Dr. KAMALA J

Associate professor, Department of Electronics and Communication Engineering

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Present Position

Associate professor, Department of Electronics and Communication Engineering, College of Engineering Guindy, Anna University, Chennai from February-2005.

Present Additional Responsibility

➤ Robotics cub Treasurer, College of Engineering Guindy, Anna University, Chennai from July-2013.

Previous Additional Responsibility

➤ Programme Officer, , Anna University, Chennai during September-2014 and May-2018.

➤ Nri Concillor, Department of Electronics and Communication Engineering, Anna University, Chennai during September-2013 and September-2015.

Other Employment

➤ GRADUATE TRAINEE, VSSC, ISRO for 1 year.

➤ LECTURER, Dr. NNCE, THOLUDUR for 7.6 years.

Degree

❖ M.E. in VLSI SYSTEM, REGIONAL ENGINEERIGN COLLEGE TRICHY, BHARATHIDHASAN UNIVERISTY (2000 - 2001).

❖ B.E. in ELECTRONICS AND COMMUNICATION ENGG , ALAGAPPA CHETTIAR COLLEGE OF ENGINEERING AND TECHNOLOGY, KARAIKUDI, 4 YEARS (1985 - 1989).

Research Degree

❖ Ph.D. in VLSI IMPLIMENTATION from Faculty of INFORMATION AND COMMUNICATION ENGG., COLLEGE OF ENGINEERING GUINDY, ANNA UNIVERSITY (2006 - 2011).
Title: IEEE 1451.0 ENABLED SMART CONTROL ARCHITECTURES AND THEIR APPLICATION TO DC-DC CONVERTERS.

Area of Specialisation

- VLSI, CONTROL SYSTEMS, SOLAR ENERGY

Membership in Professional Organization

- ISTE
- IEEE

Research Guidance

Number of Ph.D Scholars Guided	: 1
Number of Ph.D Scholars Guiding	: 7
Number of M.E./ M.Tech. Projects Guided	: 46
Number of M.E./ M.Tech. Projects Guiding	: 4

Papers Published in Journals

Research Papers Published in International Journals	: 17
Research Papers Published in National Journals	: 0

1. Kamala, J. and Umamaheswari, B, " IEEE 1451.0-2007 compatible smart sensor readout with error compensation using FPGA", International Journal of Sensors and Transducers, published by International Frequency Sensor Association Publis. Vol. 102, Issue 3, pp. 10-21 (2009).

2. Kamala, J. and Umamaheswari, B, "IEEE 1451.0 standard based smart readout for multi-rate control of system", Sensors and Actuators: A Physical Journal, published by Elsevier Publishers. Vol. 154, pp. 169-174 (2009).

3. Vignesh Kumar, R. and Kamala, J, "High Accuracy Fixed Width Multipliers Using Modified Booth Algorithm", Procedia Engineering, published by Elsevier Publishers. Vol. 38, pp. 2491 - 2498 (2012).

4. Kamala, J and Umamaheswari, B, "Application Specific Integrated Transducer Interface Module - Control Architecture for DC-DC Converters", International Journal of Electrical, Electronics and Computer Engineering, Vol. 1, Issue 2, pp. 1-5 (2012).

5. Krishna K.R. and Kamala. J, "Design Of Grid-Connected Photovoltaic Inverter Digital Control Module", International Journal of Innovative Research and Development, Vol. 2, Issue 5, pp. 69-87 (2013).

6. Kamala. J and Alex Joseph, "Solar Tracking for Maximum and Economic Energy Harvesting", International Journal of Engineering and Technology, Vol. 5, Issue 6, pp. 5030-5037 (2014).

7. Kamala J, Janarthanan V, and Santhosh K, "Power MOSFET based Photo-Voltaic Battery Charger Analysis and Implementation", INTERNATIONAL JOURNAL OF CIRCUITS, SYSTEMS AND SIGNAL PROCESSING, published by -. Vol. 9, pp. 33-39 (2015).

8. Kamala J and Santhosh K, "Efficient Energy Management System for Solar Energy", AUTOMATIKA, Journal for Control, Measurements, Electronics, Computing and Communications, Vol. 56, Issue 3, pp. 292-302 (2015).

9. Ranjitha A and Kamala J, "Design of Combinational Logic Circuits using Gate Diffusion Input (GDI) Techniques", Internatinal Journal of VLSI system, Design and Communication System, published by -. Vol. 4, Issue 3, pp. 214-217 (2016).

10. Kamala J and Umamaheswari B, " Reconfigurable smart controller and interface architecture for Photo-voltaic Energy Storage System", Computer Standards and Interfaces, published by Elsevier. Vol. 46, pp. 37-45 (2016).

11. Ranjani Aruna and Kamala J, "Modified GDI based Time to Digital Converter", International Journal of Systems Applications, Engineering & Development, published by -. Vol. 11, pp. 216-219 (2017).

