodal Method for the Simulation of Power System Transients", IEEE Transactions on Power Delivery, 2011, Vol. 26, no. 2, pp. 928-935.</li> </ol> |  | 1-9      |
| 2.    | <b>Authors:</b>   | <b>Essam M. Al-Krargy, Mohamed I. Doma, Gomaa M. Dawod</b>   |          |
|       | <b>Paper Title:</b>   | <b>Towards an Accurate Definition of the Local Geoid Model in Egypt using GPS/Leveling Data: A Case Study at Rosetta Zone</b>                    |          |
|       | <p><b>Abstract:</b> Nowadays the Global Positioning System (GPS) is one of the most favorite techniques in practical geodesy. A major dilemma in GPS surveying lies in its ellipsoidal-based type of heights, while in engineering practice orthometric heights are usually utilized. Thus, it is important to convert GPS heights into orthometric heights through applying an accurate geoid model. The objectives of this paper are to model a local geoid in the study area using GPS/levelling technique, and to evaluate the performance of several Global Geopotential Models (GGMs) particularly the OUS-91A, EGM96 and EGM2008 in the study area, which is located in the northern Egypt at Rosetta zone area. The accomplished results show that the EGM 2008 represents the most precise global geopotential model to be used for geoid determination in Egypt. Furthermore, the achievable accuracy of local geoid determination in the study area after using regression method models is ranges between 0.059 meter to -0.083 meter, with an average -0.01 meter and standard deviation of <math>\pm 0.05</math> meter. It is concluded that increasing the number of control points with well spatial distribution will result in developing a precise geoid model for Egypt.</p> <p><b>Keywords:</b> Global Geopotential Models (GGMs), Global Positioning System (GPS), Local geoid. Orthometric height.</p>   |  | 10-15    |

|                     |   |                 |  |                     |   |       |
|---------------------|---|-----------------|--|---------------------|---|-------|
|                     | <p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Al-Ghamdi K., and Dawod G. (2013) Accuracy assessment of global geopotential models for GIS and geomatics applications in Makkah metropolitan area, The Eighth National GIS Symposium in Saudi Arabia, April 2013, pp. 1-13.</li> <li>2. Catalao J. C., and Sevila M. J.(1999) Comparison between EGM96 and FCUL96B tailored geopotential model for the north-east Atlantic, Bollettino di Geofisica Teorica ed Applicata, Vol. 40, No. 3-4, Sep.-Dec.1999, pp. 255-259</li> <li>3. El-Hallaq M. (2012) Development of a local GPS/leveling geoid model for the Gaza strip area, International Journal of Emerging Technology and Advanced Engineering, ISSN 2250-2459, Volume 2, Issue 3, March 2012, pp. 268-273</li> <li>4. Erol B., and Çelik R.(2004) Precise local geoid determination to make GPS technique more effective in practical applications of geodesy, FIG Working Week, Athens, Greece, May 22-27.</li> <li>5. Dawod, G., Mohamed, H., and Ismail, S. (2010) Evaluation and adaptation of the EGM2008 geopotential model along the northern Nile valley, Egypt: A case study, Journal of Surveying Engineering, Vol. 136, No. 1, February 2010, pp. 36-40.</li> <li>6. Golden Software Surfer Win-XP Software 'Help menus'</li> <li>7. Hong-Sic Yun (1999) Precision geoid determination by spherical FFT in and around the Korean peninsula , Earth Planets and Space, Volume 51, issue 1, pp.13-18.</li> <li>8. IECGM (2014), available: <a href="http://icgem.gfz Potsdam.de/ICGEM/ICGEM.html">http://icgem.gfz Potsdam.de/ICGEM/ICGEM.html</a>, accessed Sept. 2014.</li> <li>9. Kaloop M., Rabah M. and EL-Shmbaky H. (2008) High Accurate Local Geoid in Egypt, FIG Working Week, Stockholm, Sweden 14-19 June.</li> <li>10. Pavlis, N.K., Holmes S.A., Kenyon S.C., and Factor J.K.,(2008) Earth Gravitational Model to degree 2160: EGM2008, European Geosciences Union general assembly, Vienna, Austria, April 2008, pp.13-18.</li> <li>11. Pavlis, N.K., Holmes S.A., Kenyon S.C., and Factor J.K., (2012) The development and evaluation of the Earth Gravitational Model 2008 (EGM2008), Journal of Geophysical Research: Solid Earth (1978-2012), April, Volume 117 Issue B4.</li> <li>12. Rabah M. and Kaloop M. (2013) The use of minimum curvature surface technique in geoid computation processing of Egypt, Arabian Journal of Geosciences, April, Volume 6, Issue 4, pp. 1263-1272.</li> <li>13. Saad A., and Dawod G. (2002) A Precise integrated GPS/gravity geoid model for Egypt, Civil Engineering Research Magazine (CERM), Al-Azhar University, Volume 24, No. 1, pp.391-405.</li> <li>14. Schut G.H. ( 1976) Review of Interpolation Methods for Digital Terrain Models, The Canadian Surveyor, December, Volume 30, No.5</li> <li>15. Yanalak M. (1991) Digital terrain models and interpolation methods. Master thesis, Yıldız Technical University, Civil Engineering Faculty Geodesy and Photogrammetry Engineering.</li> </ol>  |                 |  |                     |   |       |
