Dr. D.KALPANA
Assistant Professor, Department of Instrumentation Engineering

Cellphone : 8939951025

e-Mail ID : kalpanaspec@gmail.com

Address : B-6, MIT STAFF QUARTERS, MIT ANNEXE, RANI
THOTTAM, CHITLAPAKKAM MAIN ROAD,
CHROMPET CHENNAI-600 044

Present Position

Assistant Professor, Department of Instrumentation Engineering, Madras Institute of Technology, Anna University, Chennai from June-2012.

Present Additional Responsibility

➢ Deputy Warden, Girls Hostel, Anna University, Chennai from March-2019.

Previous Additional Responsibility

➢ , , Anna University, Chennai.

Other Employment

➢ ASSISTANT PROFESSOR, PANIMALAR ENGINEERING COLLEGE for 2 years.

➢ ASSISTANT PROFESSOR, SRI MANAKULA VINAYAGAR ENGINEERING COLLGE. PUDUCHERRY for 1 year.

Degree

❖ M.E. in ELECTRONICS AND INSTRUMENTATION ENGG , ST.PETER'S ENGINEERING COLLEGE, CHENNAI, ANNA UNIVERSITY (2007 - 2009).

❖ B.E. in ELECTRONICS AND INSTRUMENTATION ENGG , GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE, ANNA UNIVERSITY (2003 - 2006).

❖ in ELECTRONICS AND COMMUNICATION ENGG , ADHIPARASAKTHI POLYTECHNIC COLLEGE, MELMARUVATHUR, DOTE (2001 - 2003).

Research Degree

❖ Ph.D. in Process Control from Faculty of Electrical, MIT Campus, Anna University (2013 - 2016).
Title: Modeling and Control of MIMO Systems using Relay Feedback.

Area of Specialisation

➤ Instrumentation

Membership in Professional Organization

➤ International Society of Automation

Research Guidance

Number of Ph.D Scholars Guiding : 4
Number of M.E./ M.Tech. Projects : 11
Guided

Papers Published in Journals

Research Papers Published in International Journals   : 6
Research Papers Published in National Journals   : 0

1. C.Kamal, T.Thyagarajan, D.Kalpana and T.Pragadheeshwaran, "Multiobjective design optimization and analysis of magnetic flux distribution for slotless permanent magnet brushless DC motor using evolutionary algorithms", Journal of Magnetism and Magnetic Materials, published by Elsevier. Vol. 476, pp. 524-537

2. D.Kalpana, T.Thyagarajan, N.Gokulraj, " Modeling and Control of non-square MIMO system using relay feedback", ISA Transactions, published by Elsevier. Vol. 59, Issue 1, pp. 408-417 (2015).

3. D.Kalpana, T.Thyagarajan, R.Thenral, " Improved Identification and Control of 2-by-2 MIMO system using Relay Feedback", Control engineering and Applied Informatics, published by Romania . Vol. 17, Issue 4, pp. 23-32 (2015).

4. S.Shri Shankari, Mohitha Gireeshan, V.Azhagan and D.Kalpana, "Real Time Implementation of Advanced Control Scheme (Fuzzy Logic Controller) for the Three Tank System", Middle-East Journal of Scientific Research, published by IDOSI. Vol. 23, pp. 232-238 (2015).

5. D.Kalpana and T.Thyagrajan, "Parameter Estimation using Relay Feedback", Reviews in Chemical Engineering, published by De Gruyter. Vol. 35, Issue 4, pp. 505-529 (2018).

6. C.Kamal, T.Thyagarajan and D.Kalpana, "Thermal Analysis of BLDC Motor using Multiobjective Optimization", International Transactions on Electrical Energy Systems, published by Wiley Online Library. (2020).

Papers Presented in Programmes

Research Papers Presented in International Programmes   : 11
Research Papers Presented in National Programmes   : 8

1. "Binary Truncated CDMA based Modelling for On-chip Interconnection" presented in a National level conference on "Advanced Technologies in Electrical Engineering- NCEE 09", organised by Kamaraj College of Engineering and Technology, India from 18-Mar-2009.

2. "Modelling of Binary Truncated CDMA based On-chip Interconnected Network" presented in a National level conference on Advanced Techniques in Instrumentation, Control and Communication Engineering, organised by St.Peter's Engineering College, India from 22-Jul-2009 to 24-Jul-2009.

