

Dr. S.KANTHALAKSHMI

Professor

Department of Electrical &
Electronics Engineering

PSG College of Technology,
Coimbatore – 641 004

e-mail: skl@eee.psgtech.ac.in



EDUCATION

DOCTORATE

(February 2013)

Fault Tolerant Control,
Faculty of Electrical Engineering
Anna University.

POSTGRADUATE

(February 2004)

Applied Electronics
PSG College of Technology
Bharathiar University

UNDERGRADUATE

(April 1998)

Electrical and Electronics Engineering
Sri Ramakrishna Engineering College
Madras University

EXPERIENCE

DESIGNATION	ORGANISATION	PERIOD OF EMPLOYMENT			
		FROM	TO	Years	Months
Professor	PSG College of Technology	June 2016	Till date	-	10
Associate Professor	PSG College of Technology	June 2013	May 2016	3	0

Assistant Professor (SG)	PSG College of Technology	Oct. 2010	May 2013	2	8
Senior Lecturer	PSG College of Technology	June 2009	Sep. 2010	1	4
Senior Lecturer	Avinashilingam University for Women	Feb. 2001	June 2009	8	3
Lecturer	Karunya Institute of Technology	Aug 1999	Feb. 2001	1	6
Programmer	Logic Version Computer Corporation	June 1998	June 1999	1	-

COURSES HANDLED

UNDERGRADUATE

- Course 1: Electric Circuits
- Course 2: Electronic Devices
- Course 3: Electronic Circuits
- Course 4: DC Machines and Transformers
- Course 5: Synchronous and Induction Machines
- Course 6: Digital Electronics
- Course 7: Microprocessors and Microcontrollers
- Course 8: VLSI Design
- Course 9: Control Systems

POSTGRADUATE

- Course 1: Linear System Theory and Design
- Course 2: VLSI Design
- Course 3: Nonlinear Control
- Course 4: Adaptive Control Systems

RESEARCH AREAS

- Fault Diagnosis and Fault Tolerant Control
- Renewable Energy Systems
- Industrial Drives and Control
- VLSI Design

PUBLICATIONS

INTERNATIONAL JOURNALS

1. S.Kanthalakshmi and V.Manikandan, "A Scheme for Simultaneous Actuator And System Fault Detection", International Journal of Advanced Engineering and Technology, vol. 1(13), pp. 160 – 174, 2010.
2. S.Kanthalakshmi and V.Manikandan, "Genetic Algorithm based self-tuning regulator", International Journal of Engineering Science and Technology, vol.2(12), pp. 7289 – 7298, 2010.
3. S.Kanthalakshmi and V.Manikandan, "Fault Tolerant Control using Proportional Integral Derivative tuned by Genetic Algorithm", Journal of Computer Science, vol. 7(8), pp. 1187 – 1193, 2011.
4. S.Kanthalakshmi and V.Manikandan, "Youla Parameterisation Based Fault Tolerant Control", European Journal of Scientific Research, vol.69, no.4, pp. 494-503, 2012.
5. M.Raghapriya, S.Kanthalakshmi and V.Manikandan, "Diagnosis of Faults Using IMM Estimator", ARPN Journal of Engineering and Applied Sciences, vol. 7, no. 12, pp. 780 – 786, 2012.
6. A. Minupriya, S.Kanthalakshmi and V.Manikandan, "Fault Diagnosis and Accommodation of LTI systems by modified Youla parameterization", International Journal of Electronics and Computer Science Engineering, vol. 1, no. 3, pp. 1772 – 1780, 2012.
7. S.Kanthalakshmi, C.Vivekandan, A.Kavithamani, V.Manikandan, "Design and Implementation of Robust Digital Redesigned Controller to Balance an Inverted Pendulum", International Journal of Emerging Science and Engineering System, vol. 1, issue 9, pp. 66 – 69, 2013.
8. Reenu George, S. Kanthalakshmi, Manoj G, "Sensorless Position Control of Stepper Motor using Extended Kalman Filter", International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering, vol. 3, issue 2, pp. 7486-7492, February 2014.
9. Reenu George, S. Kanthalakshmi, Manoj G, "Design and Implementation of PWM Stepper Motor Control Based On 32 Bit Arm Cortex Processor", International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering, vol. 3, issue 7, pp. 10617-10622, July 2014.

