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Present Position

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

Previous Positions

- Teaching Fellow, Department of Instrumentation Engineering, Madras Institute of Technology, Anna University, Chennai during December-2011 and June-2012.

Degree

- ❖ M.E. in Instrumentation Engineering, Madras Institute of Technology Campus, Anna University (2009 - 2011).
- ❖ B.E. in ELECTRONICS AND INSTRUMENTATION ENGG , Madras Institute of Technology Campus, Anna University (2005 - 2009).

Research Degree

- ❖ Ph.D. in Biomedical Instrumentation from Faculty of Electrical Engineering, MIT Campus, Anna University (2011 - 2015).
Title: SWARM INTELLIGENCE TECHNIQUES AND ARTIFICIAL NEURAL NETWORKS BASED HIV-1 VIRAL LOAD ESTIMATION .

Area of Specialisation

- Biomedical Engineering
- Mathematical Modelling

Membership in Professional Organization

- Fellow Member, International Society of Biotechnology
- Member, Asian Council for Science Editors

- > Associate Member, Institution of Engineers, India
- > Member, Council of Asian Science Editors

Research Guidance

Number of Ph.D Scholars Guided	: 2
Number of Ph.D Scholars Guiding	: 2
Number of M.E./ M.Tech. Projects Guided	: 14
Number of M.E./ M.Tech. Projects Guiding	: 1

Papers Published in Journals

Research Papers Published in International Journals	: 35
Research Papers Published in National Journals	: 0

1. Kamalanand, K., Sridhar, B. T. N., Rajeshwari, P. M., & Ramakrishnan, S., "Correlation of Dielectric Permittivity with Mechanical Properties in Soft Tissue-Mimicking Polyacrylamide Phantoms", *Journal of Mechanics in Medicine and Biology*, (2010).
2. Kamalanand, K., & Jawahar, P. M., "Coupled jumping frogs/particle swarm optimization for estimating the parameters of three dimensional HIV model", *BMC infectious diseases*, (2012).
3. Kamalanand, K., & Jawahar, P. M., "Reconstructed bifurcation diagrams of CD4 cells and HIV-1 viral load dynamics under the effect of antiretroviral drugs", *Network Modeling Analysis in Health Informatics and Bioinformatics*, (2013).
4. Krishnamurthy, K., & Ponnuswamy, M. J., "A mathematical exploration into manipulation and control of a bifurcative dreaming process", *International Journal of Dream Research*, (2013).
5. Kamalanand, K., & Jawahar, P. M., "Mathematical modelling of parental influence on human romantic relationships", *International Journal of Happiness and Development*, (2013).
6. Kamalanand, K., & Jawahar, P. M., "Resource limited estimation of HIV-1 viral load from CD4 cell count using coupled bacterial foraging/jumping frogs algorithm", *World Allergy Organization Journal*, (2013).
7. Kamalanand, K., & Jawahar, P. M., "Particle swarm optimization based estimation of HIV-1 viral load in resource limited settings", *African Journal of Microbiology Research*, (2013).
8. Ponnuswamy, M. J., & Krishnamurthy, K., "Computational Techniques for Infectious Diseases and Clinical Research", *EJBI*, (2013).
9. Kamalanand, K., & Ramakrishnan, S., "Effect of gadolinium concentration on segmentation of vasculature in cardiopulmonary magnetic resonance angiograms", *Journal of Medical Imaging and Health Informatics*, (2014).