3. R.Thenral, D.Kalpana, "Modelling of Binary Truncated CDMA based On-chip Interconnected Network" presented in a International level conference on International Conference on Swarm, Evolutionary and Memetic Computing SEMCCO 2010, organised by SRM University, India from 16-Dec-2010 to 18-Dec-2010.

4. "Modeling of 2 x 2 MIMO system using Relay Feedback" presented in a National level conference on NCETEEE-2013, organised by University College of Engineering Panruti, India from 13-Mar-2013.

5. "Modelling of off Diagonal Interactive transfer function of 2-by-2 MIMO System using Relay Feedback" presented in a National level conference on Recent Trends in Instrumentation and Control (RTIC-2013), organised by MIT Campus, Anna University, India from 22-Mar-2013 to 23-Mar-2013.

6. "Modeling of 2 x 2 MIMO System using Relay Feedback" presented in a International level conference on Trends in Industrial Measurements and Automation(TIMA-2013), organised by MIT Campus, Anna University, India from 22-Dec-2013 to 24-Dec-2013.

7. "Low Power VLSI Design for a RFID Passive Tag baseband system Enhanced with an AES Cryptography Engine" presented in a National level conference on National Conference on Innovative Techniques in Power Engineering and Drives, organised by Velammal Engineering College, India from 20-Mar-2014.

8. "Identification and Control of 2-By-2 MIMO System using Relay Feedback" presented in a National level conference on National Conference on Communication Control and Energy Engineering (NCCCEE-2014), organised by Vel Tech Dr.RR & Dr.SR Technical University, India from 04-Apr-2014 to 05-Apr-2014.

9. "Identification of 3-by-3 MIMO System Using Relay Feedback" presented in a International level conference on IEEE International Conference on , organised by Syed Ammal Engineering College, India from 08-May-2014 to 10-May-2014.

10. D.Kalpana, T.Thyagarajan, "Modeling and Control of MIMO system using Relay feedback" presented in a National level seminar on Research Scholars' Day (RSD-2014), organised by MIT Campus, India from 05-Sep-2015.

11. "Modeling and Control of MIMO system using Relay feedback" presented in a National level seminar on Research Scholars' Day (RSD-2015), organised by MIT Campus, India from 05-Sep-2015.

12. C.Kamal, T.Thyagarajan, M.Selvakumari, D.Kalpana, "Design of Fractional Order PI Controller for MIMO System using Relay Feedback" presented in a International level conference on Trends in Industrial Measurements and Automation (TIMA-2017), organised by MIT Campus, Anna University, India from 07-Jan-2017 to 08-Jan-2017.

13. B.S.Thamarai Selvi, D.Kalpana, T.Thyagarajan, "Modeling and Prediction of Boiler Drum in a Thermal Power Plant" presented in a International level conference on Trends in Industrial Measurements and Automation (TIMA-2017), organised by MIT Campus, Anna University, India from 07-Jan-2017 to 08-Jan-2017.

14. C.Kamal, T.Thyagarajan, M.Selvakumari, D.Kalpana, "Cogging Torque Minimization in Brushless DC Motor using PSO and GA based Optimization" presented in a International level conference on Trends in Industrial Measurements and Automation (TIMA-2017), organised by MIT Campus, Anna University, India from 07-Jan-2017 to 08-Jan-2017.

15. D. Kalpana and M. Chidambaram, "Comparison of autotuning methods of PI Controllers for TITO Systems" presented in a International level conference on Proceedings of International Conference on Instrumentation and Control Engineering (ICECON 2019), organised by National Institute of Technology, Trichy, India from 19-Dec-2019 to 21-Dec-2019.

16. "Decentralized Control of Stable MIMO System using Improved Relay Autotuning" presented in a International level conference on Proceedings of 6th International Conference on Electrical Energy Systems (ICEES 2020) , organised by SSN College of Engineering, Kalavakkam, Chennai., India from 20-Feb-2020 to 22-Feb-2020.

17. "Univariate Sensor Data Prediction using Conventional and Machine Learning based Time Series Techniques" presented in a International level conference on First International Conference on Automation, Signal Processing, Instrumentation and Control-iCASIC-2020, organised by Vellore Institute of Technology, Vellore, India from 27-Feb-2020 to 28-Feb-2020.

18. "Auto tuning of Decentralized PI Controllers for a Non-square System" presented in a International level conference on First International Conference on Automation, Signal Processing, Instrumentation and Control-iCASIC-2020, organised by Vellore Institute of Technology, Vellore, India from 27-Feb-2020 to 28-Feb-2020.