10. S.Kanthalakshmi, Deepana Gandhi and V.Manikandan, "Spacecraft Attitude Control using Control Moment Gyro Reconfiguration", *Studies in Informatics and Control*, vol.23, no.3, pp. 285-295, 2014.
11. Kanthalakshmi Srinivasan , Latha Ramasamy , Kanagaraj Jeganathan, "Design of Power System Stabilizer using Fuzzy based Sliding Mode Control Technique", *Australian Journal of Basic and Applied Sciences*, vol. 8, no. 18, pp. 90-99, December 2014.
12. S.Kanthalakshmi, M.Raghapriya and R.Latha, "Fault Tolerant Control with Acceptable Performance Degradation", *ARPN Journal of Engineering and Applied Sciences*, vol. 10, no. 2, pp. 908 – 914, 2015.
13. J.Karthika, V.Subbiah and S.Kanthalakshmi, " Robust Distributed Generation and Storage Unit based on Co-operative Control for a DC Microgrid", *Australian Journal of Basic and Applied Sciences*, vol. 9, no. 33, pp. 56- 63, October 2015.
14. M.P. Anbarasi and S. Kanthalakshmi, "Peak Power Tracking Using Revised Variable Step Size Incremental Conductance Method". *Asian Journal of Information Technology*, vol.15, pp. 1175-1182, 2016.
15. M.P. Anbarasi and S. Kanthalakshmi, "Takagi-Sugeno fuzzy approach for power optimization in standalone photovoltaic systems", *Solar Energy*, vol. 139, pp. 213-220, 2016.
16. M.P. Anbarasi and S. Kanthalakshmi, "Linear quadratic optimal control of solar photovoltaic system: An experimental validation", *Journal of Renewable and Sustainable Energy*, vol. 8, pp. 053502-1 - 053502-14, 2016.
17. D.Jayaprasanth and S.Kanthalakshmi, "Nonlinear state estimation of Van der Pol oscillator using particle filter with unscented Kalman filter as proposal", *Journal of Electrical Engineering*, nol. 16, no. 4, pp. 1-14, 2016.
18. D.Jayaprasanth and S.Kanthalakshmi, "Improved state estimation for stochastic nonlinear chemical reactor using particle filter based on unscented transformation", *Control Engineering and Applied Informatics*, vol. 18, no. 4, pp. 36-44, 2016.
19. J.Kathika, V.Subbian and S.Kanthalakshmi, "High Performance Supervisor Controller with Multimode Operation of a Hybrid System for Multi Grid Applications" , *Middle-East Journal of Scientific Research*, vol. 25., no. 2, pp. 296-303, 2017.
20. A.S.Wincy Pon Annal and S.Kanthalakshmi, "An adaptive PID Control Algorithm for Nonlinear Process with Uncertain Dynamics", *International Journal of Automation and Control*, vol.11, no. 3, pp. 262-274, 2017.
21. Karthick Shanmugam, Kanthalakshmi Srinivasan, Manochitra Mohanraj, "STS-PSO based LQR Applied to Servo Control of SIMO System", *Journal of Electrical Engineering*, vol. 17, no. 1, pp. 163-166, 2017.

NATIONAL JOURNALS

1. P.Sreekanth and S.Kanthalakshmi, "Genetic Algorithm based Optimal Adaptive Control", National Journal of Technology, vol. 6, no. 4, pp. 117 – 122, 2010.
2. S.Kanthalakshmi, R.Latha and V.Manikandan, "Hybrid Fault Tolerant Control Design for LPV System", National Journal of Technology, vol. 10, no. 3, pp. 18 – 22, 2014.
3. Raghuram T.R. and S.Kanthalakshmi, "Modelling ISFET for pH Sensing", National Journal of Technology, vol. 11, no. 4, pp. 63-66, 2015.
4. D.Jayaprasanth and S.Kanthalakshmi, "Performance Evaluation of Sampling Importance Resampling Particle Filter for State Estimation of Chemical Process", National Journal of Technology, vol. 12, no. 2, pp. 69-78, 2016.
5. Surya Soman, S.Kanthalakshmi, "Design of Adaptive Integral Sliding Mode Controller for 2DoF Helicopter model", National Journal of Technology, vol. 12, no. 3, pp. 43-49, 2016.