| 3.                  | <table border="1"> <tr> <td><b>Authors:</b></td> <td><b>Ankush Sharma</b></td> </tr> <tr> <td><b>Paper Title:</b></td> <td><b>Review Paper on Applications of D-Statcom in Distribution System</b></td> </tr> </table> <p><b>Abstract:</b> In recent years the power quality problems is a big issue in distribution system. There are different types of problems in power quality. These problems are power factor, reactive power compensation and harmonic distortion. Different types of FACT devices like as SVC, STATCOM, IPC, DVR, UPFC, TCSC, TCPST and DSTATCOM can be used to solve these types of problems. But now a days D-STATCOM is using to mitigate these problems of power quality. It is a custom power device which is installed in parallel with distribution system. Regarding problems of power quality, these devices are used but for getting better response, D-STATCOM is used. There are various techniques and also control techniques are available for implement these problems. These techniques are PWM, SPWM, SVPWM, PDPWM (modulation techniques) and other techniques are Phase Shift Control, d-q theory, Synchronous Reference Frame (SRF) model etc. And with reference frame model using PI controller the DSTATCOM can be controlled. In this paper the applications of DSTATCOM are discussed. DSTATCOM can be used in distribution system, wind power, solar power generation and also used with fuzzy system. The simulation of test model was carried out with the help of SIMULINK &amp; MATLAB software.</p> <p><b>Keywords:</b> SVC, STATCOM, IPC, DVR, UPFC, TCSC, FACT, TCPST, DSTATCOM, SIMULINK, MATLAB.</p> <p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Bhattacharya Sourabh, "Applications of DSTATCOM Using MATLAB/Simulation in Power System", Research Journal of Recent Sciences, Vol. 1(ISC-2011), 430-433 (2012).</li> <li>2. Kiran Kumar Pinapatruni and Krishna Mohan L, "DQ based Control of DSTATCOM for Power Quality Improvement", VSRD-IJEECE, Vol. 2 (5), 2012, 207-227.</li> <li>3. R.Vinotha and Mrs.Poongodi.K.K, "Power Quality Improvement Using D-Statcom", International Journal Of Innovative Research &amp; Development, Vol 2 Issue 4, April 2013, ISSN: 2278 - 0211 (Online).</li> <li>4. B. Singh, A. Adya, A.P. Mittal, J.R.P. Gupta and B.N. Singh, Application of DSTATCOM for Mitigation of Voltage Sag for Motor Loads in Isolated Distribution Systems Industrial Electronics, 2006 IEEE International Symposium on Digital Object Identifier, 10.1109/ISIE.2006.295846, 3, 1806 - 1811 (2006).</li> <li>5. T.Vijay Muni, N.Sambasiva Rao, K.Venkata Kishore, "VSC Based D-STATCOM in Transmission Lines for Power Quality Improvement", National Conference on Electrical Sciences – 2012 (NCES-2012), ISBN: 978-93-81583-72-2.</li> <li>6. S Ramana Kumar Joga, M. Praveen, B.Durga Prasad, "A power quality Improvement of Mitigating Neutral current for VSC Based DSTATCOM Using TIES", International Journal of Engineering Research and Applications, Vol. 2, Issue 1,Jan-Feb 2012, pp.579-585.</li> <li>7. M. K. Mishra, A. Ghosh and A. Joshi, "Operation of a DSTATCOM in voltage control mode", IEEE Transactions on Power Delivery, vol. 18, no. 1, 2003.</li> </ol> | <b>Authors:</b> | <b>Ankush Sharma</b>   | <b>Paper Title:</b> | <b>Review Paper on Applications of D-Statcom in Distribution System</b> | 16-18 |
| <b>Authors:</b>     | <b>Ankush Sharma</b>  |                 |  |                     |   |       |
| <b>Paper Title:</b> | <b>Review Paper on Applications of D-Statcom in Distribution System</b>   |                 |  |                     |   |       |
| 4.                  | <table border="1"> <tr> <td><b>Authors:</b></td> <td><b>Vipin Venugopal, Haritha Chandrasekhar, Krishna Nilayangode</b></td> </tr> <tr> <td><b>Paper Title:</b></td> <td><b>Password Protected Vehicle Access System</b></td> </tr> </table> <p><b>Abstract:</b> Password Protected Vehicle Access System aims to provide keyless access to vehicles along with enhanced security features. In this system, the key used to lock/unlock the vehicle is replaced by a password. High security is provided by an alarm system which is triggered when number of incorrect entries exceed the set limit. Additional security measures include a GSM Module which alerts the owner through SMS n case of a theft attempt. The system based on PIC16F877A microcontroller also incorporates a built in digital speedometer.</p>  | <b>Authors:</b> | <b>Vipin Venugopal, Haritha Chandrasekhar, Krishna Nilayangode</b> | <b>Paper Title:</b> | <b>Password Protected Vehicle Access System</b>                         | 19-21 |