19. "Auto Tuning of Decentralized PI Controllers for a Non-Square Unstable MIMO System" presented in a International level conference on 1 st IEEE International Conference on Measurement, Instrumentation, Control and Automation (ICMICA 2020), organised by National Institute of Technology, Kurukshetra, India from 24-Jun-2020 to 26-Jun-2020.

Books Published

1. "Linear and Non Linear System Theory" authored by T.Thyagarajan and D.Kalpana and published by CRC Press, Taylor and Francis Group.(2020)

Current Sponsored Projects

1. "Home Automation using Internet of Things" (March-2015 - March-2016). Project Cost: 50.00.

Programme Chaired

1. Chairman, International level conference titled "3rd IEEE International Conference on Advances in Electrical, Electronics, Information, Communication and Bio-Informatics" conducted by Prathyusha Engineering College from 27-Feb-2017.

Programme Organized

1. COORDINATOR, National level Short Course on "APPLIED SOFT COMPUTING" from 10-Dec-2012 to 16-Dec-2012.

2. Co-rdinator, National level Short Course on "Advanced Control system-IC 6601" from 25-May-2015 to 31-May-2015.

3. Coordinator, National level Short Course on "Applied Soft Computing" from 09-Jun-2016 to 15-Jun-2016.

4. Coordinator, International level seminar on "Autotuning using Relay feedback" from 06-Jan-2017.

Programme Attended

1. Attended a National level Short Course on "Instructional Design and Delivery" organized by St.Peter's Engineering College, India from 10-Jul-2006 to 15-Jul-2006.

2. Attended a National level Short Course on "Student's Psyche" organized by St.Peter's Engineering College, India from 23-Apr-2007.

3. Participated in a National level workshop on "Role of Embedded System in Industries" organized by St.Peter's Engineering College, India from 12-Sep-2007 to 14-Sep-2007.

4. Attended a National level Short Course on "Challenges in Advanced VLSI Design Techniques" organized by St.Peter's Engineering College, India from 02-Jan-2008 to 14-Jan-2008.

5. Attended a National level seminar on "Introduction to Digital Control System" organized by Pondicheery Engineering College, India from 23-Jan-2010.

6. Participated in a National level workshop on "Two-day Workshop on PID Controller" organized by MIT Campus, Anna University, India from 22-Sep-2012 to 23-Sep-2012.

7. Participated in a National level workshop on "One day Workshop on Renesas 16 Bit Microcontrollers" organized by CEG Campus, Anna University, India from 27-Sep-2012.

8. Attended a National level Short Course on "Instrumentation in Petrochemical Industry" organized by MIT Campus, Anna University, India from 03-Jun-2013 to 09-Jun-2013.

9. Participated in a National level workshop on "Workshop on R&D Project Proposals-Awreness, Needs and Benefits" organized by CEG Campus, Anna University, India from 29-Jun-2013.

10. Attended a National level Short Course on "Digital Control System" organized by MIT Campus, Anna University, India from 02-Dec-2013 to 08-Dec-2013.

11. Participated in a International level conference on "Embedded Systems" organized by MIT Campus, Anna University, India from 22-Dec-2013.

12. Attended a National level Short Course on "Signals and Systems-EC 6303" organized by MIT Campus, Anna University, India from 23-Jun-2014 to 29-Jun-2014.

13. Participated in a International level workshop on "Control Systems" organized by National Mission on Education Through ICT (MHRD), India from 02-Dec-2014 to 12-Dec-2014.

14. Attended a National level Short Course on "Embedded Systems-EE 6602" organized by MIT Campus, Anna University, India from 30-Nov-2015 to 06-Nov-2015.

15. Participated in a National level conference on "Recent Trends in Instrumentation and Control (RTIC-2016) " organized by MIT Campus, Anna University, India from 18-Mar-2016 to 19-Mar-2016.

16. Attended a National level Short Course on "Microprocessor and Microcontroller" organized by Anna University, India from 05-May-2016 to 11-May-2016.

17. Attended a National level Short Course on "Metrology and Measurements" organized by Production Department, MIT Campus, Anna University, India from 30-May-2016 to 05-Jun-2016.

18. Attended a National level seminar on "NAAC Awareness Seminar/Training on 'Quality System in Higher Education'" organized by Anna University, India from 29-Sep-2016 to 30-Sep-2016.