INTERNATIONAL CONFERENCES

1. Kanthalakshmi, S. and Prasannavadana.D. " Spring Scheduling Coprocessor ", International Conference on Emerging Adaptive Systems and Technologies, Noorul Islam College Of Engineering, Nagercoil, December 2005
2. Kanthalakshmi, S. and Prasannavadana.D., " Digital Beam former using FPGA ", International Conference on Emerging Adaptive Systems and Technologies, Noorul Islam College Of Engineering, Nagercoil, December 2005.
3. Kanthalakshmi, S., Latha.J. and Prasannavadana.D., "Scheduling Algorithm for Leakage Power Control in Real Time System ", International Conference on Advances in Electronics and Communications, National Engineering College, Kovilpatti, February 2007
4. Kanthalakshmi, S. and Manikandan, V. "A comparative Evaluation of Digital Redesign Techniques for LTI systems", International Conference on Applications of Operations Research in Engineering and Management, Anna University, Tiruchirapalli, May 2009.
5. Kanthalakshmi, S. and Manikandan, V. "Fault Tolerant Control Design for Simultaneous Actuator and Sensor Faults Using Multiple MPCs", IEEE Conference on Process Automation, Control & Computing 2011, Coimbatore Institute of Technology, Coimbatore, July 20-22, 2011.
6. Kanthalakshmi, S., Manikandan, V., Ramakrishnan, K. and Devarajan, N. "Fault Tolerant Control Design for Simultaneous Actuator and Sensor Faults Using Multiple MPCs", IEEE – TENCON 2011, Bali, Indonesia, November 22-24, 2011.

7. Deepiga Ravi, Sandya.S, Dharani.A.S, Kanthalakshmi.S, “Secure Energy Management System using Embedded Fuzzy Controller”, IEEE CONFERENCE ON Computing, Communication and Networking Technologies, Vivekanandha College of Engineering for Women, Tiruchengode, July 4 – 6, 2013.
8. Raghuram.T.R, Kanthalakshmi.S, “Modelling ISFET for PH Sensing”, International Conference on “Control, Calibration and Testing”, PSG College of Technology, Coimbatore, 13 – 14 February 2015.

NATIONAL CONFERENCES

1. Prasannavadana.D. and Kanthalakshmi, S., “Automatic Vehicle Location System”, National Conference on SACOFERENCE, Dr. Sivanthi Aditanar College Of Engineering, Tiruchandhur, August 2005.
2. Latha.J., Kanthalakshmi, S. and Prasannavadana.D., “Accelerated Image Half_Tonning Using Genetic Algorithm”, National Conference on Issues and Trends in Advanced Computing, Bannari Amman Institute Of Technology, Satyamangalam, May 2006.
3. Latha.J., Geetha.B. and Kanthalakshmi, S., “Empowerment Of Women”, XVI ISTE Annual Convention and National Seminar, Bannari Amman Institute Of Technology, Satyamangalam, December 2006
4. Kanthalakshmi, S., Latha.J. and Prasannavadana.D., “Remote Starter With Keyless Entry”, National Conference on Factory Automation, Robotics and Soft Computing, National Institute of Technology, Warangal, January 2007
5. Reshma.K., Priyadarshini.V., Priti.D., Deepthi.E. and Kanthalakshmi, S., “Iris Recognition For Security In Voting Machine”, National Conference on Trends in Instrumentation, System Design & Automation, Karunya University, Coimbatore, April 2007.
6. Minupriya.A and Kanthalakshmi.S., “Fault Detection and Isolation using GIMC Structure” Conference on Control , Instrumentation and Automation, PSG College of Technology, Coimbatore, April 2012
7. Raghapriya.M. and Kanthalakshmi.S., “Detection and Diagnosis of Faults using IMM Estimator”, Conference on Control , Instrumentation and Automation, PSG College of Technology, Coimbatore, April 2012.
8. Deepana Gandhi and Kanthalakshmi.S., “Model based Fault Diagnosis for a system using Learning and Sliding mode Approaches”, Conference on Systems, Control and Automation, PSG College of Technology, Coimbatore, April 2013.
9. Reenu George, S. Kanthalakshmi, “Sensorless Position Control of Stepper Motor using Extended Kalman Filter”, National conference on “Control, Computing and Automation”, PSG College of Technology, Coimbatore January 2014.

SEMINARS / CONFERENCES ORGANISED

1. International Conference on Modern Trends in Instrumentation and Control during 3-4 September 2011.
2. Workshop on Implementation Aspects of Control Algorithms for Embedded Systems during 12 – 13 October 2012.
3. TEQIP II Sponsored National Conference on Control, Computing and Automation during 24 – 25 January 2014.
3. Faculty Development Programme on Soft Computing Techniques for Applications in Electrical Sciences during 7 – 8 November 2014
4. International Conference on Control, Calibration and Testing during 13 -14 February 2015.
5. TEQIP II Sponsored Staff Development Programme on “Exposure to Virtual Instruments” during 29-30 July 2016
6. TEQIP II Sponsored Student workshop on LabVIEW for Control Applications during 12-13 August 2016.
7. TEQIP II Sponsored Awareness workshop on ISO/IEC 17025 – Standards Requirement for Laboratory Management System on 8th October 2016.
8. Workshop on Machine Vision using LabVIEW during 18-19 February 2017.