12. Kanthimathi, R., Kamala, J., Jaibalaganesh, T. and Vasuhi, S, "Hardware design implementation issues of the estimator based controller using FPGA", International Journal of Electronics, published by Taylor and Francis. pp. 1-17 (2019).

13. J. Kamala, B. Umamaheswari, and T. Jaibalaganesh, "Efficient Digital System Management using IEEE 1451.0 Enabled Control Architecture", Defence Science Journal, published by DRDO. Vol. 69, Issue 3, pp. 254-258 (2019).

14. C. R. S. Hanuman, J. Kamala & A. R. Aruna, "Implementation of multi-precision floating point divider for high speed signal processing applications", The Journal of Supercomputing, published by Springer. Vol. 75, Issue 9, pp. 6038-6054 (2019).

15. C. R. S. Hanuman, J. Kamala & A. R. Aruna, "Implementation of high precision/low latency FP Divider using Urdhva-Tiryakbhyam Multiplier for SoC Applications", Design Automation for Embedded systems, published by Springer. pp. - (2019).

16. R Kanthimathi and J Kamala, "LYAPUNOV BASED OBSERVER DESIGN FOR FLYBACK CONVERTER", Journal of Electrical Engineering, published by Editura Politehnica. Vol. 19, Issue 4, pp. 1-11 (2019).

17. 16. Kanthimathi Raman, Kamala Jeyaraman, Saad Mekhilef and Lincy Grace Alexande, "Design and stability analysis of interleaved flyback converter control using Lyapunov direct method with FPGA implementation", Electrical Engineering, published by Springer. pp. 1-15 (2020).

Papers Presented in Programmes

Research Papers Presented in International Programmes   : 17
Research Papers Presented in National Programmes   : 3

1. on National level Conference on Modern Aspects in Wireless Communication MASWIC – 2K4 , India .

2. "Spread Specturm in wireless LANs" presented in a National level conference on National Conference on Wireless Networks, India .

3. J.Kamala and B.Umamaheswari, "Smart readout for sensors using FPGA" presented in a National level conference on National Conference on Advances in Sensors for Aerospace Applications, Sensors, organised by DRDO, INDIA .

4. 2. Umamaheswari, B and Kamala, J, "IEEE 1451.0 Enabled Control Architecture for DC-DC Converter System" presented in a International level conference on International Conference on Computer Applications and Industrial Electronics ICCAIE-2010, MALAYSIA from 05-Dec-2010 to 07-Dec-2010.

5. KAMALA J, "Economic and Backlash Tolerable Solar Tracking System" presented in a International level conference on International Multi-Conference on Automation, Computing, Communication, Control and Compressed Sensing (iMac4s), INDIA from 22-Mar-2013 to 23-Mar-2013.

6. Alex Joseph and Kamala J, "PV Array Characteristic Analysis Under Partial Shading & Modeling of P&O MPPT Applied Boost Convertor Using Matlab/Simulink" presented in a International level conference on International Conference on Energy Efficient Technologies for Sustainablility , organised by St. Joseph College of Engg. Nagercoil , India from 10-Apr-2013 to 12-Apr-2013.

7. "PV Array Characteristics Analysis Under Partial Shading & Modeling of P&O MPPT Applied Boost Convertor Using Matlab/Simulink" presented in a International level conference on International Conference on Energy Efficient Technologies for Sustainablility (ICEETS), INDIA from 10-Apr-2013 to 12-Apr-2013.

8. Umamaheswari, B and Kamala, J, "Transducer Interface Module for Smart Control of DC/DC Converter System" presented in a International level conference on World Congress on Engineering and Computer , San Francisco, USA from 24-Oct-2013 to 25-Oct-2013.

9. Kamala J, Janarthanan V, and Santhosh K, "Performance Measure of Switching Device (MOSFET) in Photo-voltaic System" presented in a International level conference on International Conference on Circuits, Systems, Communications and Computers (CSCC 2014), organised by Technical University of Sofia, Bulgaria , Santorini Island, Greece from 17-Jul-2014 to 21-Jul-2014.

10. Sivapalanirajan M, Kamala J , Umamaheswari B, "Power System Design and Parameter Monitoring for 2U Cubesat" presented in a International level conference on International Conference on Science Engineering and Management Research, India from 27-Nov-2014 to 29-Nov-2014.

11. Kamala J and Tamilarasi A, "Characterization of PV Cells with Varying Weather Parameters to Achieve Maximum Power" presented in a International level conference on IEEE 2nd International Conference on Electronics and Communication Systems (ICECS),, India from 26-Feb-2015 to 27-Feb-2015.

12. Kamala J and Aishwarya K, "Centralized Architecture to improve the efficiency of PV street lighting system" presented in a International level conference on IEEE 2nd International Conference on Electronics and Communication Systems (ICECS),, India from 26-Feb-2015 to 27-Feb-2015.

13. Kamala J and Ashvini JV, "Stability Analysis of Boost Converter Connected to a Photovoltaic Source" presented in a International level conference on IEEE 2nd International Conference on Electronics and Communication Systems (ICECS),, India from 26-Feb-2015 to 27-Feb-2015.