19. Attended a National level Short Course on "Student Evaluation and Paper Setting" organized by National Institute of Technical Teachers Training & Research, India from 13-Oct-2016 to 15-Oct-2016.

20. Attended a International level Short Course on "IC6501 Control systems" organized by Easwari Engineering College, Chennai , India from 12-Jun-2017 to 18-Jun-2017.

21. Attended a National level Short Course on "EI 6602- Process Control" organized by MIT Campus, Anna University, India from 30-Nov-2017 to 06-Dec-2017.

22. Attended a International level Short Course on "Design and Mitigation of issues in Micro-grids using HOMER and PVsyst" organized by Easwari Engineering College, Chennai , India from 13-Dec-2017 to 29-Dec-2017.

23. Participated in a National level workshop on "One Day Workshop on Intellectual Property Rights 2018 (IPR 2108)" organized by MIT Campus, Anna University, India from 02-Feb-2018.

24. Attended a National level Short Course on "Two week short term course on MATLAB and LabVIEW Programming" organized by National Institute of Technical Teachers Training & Research, Chennai, India from 19-Feb-2018 to 02-Mar-2018.

25. Attended a National level Short Course on "FDTP on CS6551- Computer Networks" organized by MIT Campus, Anna University, India from 19-Jun-2018 to 25-Jun-2018.

26. Attended a National level Short Course on "Gian Course on Practical PID Control" organized by MIT Campus, Anna University, India from 08-Oct-2018 to 12-Oct-2018.

27. Attended a National level Short Course on "Student Induction Programme (Level-0)" organized by CEG Campus, Anna University, India from 13-May-2019 to 15-May-2019.

28. Attended a National level Short Course on "Self Awareness and Higher Goals in Education (SAGHE-2019)" organized by IIT Madras, Chennai, India from 20-May-2019 to 24-May-2019.

29. Attended a National level Short Course on "Student Induction Programme (Level-1)" organized by CEG Campus, Anna University, India from 10-Jun-2019 to 16-Jun-2019.

30. Participated in a National level workshop on "Pedagogy" organized by MIT Campus, Anna University, India from 26-Jun-2019.

31. Attended a National level Short Course on "FDP on Recent Innovations in Electrical, Electronics, Instrumentation, Automation & Teaching Pedagogy" organized by Sri Sai Ram Engineering College, India from 18-May-2020 to 30-May-2020.

32. Attended a National level Short Course on "FDP on Next Generation Intelligence" organized by St. Peter's Institute of Higher Education and Research, India from 20-May-2020 to 25-May-2020.

33. Attended a National level seminar on "Webinar on A comprehensive Roadmap to pursue Academic Research" organized by SRM Institute of Science & Technology, India from 29-May-2020.

34. Attended a National level seminar on "Webinar on Industrial Electrical Actuators and Feedback Elements" organized by Sri Venkateswara College of Engineering, India from 05-Jun-2020.

35. Attended a National level seminar on "Webinar on Deep learning for multi-type medical imaging" organized by St.Joseph's College of Engineering, India from 08-Jun-2020.

36. Attended a International level seminar on "Webinar on Testing and Measurement of fibre optic Instruments using labview and teststand" organized by St.Joseph's College of Engineering, India from 09-Jun-2020.

37. Attended a National level seminar on "Webinar on Role of Languages as the ultimate & vital factor for success in careers" organized by St.Joseph's College of Engineering, India from 11-Jun-2020.

38. Attended a National level seminar on "Webinar on Robot Process Automation And its Future" organized by Jerusulam College of Engineering, India from 12-Jun-2020.

39. Attended a National level seminar on "Webinar On Insights on Data Science for Engineers" organized by R.M.K Engineering College, India from 13-Jun-2020.

40. Attended a National level seminar on "Application on AI & ML in Process Industries" organized by Kumaraguru College of Technology (Online), India from 15-Jun-2020.

41. Attended a International level seminar on "Future Technology Tools-For a Process Automation Engineer" organized by Kumaraguru College of Technology, India from 16-Jun-2020.

42. Attended a National level seminar on "Webinar on Imparting quality education in HEIS-NAAC perspective" organized by Amirta College of Engineering & technology, India from 17-Jun-2020.

43. Attended a National level seminar on "Micro Sensors & IOT" organized by Kumaraguru College of Technology, India from 19-Jun-2020.

44. Attended a National level seminar on "Webinar on Becoming a beacon" organized by Madras Institute of Technology, India from 20-Jun-2020.