| <b>Authors:</b>     | <b>Vipin Venugopal, Haritha Chandrasekhar, Krishna Nilayangode</b>  |                 |  |                     |   |       |
| <b>Paper Title:</b> | <b>Password Protected Vehicle Access System</b>   |                 |  |                     |   |       |

|                     |   |                 |  |                     |   |       |
|---------------------|---|-----------------|--|---------------------|---|-------|
|                     | <p><b>Keywords:</b> Access control, Embedded System, GSM.</p> <p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Mohammed Ali Mazidi, PIC Microcontroller And Embedded Systems: Using Assembly and C for PIC18, Pearson Education, 2009 edition.</li> <li>2. Boylestad &amp; Nashlky, Electronic Devices and Circuits, Pearson Education, 9th edition.</li> <li>3. <a href="http://www.engineersgarage.com">http://www.engineersgarage.com</a></li> <li>4. <a href="http://www.electronicshobby.com/electronicshobby.com/lab">http://www.electronicshobby.com/electronicshobby.com/lab</a></li> <li>5. <a href="http://www.microchip.com">http://www.microchip.com</a></li> <li>6. <a href="http://www.circuitsToday.com">http://www.circuitsToday.com</a></li> <li>7. <a href="http://www.touchscreens.com">http://www.touchscreens.com</a></li> <li>8. <a href="http://www.elotouch.com">http://www.elotouch.com</a></li> </ol>  |                 |  |                     |   |       |
| 5.                  | <table border="1"> <tr> <td><b>Authors:</b></td> <td><b>Gaurav Gupta, Harsh Kapil, V. H. Patil</b></td> </tr> <tr> <td><b>Paper Title:</b></td> <td><b>Radar based Missile Navigation</b></td> </tr> </table> <p><b>Abstract:</b> In today's world enemy's warfare is an important factor in any nation's security. The national security mainly depends on Army (ground), Navy (sea), Air Force (air). The important and vital role is played by the army's artillery such as scud missile, bo - force guns etc. The main objective is to send the coordinates of the target to the gun. There are 2 types of coordinates that we are sending. One is the longitude and latitude of the missile and secondly the X &amp; Y coordinates of missile. In our project we have come up with an idea of detecting the incoming buggy whether it is enemy or friendly with the help of higher encryption and decryption routine using some wireless protocol.</p> <p><b>Keywords:</b> Microprocessor LPC2138, RC4 algorithm, RS232, MAX232, Regulator LM317, ultrasonic sensors.</p> <p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Mantin, A. Shamir, "A Practical Attack on Broadcast RC4," Fast Software Encryption 2001 (M. Matsui, ed.), vol. 2355 of LNCS, pp. 152-164, Springer-Verlag, 2001</li> <li>2. S. Fluhrer, I. Mantin, A. Shamir, "Weaknesses in the Key Scheduling Algorithm of RC4," SAC 2001 (S. Vaudenay, A. Youssef, eds.), vol. 2259 of LNCS, pp. I-24, Springer-Verlag, 2001. 247</li> <li>3. G. Paul, S. Maitra, "RC4 State Information at Any Stage Reveals the Secret Key", In Proceedings of SAC 2007, <a href="http://eprintiacr.org/2007/208.pdf">http://eprintiacr.org/2007/208.pdf</a>, 2007.</li> <li>4. A Klein, Attacks on the RC4 Stream Cipher, <a href="http://cage.ugent.be/~klein/RC4IRC4-en">http://cage.ugent.be/~klein/RC4IRC4-en</a>.</li> <li>5. Mironov, I.: (Not So) Random Shuffles of RC4. In: Yung, M. (ed.) CRYPTO 2002. LNCS, vol. 2442, pp. 304-319. Springer, 2002.</li> <li>6. Ruxue Bai, Hongyan Liu, and Xinhe Zhang, "AES and its software implementation based on ARM920T," Journal of Computer Applications, Vol. 31 No. 5, May 2011, pp. 1295-1301.</li> <li>7. Shaonan Han, and Xiaojiang Li, "Compatible AES-128, AES-192, AES-256 Serial AES Encryption and Decryption Circuit Design," Microelectronics &amp; Computer, Vol. 27 No. 11, Nov 2010, pp. 40-50.</li> <li>8. Shaonan Han, and Xiaojiang Li, "Compatible AES-128, AES-192, AES-256 Serial AES Encryption and Decryption Circuit Design," Microelectronics &amp; Computer, Vol. 27 No. 11, Nov 2010, pp. 40-50.</li> <li>9. US patent 3617859, Robert C. Dobkin &amp; Robert J. Widlar, "ELECTRICAL REGULATOR APPARATUS INCLUDING A ZERO TEMPERATURE COEFFICIENT VOLTAGE REFERENCE CIRCUIT", issued 1971-11-02, assigned to National Semiconductor Corporation.</li> <li>10. Louis Nashelsky, Robert L. Boylestad (1997). Electronic Devices and Circuit Theory 6 Edition, p. 822. Prentice-Hall, India. ISBN 8120311760.</li> </ol>   | <b>Authors:</b> | <b>Gaurav Gupta, Harsh Kapil, V. H. Patil</b>            | <b>Paper Title:</b> | <b>Radar based Missile Navigation</b>   | 22-25 |
| <b>Authors:</b>     | <b>Gaurav Gupta, Harsh Kapil, V. H. Patil</b>   |                 |  |                     |   |       |
| <b>Paper Title:</b> | <b>Radar based Missile Navigation</b>   |                 |  |                     |   |       |