14. "FPGA Implementation of MPPT Based Controller for Multi-levelConverter" presented in a International level conference on 2nd International Conference on Next Generation Computing and Communication Technologies 2015, organised by Zelus International, Dubai, UAE from 22-Apr-2015 to 23-Apr-2015.

15. "Analysis of different Flyback Converter Topologies" presented in a International level conference on International Conference on Industrial Instrumentation and Control (ICIC), organised by Col/ege o/Engineering Pune, India from 28-May-2015 to 30-May-2015.

16. "Analysis and Simulation of Flying Capacitor Multilevel Inverter Using PDPWM Strategy" presented in a International level conference on IEEE International Conference on Innovative Mechanisms for Industry Applications (ICIMIA 2017), organised by -, India from 21-Feb-2016 to 23-Feb-2017.

17. Kamala J and Jaibalaganesh T, "Modeling of Crystalline a Study the Performance Against Temperature a Shading Effect" presented in a International level conference on International Conference on Contemporary Topics in Power Engineering and Aiding Technologies (ICCPEAT 2017), India from 24-Feb-2017 to 25-Feb-2017.

18. C R S Hanuman and Kamala J, "Implementation of High Performance Floating Point Divider using Pipelined Architecture on FPGA" presented in a International level conference on 6th international conference on FICTA, organised by Kalinga Institute of Industrial Technology, Buvaneshwar, India from 14-Oct-2017 to 15-Oct-2017.

19. Kamala J, Jaibalaganesh T, Vasuhi S and Kathimathi R, "Smart Control of Photo-Voltaic System with Priority based load scheduling" presented in a International level conference on International Conference on Innovative Engineering Technologies (ICIET 2018), organised by International Institute of Engineers & Researchers, India from 09-Jul-2018 to 10-Jul-2018.

20. "Hardware Implementation of 24-bit Vedic Multiplier in 32-bit Floating-Point Divider" presented in a International level conference on International Conference on Electrical, Electronics and System Engineering (ICEESE), organised by University Tecnology Mara, Kualampur, Malaysia from 08-Nov-2018 to 09-Nov-2018.

Current Sponsored Projects

1. "POWER SYSTEM FOR ANUSAT II".. Project Cost: 1300000.00.

Sponsored Projects Completed

1. "Integrated power module for solar power" (February-2011 - February-2012). Project Cost: 50000.00.

2. "IEEE 1451.0 Compatible Grid Enabled Inverter - Design and Control" (May-2012 - May-2013). Project Cost: 100000.00.

3. "Feasibility Study on Mobile Electric Hybrid Power System (MEPHS)" (July-2016 - July-2017). Project Cost: 1766912.00.

Programme Organized

1. Co-ordinator, National level Short Course on "FDTP on EE2253 & EE2255 Control Systems" from 26-Nov-2012 to 03-Dec-2012.

2. Co-ordinator, National level Short Course on "FDTP on EC6304 Electronic Circuits" from 23-Jun-2014 to 29-Jun-2014.

3. Co-ordinator, National level workshop on "Basics of Solar PV Systems and Components" from 03-Jun-2016 to 04-Jun-2016.

4. Co-ordinator, National level workshop on "workshop on Field Programmable Analog Array" from 10-Mar-2017 to 11-Mar-2017.

5. Co-ordinator, International level Short Course on "FDTP on Induction Program for Universal Human Values" from 18-Jun-2018 to 29-Jun-2018.

6. Organizer, National level workshop on "FDTP on Universal Human Values - Level 0" from 13-May-2019 to 15-May-2019.

7. Organizer, National level workshop on "FDTP on Universal Human Values - Level 1" from 10-Jun-2019 to 16-Jun-2019.

Honours

1. "Excellent Paper Award " given by International Institute of Engineers and Researchers from India (2018).

Experience Abroad

1. Visited Kualalampur, Malaysia from 05-Dec-2010 to 07-Dec-2010. Purpose of visit :Paper Presentation.

2. Visited Santorini Islands, Greece from 17-Jul-2014 to 21-Jul-2014. Purpose of visit :Paper Presentation.

3. Dubai from 22-Apr-2015 to 23-Apr-2015. Purpose of visit :Paper Presentation.

4. Visited Amsterdam, The Netherlands from 09-Jul-2018 to 10-Jul-2018. Purpose of visit :Paper Presentation.

Invited Lectures

1. Delivered a Lecture on "Low Power VLSI Design" in International Conference on Smart Structures and Systems - ICSSS2018 organized by Saveetha Engineering College, Chennai (16-Oct-2018).

2. Delivered a Lecture on "Reinforcement Learning Algorithms Implementation using FPGA for Transmission Power Control of Wireless Sensors" in International Digital Conference on Challenges of Emerging Technologies (IDCET 2020) organized by Faculty of Engineering & Technology, Linton Univer, Mantin, Malaysia. (14-Feb-2020).