45. Attended a National level seminar on "Financial Benefit over IPR" organized by Madras Institute of Technology, India from 20-Jun-2020.

46. Attended a National level Short Course on "FDP on AI-The World of Prediction Machines" organized by Government College of Technology, India from 24-Jun-2020 to 30-Jun-2020.

47. Attended a National level Short Course on "Webinar on Skillset for enhancing employability" organized by Sri Eshwar College of Engineering, India from 30-Jun-2020.

48. Attended a National level Short Course on "Engineers for Civil Services" organized by IET Chennai Local Network, India from 05-Jul-2020.

49. Attended a National level Short Course on "Importance of Calibration" organized by VIT, Vellore, India from 10-Jul-2020.

50. Attended a National level Short Course on "STTP on Artificial Intelligence in Health Care" organized by Kumaraguru College of Technology, India from 16-Jul-2020 to 22-Jul-2020.

51. Attended a National level seminar on "Funded Research Projects: Success practices and opportunities" organized by IET Chennai Local Network, India from 18-Jul-2020.

52. Attended a International level Short Course on "STTP on Industrial IoT and Industry 4.0-SMART INDUSTRY AUTOMATION" organized by Kongu Engineering College, India from 11-Aug-2020 to 15-Aug-2020.

53. Attended a National level Short Course on "Industrial Training to Faculty on â€œCommunication and Networking Technologiesâ€•" organized by Rajiv Gandhi Memorial Telecom Training Center (RGM TTC), Chennai, India from 02-Feb-2021 to 22-Feb-2021.

54. Attended a National level Short Course on "FDP on â€œRecent trends and research perspective on energy and power systemâ€•" organized by PSN College of Engineering and Technology, India from 31-May-2021 to 04-Jun-2021.

55. Attended a National level seminar on "Advanced Instrumentation Systems in Thermal Power Plants" organized by Easwari Engineering College, India from 12-Jun-2021.

56. Attended a National level Short Course on "Emerging Trends in Renewable Energy and Green Technology" organized by Easwari Engineering College, India from 21-Jun-2021 to 02-Jul-2021.

57. Attended a National level Short Course on "COMOS for Industry 4.0" organized by Department of Electrical and Electronics Engineering & Industry Academia Cell - AVIT in association with VI Micro Systems Pvt Ltd, India from 27-Jul-2021 to 30-Jul-2021.

Honours

1. "Best Video Presentation " given by MIT Campus, Anna University from India (2015).

2. "Dr.APJ Abdul Kalam Award for Teaching Excellence-2017" given by MARINA Labs Research & Development, Chennai from India (2017).

3. "Young Scientist Fellowship" given by Tamilnadu State Council for Science and Technology from India (2019).

Invited Lectures

1. Delivered a Lecture on "Phase plane analysis of linear and non-linear systems" in Faculty Development Training Programme organized by SSN Engineering College , Chennai (05-Dec-2015).

2. Delivered a Lecture on "PMMC, PMMI, Electro dynamometer and Instrument Transformers" in Electronics and Instrumentation Engineering organized by Jerusalem College of Engineering, Chennai (17-Dec-2015).

3. Delivered a Lecture on "Autotuning of MIMO systems (square and non-square) using Relay Feedback" in 9th International conference on Trends in Industrial Measurements and Automation (TIMA-2017) organized by MIT Campus, Anna University, Chennai, India (06-Jan-2017).

4. Delivered a Lecture on "Modeling and Control of MIMO System using Relay Feedback" in 3rd IEEE International Conference on Advances in Electrical, Electronics, Information, Communication organized by Prathyusha Engineering College, Chennai, India (27-Feb-2017).

5. Delivered a Lecture on "Programming Languages and Basic Instructions" in AICTE-ISTE-FDP on Industrial Automation using PLC and SCADA (Phase-II) organized by Sakthi Polytechnic College, Erode (25-Feb-2021).

6. Delivered a Lecture on "Design and implementation of controllers and control strategies for Electric Vehicle" in AICTE Sponsored Six Days Short Term Training Program (STTP) on â€œElectric Vehicle Evolution- Impact organized by Sri Venkateswara College of Engineering, Chennai (23-Mar-2021).

7. Delivered a Lecture on "Programming Languages and Basic Instructions" in AICTE-ISTE-FDP on Industrial Automation using PLC and SCADA (Phase-III) organized by Sakthi Polytechnic College, Erode (25-Mar-2021).