| 6.                  | <table border="1"> <tr> <td><b>Authors:</b></td> <td><b>ASM Delowar Hossain, Zory Marantz, Djafar Mynbaev</b></td> </tr> <tr> <td><b>Paper Title:</b></td> <td><b>Current Electronics Curriculum at Two-Year Engineering-Technology Programs: Academic Preparation vs. Industry Expectations</b></td> </tr> </table> <p><b>Abstract:</b> It is a challenge to teach electronics in career-oriented two-year programs due to the practical knowledge that must be taught within a limited amount of time. The challenge stems from the balance that must be achieved between theory and practice. There is a huge gap between the fundamentals of electronics that we are still teaching in traditional electronics courses and the real-world electronics used for building modern devices and gadgets. This survey investigates whether it is possible to teach modern electronics for modern industry, particularly in two-year programs. In an attempt to find a solution, various sources are investigated in academia, industry, and professional societies. The goal is to begin a productive discourse to find a solution to this dilemma.</p> <p><b>Keywords:</b> Curriculum Development, Modern Engineering Education, Pedagogy.</p> <p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. John Robertson et al., "The Technology World Is Changing Rapidly – Can Higher Education Match the Pace?", Proceedings of 2008 ASEE Annual Conference, June 22-25, 2008, Pittsburgh, Pennsylvania.</li> <li>2. Vivek Wadhwa. (2012, June) Forbes. [Online]. <a href="http://www.forbes.com/sites/singularity/2012/06/25/most-innovative-decade-in-history/">http://www.forbes.com/sites/singularity/2012/06/25/most-innovative-decade-in-history/</a></li> <li>3. A. Tavares et al., "Industry trends, learner needs," in Global Engineering Education Conference (EDUCON), 2012 IEEE, 2012, pp. 1-8.</li> <li>4. Joseph J. DeFrance, General Electronics Circuits. New York: Holt, Rinehart, and Winston, 1976.</li> <li>5. Robert L. Boylestad, Introductory Circuit Analysis: Prentice Hall, 2010.</li> <li>6. Electronics Tutorial about Bipolar Junction Transistors, <a href="http://www.electronics-tutorials.ws/transistor/tran_1.html">http://www.electronics-tutorials.ws/transistor/tran_1.html</a></li> <li>7. Texas Instruments, <a href="http://www.ti.com/">http://www.ti.com/</a></li> <li>8. Electronics Tutorial about Junction Field Effect Transistors, <a href="http://www.electronics-tutorials.ws/transistor/tran_5.html">http://www.electronics-tutorials.ws/transistor/tran_5.html</a></li> <li>9. Introduction to FinFET, <a href="http://ziyang.eecs.umich.edu/~dickrp/eecs312/student-presentations/finfets.pdf">http://ziyang.eecs.umich.edu/~dickrp/eecs312/student-presentations/finfets.pdf</a>.</li> <li>10. Ciena, <a href="http://www.ciena.com">http://www.ciena.com</a></li> <li>11. Electronics Technician [Online] <a href="http://jobview.monster.com/Electronics-Technician-Job-Stafford-VA-125045760.aspx">http://jobview.monster.com/Electronics-Technician-Job-Stafford-VA-125045760.aspx</a></li> </ol> | <b>Authors:</b> | <b>ASM Delowar Hossain, Zory Marantz, Djafar Mynbaev</b> | <b>Paper Title:</b> | <b>Current Electronics Curriculum at Two-Year Engineering-Technology Programs: Academic Preparation vs. Industry Expectations</b> | 26-30 |
| <b>Authors:</b>     | <b>ASM Delowar Hossain, Zory Marantz, Djafar Mynbaev</b>  |                 |  |                     |   |       |
| <b>Paper Title:</b> | <b>Current Electronics Curriculum at Two-Year Engineering-Technology Programs: Academic Preparation vs. Industry Expectations</b>   |                 |  |                     |   |       |

|                     |  |                     |   |  |
|---------------------|--|---------------------|---|--|
|                     | <p>12. Jobs@Agilent, <a href="http://jobs.agilent.com/">http://jobs.agilent.com/</a></p> <p>13. VZCareers, <a href="http://www22.verizon.com/jobs/">www22.verizon.com/jobs/</a></p> <p>14. Microsoft.com – Careers, <a href="https://careers.microsoft.com/">https://careers.microsoft.com/</a></p> <p>15. Motorola Solutions Careers, <a href="http://careers.motorolasolutions.com/moto.cfm?page=search_jobs">http://careers.motorolasolutions.com/moto.cfm?page=search_jobs</a></p> <p>16. GE Jobs, <a href="http://jobs.gecareers.com/">http://jobs.gecareers.com/</a></p> <p>17. Con Edison: Careers, <a href="http://apps.coned.com/careers/careers/list.asp?category=Skilled+Trades#20053926">http://apps.coned.com/careers/careers/list.asp?category=Skilled+Trades#20053926</a></p> <p>18. Cisco – Featured Jobs, <a href="http://www.cisco.com/web/about/ac40/about_cisco_careers_featured_job.html">http://www.cisco.com/web/about/ac40/about_cisco_careers_featured_job.html</a></p> <p>19. Koo, S, " Teaching Computer Communication Networks: Top-down or Bottom-up? ", <i>Frontiers in Education</i>, 35th Annual Conference, 2005.