SEMINARS / CONFERENCES ATTENDED

PROGRAMME	HELD AT	DURATION
National Workshop on "System Identification and Control Design"	PSG College of Technology, Coimbatore	2 days 22 – 23 April 2010
National workshop on “Writing up of Ph.D. Thesis”	PSG College of Technology, Coimbatore	2 days 4 – 5 September 2010
Workshop on “ MATLAB Programming”	Madras Institute of Technology, Chennai	3 days 22 – 24 October 2010
Workshop on “Question Paper Setting”	PSG College of Technology, Coimbatore	2 days 7 - 8 January 2011
Preconference workshop on "Trends in Process Automation, Control and Computing"	Coimbatore Institute of Technology, Coimbatore	1 day 19.07.2011
IEEE Conference on “Process Automation, Control and Computing”	Coimbatore Institute of Technology, Coimbatore	2 days 20-22 July 2011
IEEE-TENCON 2011	Bali, Indonesia	4 days 22-25 Nov. 2011
Workshop on “Working Style”	PSG College of Technology, Coimbatore	1 day 20.01.2012
TEQIP sponsored faculty development programme on “Research Opportunities in Contemporary Issues of Engineering”	Government College of Technology, Coimbatore	7 days 24 th -30 th August 2012
TEQIP sponsored Management	PSG College of Technology,	2 days

Capacity Enhancement Programme on “Timeless Leadership”	Coimbatore	19 th - 20 th September 2013
TEQIP sponsored Two day workshop on “Nanofabrication Technologies - 2013”	INUP, IIT Bombay & PSG Institute of Advanced Studies, Coimbatore	2 days 24 th & 25 th October 2013
TEQIP sponsored faculty development programme on “Research Challenges and Emerging Trends in Control Engineering”	Department of I&CE, PSG College of Technology, Coimbatore	7 days 15 th to 21 st November 2013
Four days TEQIP II sponsored “Laboratory Quality Management System & Internal Audit as per ISO 17025:2005”	Electronics Test and Development Center, Hyderabad.	4 days 15 th to 18 th April 2014
Two week ISTE workshop on “Control Systems” conducted by IIT Kharagpur under National Mission on Education through ICT (MHRD, Govt. of India) during 2-12 December, 2014.	IIT Kharagpur under National Mission on Education through ICT (MHRD, Govt. of India)	11 days 02 nd to 12 th December 2014
One day workshop on “Design and Hardware Implementation of Control Systems using MATLAB and Simulink”	PSG College of Technology, Coimbatore	1 day 29 th August 2015
Workshop on “Education Technology”	PSG Centre for Academic and Research Excellence, Coimbatore	1 day 4 th December 2015
AICTE Sponsored One Week Short Term Course on “Modelling and Simulation of Non-Linear Electrical Systems”	Coimbatore Institute of Technology, Coimbatore	7 days 15 th to 21 st February 2016
TEQIP II sponsored two day research workshop on “System Identification”	PSG College of Technology, Coimbatore	2 days 27-28 Aug. 2016
Workshop on “Effective use of Moodle – A Learning Management System”	PSG Centre for Academic and Research Excellence, Coimbatore	1 day 14 th December 2016
TEQIP II sponsored two day workshop on “Outcome Based Education”	PSG College of Technology, Coimbatore	2 days 19 - 20 January 2017

SPECIAL LECTURES DELIVERED

- Delivered lecture at Knowledge park for Engineering and Technology on “Neural Networks” on 22.01.2011.
- Delivered lecture at Sri Ramakrishna Institute of Technology on “Advanced Control Techniques” on 15.05.2013 as a part of AICTE Sponsored Faculty Development

Programme on Advanced Control Strategies and applications.

- Delivered lecture at Sri Ramakrishna Engineering College on “Research Avenues in Control Engineering” on 3-12-2015

PATENT APPLIED

- Filed a patent on STACKING AND COUNTING UNIT FOR PACKAGING MACHINERY" at Indian Patent Office. Patent application number: 201641034758

MEMBERSHIP OF PROFESSIONAL BODIES

Life Member of ISTE (LM 29072)

Life Member of Institution of Engineers (M 1403340)

Life Member of Systems Society of India (LM23028)

DOCTORAL GUIDANCE / SUPERVISION

Number of Ph.D under progress: 11