</p> <p>20. <a href="http://www.abet.org/uploadedFiles/Accreditation/Accreditation_Step_by_Step/Accreditation_Documents/Current/2013_-_2014/etac-criteria-2013-2014.pdf">http://www.abet.org/uploadedFiles/Accreditation/Accreditation_Step_by_Step/Accreditation_Documents/Current/2013_-_2014/etac-criteria-2013-2014.pdf</a></p> <p>21. T.J. Cortina et al., "Work in progress: ACTIVATE: Advancing computing and technology interest and innovation through teacher education," in <i>Frontiers in Education Conference (FIE)</i>, 2012, 2012, pp. 1-2.</p> <p>22. P. Hylton, W. Otoupal-Hylton, W. Campbell, and D. Williams, "Science Bound: A success story for STEM Education," in <i>Frontiers in Education Conference (FIE)</i>, 2012, 2012, pp. 1-5.</p> <p>23. Inmaculada Plaza, Raul Igual, Carlos Medrano, and Marian Angeles Rubio, "From companies to universities: Application of R&amp;D&amp;I concepts in higher education teaching," <i>IEEE Transactions on Education</i>, pp. 308 - 315, 2013.</p>   |                     |   |  |
|                     | <table border="1"> <tr> <td><b>Authors:</b></td> <td><b>S. Arun, K. Vinoth Kumar, R. Adharsh</b></td> </tr> </table>  | <b>Authors:</b>     | <b>S. Arun, K. Vinoth Kumar, R. Adharsh</b>   |  |
| <b>Authors:</b>     | <b>S. Arun, K. Vinoth Kumar, R. Adharsh</b>  |                     |   |  |
|                     | <table border="1"> <tr> <td><b>Paper Title:</b></td> <td><b>Experimental and Comparison Studies on Drying Characteristics of Grapes in a Solar Tunnel Greenhouse Dryer and in the Open Sun Drying Method</b></td> </tr> </table>  | <b>Paper Title:</b> | <b>Experimental and Comparison Studies on Drying Characteristics of Grapes in a Solar Tunnel Greenhouse Dryer and in the Open Sun Drying Method</b>         |  |
| <b>Paper Title:</b> | <b>Experimental and Comparison Studies on Drying Characteristics of Grapes in a Solar Tunnel Greenhouse Dryer and in the Open Sun Drying Method</b>  |                     |   |  |
| 7.                  | <p><b>Abstract:</b> A natural convection solar tunnel greenhouse dryer was designed and developed in Pollachi region of Tamil Nadu (India) for studying and comparing the drying characteristics of grapes with the open sun drying method during the month of April, 2014. About 30 kgs of grapes were loaded into the dryer and it was repeated for three trails. The drying time and product quality were the main drying parameters which are taken into account. The grapes which has an initial moisture content of 80% was reduced to 10% in solar tunnel greenhouse dryer over a time period of 55 hours whereas the grapes dried in the open sun drying method took 149 hours for the reducing the moisture content of the grapes to the same level. The high temperature and low relative humidity inside the solar tunnel greenhouse dryer helps the dryer to dry the grapes at an earlier time than the open sun method. Also, the greenhouse effect is responsible for the high temperature and low relative humidity inside the dryer that prevents fungal and bacterial infections, damage by birds and animals, etc. which ensures the production of superior quality of grapes in the dryer than in the open sun drying method.</p> <p><b>Keywords:</b> Drying time, grapes, moisture content, open sun drying, product quality, solar tunnel greenhouse dryer.</p> <p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. K. S. Jairaj, S. P. Singh, K. Srikant, "A review of solar dryers developed for grape drying", <i>Solar Energy</i>, 2009, vol. 83 (9), pp. 1698-1712.</li> <li>2. Mahmutoglu Teslime, Ferhunde Emir, Y. Birol Saygi, "Sun/solar drying of differently treated grapes and storage stability of dried grapes", <i>Journal of Food Engineering</i>, 1996, vol. 29 (3-4), pp. 289-300.</li> <li>3. Garima Narang, J. P. Pandey, "Optimization of Osmotic Dehydration Process of Grapes Using Response Surface Methodology", <i>Focusing on Modern Food Industry</i>, 2013, vol. 2(2), pp. 78-85.</li> <li>4. H. Hamdy, El-Ghetany, "Experimental investigation and empirical correlations of thin layer drying characteristics of seedless grapes", <i>Energy Conversion and Management</i>, 2006, vol. 47, pp. 1610-1620.</li> <li>5. N. S. Rathore, N. L. Panwar, "Experimental studies on hemi cylindrical walk-in type solar dryer for grape drying", <i>Applied Energy</i>, 2010, vol. 87, pp. 2764-2767.</li> <li>6. L. M. Diamante, P. A. Munro, "Mathematical modeling of the thin layer solar drying of sweet potato slices", <i>Solar Energy</i>, 1993, vol. 51, pp. 271-276.</li> <li>7. S. Azzouz, A. Guizani, W. Jomaa, A. Belghith, "Moisture diffusivity and drying kinetic equation of convective drying of grapes", <i>Journal of Food Engineering</i>, 2002, vol. 55, pp. 323-330.</li> <li>8. V. T. Karathanos, V. G. Belessiotis, "Sun and Artificial air drying kinetics of some agricultural products", <i>Journal of Food Engineering</i>, 1997, vol. 31, pp. 35-46.</li> <li>9. Yaldiz Osman, Can Ertekin, H. Ibrahim Uzun, "Mathematical modeling of thin layer solar drying of sultana grapes", <i>Energy</i>, 2001, vol. 26, pp. 457-465.</li> <li>10. Garima Narang, J. P. Pandey, "Optimization of Osmotic Dehydration Process of Grapes Using Response Surface Methodology", <i>Focusing on Modern Food Industry</i>, 2013, vol. 2(2), pp. 78-85.</li> <li>11. Mohsen Esmaili, Rahmat Sotudeh-Gharebagh, Mohammad A.E. Mousavi, Ghader Rezazadeh, "Influence of dipping on thin-layer drying characteristics of seedless grapes", <i>Biosystems Engineering</i>, 2007, vol. 98, pp. 411-421.</li> <li>12. A. O. Dissa, D. J. Bathiebo, H. Desmorieux, O. Coulibaly, and J. Kouliadiati, "Experimental characterization and modelling of thin layer direct solar drying of Amelie and Brooks mangoes", <i>Energy</i>, 2011, vol. 36(5), pp. 2517-2527.</li> <li>13. R. P. F. Guin'e, D. M. S. Ferreira, M. J. Barroca, and F. M. Goncalves, "Study of the drying kinetics of solar-dried pears", <i>Biosystems Engineering</i>, 2007, vol. 98(4), pp. 422-429.</li> <li>14. M. Aktas, I. Ceylan, and S. Yilmaz, "Determination of drying characteristics of apples in a heat pump and solar dryer", <i>Desalination</i>, 2009, vol. 238, pp. 266-275.</li> <li>15. A. O. Dissa, J. Bathiebo, S. Kam, P. W. Savadogo, H. Desmorieux, and J. Kouliadiati, "Modelling and experimental validation of thin layer indirect solar drying of mango slices", <i>Renewable Energy</i>, 2009, vol. 34(4), pp. 1000-1008.</li> </ol> | 31-35               |   |  |
|                     | <table border="1"> <tr> <td><b>Authors:</b></td> <td><b>S. Arun, K. Vinoth Kumar, P. Kumaran</b></td> </tr> </table>  | <b>Authors:</b>     | <b>S. Arun, K. Vinoth Kumar, P. Kumaran</b>   |  |
| <b>Authors:</b>     | <b>S. Arun, K. Vinoth Kumar, P. Kumaran</b>  |                     |   |  |
|                     | <table border="1"> <tr> <td><b>Paper Title:</b></td> <td><b>Experimental and Comparison Studies on Drying Characteristics of Green Chillies in a Solar Tunnel Greenhouse Dryer and in the Open Sun Drying Method</b></td> </tr> </table>  | <b>Paper Title:</b> | <b>Experimental and Comparison Studies on Drying Characteristics of Green Chillies in a Solar Tunnel Greenhouse Dryer and in the Open Sun Drying Method</b> |  |
| <b>Paper Title:</b> | <b>Experimental and Comparison Studies on Drying Characteristics of Green Chillies in a Solar Tunnel Greenhouse Dryer and in the Open Sun Drying Method</b>  |                     |   |  |
|                     | <p><b>Abstract:</b> A natural convection solar tunnel dryer was designed and developed for carrying out the experimental and comparison studies on drying characteristics of green chillies in Negamam region of Pollachi, Tamil Nadu (India) during the month of April, 2014. About 50 kgs of green chillies were carried out in the dryer and is repeated for three trails. The drying parameters such as product quality and drying time were taken into account for finding the best suitable method of drying of products. The solar tunnel greenhouse dryer dried the green chillies which has an initial moisture content of 88.5% to</p>   |                     |   |  |

|                     |   |                 |  |                     |  |       |
|---------------------|---|-----------------|--|---------------------|--|-------|
| 8.                  | <p>a final moisture content of 7.4% over a time period of 55 hours whereas the open sun drying method took 125 hours for the same. Also the quality of green chillies obtained from the solar tunnel greenhouse dryer was found to be of superior quality to that of open sun dried green chillies.</p> <p><b>Keywords:</b> Drying time, green chillies, moisture content, open sun drying, product quality, solar tunnel greenhouse dryer.</p> <p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. S. R. Desai, Vijaykumar and T. Guruswamy, "Multi rack solar dryer for fig drying. In :Proc. of All India Seminar on Advances in Agricultural Mechanization organized by Institutions of Engineers (I) in association with KAEA, Bangalore from 27 – 28 December, 2002, pp: 161-168.</li> <li>2. A. O. Dissa, J. Bathiebo, S. Kam, P. W. Savadogo, H. Desmorieux, and J. Kouliadiati, "Modelling and experimental validation of thin layer indirect solar drying of mango slices", <i>Renewable Energy</i>, 2009, vol. 34(4), pp. 1000–1008.</li> <li>3. M. Aktas., I. Ceylan, and S. Yilmaz, "Determination of drying characteristics of apples in a heat pump and solar dryer", <i>Desalination</i>, 2009, vol. 238, pp. 266–275.</li> <li>4. R. P. F. Guin'e, D. M. S. Ferreira, M. J. Barroca, and F. M. Goncalves, "Study of the drying kinetics of solar-dried pears", <i>Biosystems Engineering</i>, 2007, vol. 98(4), pp. 422–429.</li> <li>5. A. O. Dissa, D. J. Bathiebo, H. Desmorieux, O. Coulibaly, and J. Kouliadiati, "Experimental characterization and modelling of thin layer direct solar drying of Amelie and Brooks mangoes", <i>Energy</i>, 2011, vol. 36(5), pp. 2517–2527.</li> <li>6. B. M. A. Amer, M. A. Hossain, and K. Gottschalk, "Design and performance evaluation of a new hybrid solar dryer for banana", <i>Energy Conversion and Management</i>, 2010, vol. 51(4), pp. 813-820.</li> <li>7. S. Desai, V. Palled, and M. Anantachar, "Performance evaluation of farm solar dryer for chilly drying", <i>Karnataka Journal of Agricultural Sciences</i>, 2009, vol. 22(2), pp. 382–384.</li> <li>8. S. Mangaraj, A. Singh, D. V. K. Samuel, O. P. Singhal, "Comparative performance evaluation of different drying methods for Chillies". <i>Journal of Food Science and Technology</i>, 2001, vol. 38 (3), 296–299.</li> <li>9. M. A. Hossain, J. L. Woods , B. K. Bala, "Thin layer drying of Thai red chilli" , <i>ADC</i> 333-335.</li> <li>10. B. K. Bala, M. R. A. Mondol, B. K. Biswas, B. L. Das Chowdury, &amp; S. Janjai, " Solar drying of pineapple using solar tunnel drier", <i>Renewable Energy</i>, 2003, vol. 28, pp.183-190.</li> <li>11. T. Y. Tunde-Akintunde, "Mathematical modeling of sun and solar drying of chilli pepper", <i>Renewable Energy</i>, 2011, vol. 36 (8), pp. 2139–2145.</li> <li>12. J. Kaewkiew, S. Nabneaan, and S. Janjai, "Experimental investigation of the performance of a large-scale greenhouse type solar dryer for drying chilli in Thailand", <i>Procedia Engineering</i>, 2012, vol. 32, pp. 433–439.</li> <li>13. M. A. Hossain and B. K. Bala, "Drying of hot chilli using solar tunnel drier", 2007, <i>Solar Energy</i>, vol. 81 (1), pp. 85-92.</li> </ol>   | 36-40           |  |                     |  |       |
| 9.                  | <table border="1"> <tr> <td><b>Authors:</b></td> <td><b>S. Arun, K. Velmurugan, K. Vinoth Kumar</b></td> </tr> <tr> <td><b>Paper Title:</b></td> <td><b>Optimization and Comparison Studies of Solar Tunnel Greenhouse Dryer Coupled with and without Biomass Backup Heater</b></td> </tr> </table> <p><b>Abstract:</b> A natural convection solar tunnel greenhouse dryer coupled with biomass heater was designed and developed in Nallampalli region of Pollachi, Tamil Nadu (India) and also a natural convection solar tunnel greenhouse dryer without biomass heater (existing dryer) was designed and developed in Negamam region of Pollachi, Tamil Nadu (India) for the comparison and optimization of the existing solar tunnel greenhouse dryer by conducting a drying test in both the dryers with coconut as the drying product during the month of March, 2014. About 5000 coconuts were loaded into those two respective dryers and it was repeated for three trails. The mass of fuel added to the biomass heater was about 7.5kg/hr. The biomass heater was ignited when there is a fall in sunshine (after 5PM) in order to maintain the temperature inside the dryer. The drying parameters (product quality and drying time) were also taken into account for the optimization of the existing dryer. The solar tunnel dryer coupled with the biomass heater dried the coconuts which has an initial moisture content of 53.84% to a final moisture content of 7.003% over a time period of 44 hours whereas the solar tunnel greenhouse dryer without the biomass heater took 56 hours for reducing the moisture content to the same level. The drying time of the coconuts in the solar tunnel greenhouse dryer coupled with the biomass heater was less than that of the solar tunnel greenhouse dryer without the biomass heater which is due to the effect of biomass heater that supplied sufficient heat to the dryer so that the temperature inside the dryer would be increasing steadily even at night time. Also the quality of the coconuts obtained from the solar tunnel greenhouse dryer coupled with biomass heater was found to be superior to that of the coconuts obtained from the solar tunnel greenhouse dryer without the biomass heater which is due to the high temperature and low relative humidity prevailed all the time inside the dryer irrespective of fall in sunshine.</p> <p><b>Keywords:</b> Biomass backup heater, coconuts, drying time, moisture content, open sun drying, product quality, relative humidity, solar tunnel greenhouse dryer, temperature.</p> <p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. D. Jain, G. N. Tiwari, "Effect of greenhouse on crop drying under natural forced convection. II. Thermal modeling and experimental validation. <i>Energy Conversion and Management</i>, 2004, (45), pp. 2777–2793.</li> <li>2. D. Jain, G. N. Tiwari, "Effect of greenhouse on crop drying under natural forced convection. I. Evaluation of convective mass transfer coefficient, <i>Energy Conversion and Management</i>, 2004, (45), pp. 765-783.</li> <li>3. A. Ayensu &amp; V. Asiedu-Boudzie , "Solar drying with convective self-flow and energy storage", <i>Solar &amp; Wind Technology</i>, 1986, (3), pp. 273-279</li> <li>4. M. Mohanraj and P.Chandrasekar, "Comparison of drying characteristics and quality of copra obtained in a forced convection solar drier and sun drying", <i>Journal of Scientific and Industrial Research</i>, 2008, vol. 67, pp.381-385.</li> <li>5. M. Condori, R. Echazu, &amp; L. Saravia, "Solar drying of sweet pepper and garlic using the tunnel greenhouse drier", <i>Renewable Energy</i>, 2001, vol. 22, pp. 447-460.</li> <li>6. D. S. Sogi, U.S. Shivhare, S.K. Garg, &amp; A.S. Bawa, "Water sorption isotherm and drying characteristic of tomato seeds", <i>Biosystems Engineering</i>, 2003, vol. 84, pp. 297-301.</li> <li>7. C. Tiris, N. Özbalta, M. Tiris, &amp; I. Dinçer, "Experimental testing of a new solar dryer", <i>International Journal of Energy</i></li> </ol> | <b>Authors:</b> | <b>S. Arun, K. Velmurugan, K. Vinoth Kumar</b> | <b>Paper Title:</b> | <b>Optimization and Comparison Studies of Solar Tunnel Greenhouse Dryer Coupled with and without Biomass Backup Heater</b> | 41-47 |
| <b>Authors:</b>     | <b>S. Arun, K. Velmurugan, K. Vinoth Kumar</b>  |                 |  |                     |  |       |
| <b>Paper Title:</b> | <b>Optimization and Comparison Studies of Solar Tunnel Greenhouse Dryer Coupled with and without Biomass Backup Heater</b>  |                 |  |                     |  |       |

|     |   |       |
|-----|---|-------|
|     | <p>Research, 1994, vol. 18, pp. 483-490.</p> <p>8. A. Gungor &amp; N. Ozbalta, "Design of a greenhouse for solar drying of sultana grapes and experimental investigation on it", International Conference on Thermal Engineering and Thermogrammetry (THERMO), 18-20 June 2003, Budapest, Hungary.</p> <p>9. Y. M. Gallali, Y. S. Abujnah, &amp; F. K. Bannani, "Preservation of fruits and vegetables using solar dryer: a comparative study of natural and solar drying, III; chemical analysis and sensory evaluation data of the dried samples (grapes, figs, tomatoes and onions)", Renewable Energy, 2000, vol. 19, pp. 203-212.</p> <p>10. I. Doymaz, &amp; M. Pala, "Hot-air drying characteristics of red pepper", Journal of Food Engineering, 2002, vol. 55(4), pp. 331-335.</p>   |       |
|     | <p><b>Authors:</b> Anoop Mathew, Joseph Kuncheria, Yadukrishnan S, Gifty Raju, Haritha Chandrasekhar</p> <p><b>Paper Title:</b> Car Black Box</p>   |       |
| 10. | <p><b>Abstract:</b> Black box refers to collection of several different recording devices used in transportation: the flight recorders (flight data recorder and cockpit voice recorder) in aircraft, the event recorder in railway diesel locomotives, the event data recorder in automobiles and the voyage data recorder in ships. Car black box is an Event Data Recorder. When two cars collide, the sensor detects an accident and stores information regarding the car's speed, whether the seatbelts are fastened, the status of indicators and headlights and whether the driver hit the brakes before a collision. The number plate of the nearby vehicle is extracted from the captured images when accident was detected and the data is stored.</p> <p><b>Keywords:</b> Black box, devices, Data Recorder, collide, collision.</p> <p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Varsha Goud, V.Padmaja, Department of ECE, VNR VJIET, Hyderabad, AP, INDIA," Vehicle Accident Automatic Detection and Remote Alarm Device", International Journal of Reconfigurable and Embedded Systems (IJRES) Vol. 1, No. 2, July 2012, pp. 49~54 ISSN: 2089-4864 _ 49 Journal homepage: <a href="http://iaesjournal.com/online/index.php/IJRES">http://iaesjournal.com/online/index.php/IJRES</a></li> <li>2. Deepak Punetha, Vartika Mehta Electronics Engineering Dept. PEC University of Technology Chandigarh, India "Design and Realization of the Accelerometer based Transportation System", International Journal of Computer Applications (0975 – 8887) Volume 49– No.15, July 2012 17</li> <li>3. Jason Kridner, Co-founder of BeagleBoard.org and open-source developer advocate, Software architecture manager, Sitara™ ARM® processors Gerald Coley, Co-founder of BeagleBoard.org, Hardware applications engineer, Sitara ARM processors Texas Instruments,"BeagleBone Black opensource Linux™ computer unleashes innovation"</li> <li>4. P. Ajay Kumar Reddy , P.Dileep Kumar , K. Bhaskar reddy, E.Venkataramana , M.Chandra sekhar Reddy, "BLACK BOX FOR VEHICLES"International Journal of Engineering Inventions ISSN: 2278-7461, <a href="http://www.ijejournal.com">www.ijejournal.com</a> Volume 1, Issue 7(October2012) PP: 06-12 ISSN: 2278-7461 <a href="http://www.ijejournal.com">www.ijejournal.com</a> P a g e   6</li> </ol> | 48-51 |