10. Manickavasagam, K., Sutha, S., & Kamalanand, K., "Development of systems for classification of different plasmodium species in thin blood smear microscopic images", *Journal of Advanced Microscopy Research*, (2014).
11. Arunachalam, K., Jacob, L. V., & Kamalanand, K., "Design and analysis of finite element based sensors for diagnosis of liver disorders using biocompatible metals", *Technology and Health Care*, (2014).
12. Vaishnavi, G. K., Jeevananthan, K., Begum, S. R., & Kamalanand, K., "Geometrical analysis of schistosome egg images using distance regularized level set method for automated species identification", *Journal of Bioinformatics and Intelligent Control*, (2014).
13. Kamalanand, K., & Jawahar, P. M., "A graphical user interface for resource limited estimation of HIV-1 viral load using swarm intelligence techniques", *Journal of Bioinformatics and Intelligent Control*, (2014).
14. Kamalanand, K., & Jawahar, P. M., "Hybrid BFPSO algorithm based estimation of optimal drug dosage for antiretroviral therapy in HIV-1 infected patients", *BMC infectious diseases*, (2014).
15. Manickavasagam, K., Sutha, S., & Kamalanand, K., "An automated system based on 2 d empirical mode decomposition and k-means clustering for classification of Plasmodium species in thin blood smear images", *BMC infectious diseases*, (2014).
16. Krishnamurthy, K., & Jacob, L., "Finite element based design of a capacitive sensor for diagnosis of cirrhotic and malignant liver", *Journal of Clinical and Experimental Hepatology*, (2014).
17. Kamalanand, K., & Mannar Jawahar, P., "Comparison of Swarm Intelligence Techniques for Estimation of HIV-1 Viral Load", *IETE Technical Review*, (2015).
18. Kamalanand, K., & Jawahar, P. M., "Prediction of human immunodeficiency virus-1 viral load from CD4 cell count using artificial neural networks. ", *Journal of Medical Imaging and Health Informatics*, (2015).
19. Kamalanand, K., & Mannar Jawahar, P., "Comparison of particle swarm and bacterial foraging optimization algorithms for therapy planning in HIV/AIDS patients", *International Journal of Biomathematics*, (2016).
20. Kumar, V. S., Anantharaj, U. J., Sakthioli, M., Vinnakota, R., & Krishnamurthy, K., "Mathematical modelling of the effects of prebiotic concentration on lactobacillus casei growth", *International Journal of Infectious Diseases*, (2016).
21. Alagumariappan, P., Krishnamurthy, K., Kandiah, S., & Ponnuswamy, M. J., " Effect of electrode contact area on the information content of the recorded electrogastrograms: An analysis based on RÃ©nyi entropy and Teager-Kaiser Energy", *Polish Journal of Medical Physics and Engineering*, (2017).
22. Rajinikanth, V., Raja, N. S. M., & Kamalanand, K., "Firefly Algorithm Assisted Segmentation of Tumor from Brain MRI using Tsallis Function and Markov Random Field", *Journal of Control Engineering and Applied Informatics*, (2017).

23. Ambikapathy, B., Krishnamurthy, K., "Analysis of electromyograms recorded using invasive and noninvasive electrodes: a study based on entropy and Lyapunov exponents estimated using artificial neural networks", *J Ambient Intell Human Comput* , (2018).
24. Bakiya, A., Kamalanand, K., Rajinikanth, V., Nayak, R. S., & Kadry, S., "Deep neural network assisted diagnosis of time-frequency transformed electromyograms", *Multimedia Tools and Applications*, (2018).
25. Ambikapathy, B., Kirshnamurthy, K., & Venkatesan, R., "Assessment of electromyograms using genetic algorithm and artificial neural networks", *Evolutionary Intelligence*, (2018).
26. Arockia Sukanya, K. Kamalanand and B. Thayumanavan, "Comparison of Preprocessing Techniques for Dental Image Analysis", *Current Medical Imaging*, (2019).
27. Kamalanand Krishnamurthy and Mannar Jawahar Ponnuswamy, "Entropy Measures for Medical Image Analysis", *Current Bioinformatics*, (2019).
28. Dey N, Rajinikanth V, Shi F, Tavares JM, Moraru L, Karthik KA, Lin H, Kamalanand K, Emmanuel C., "Social-Group-Optimization based tumor evaluation tool for clinical brain MRI of Flair/diffusion-weighted modality", *Biocybernetics and Biomedical Engineering*, (2019).
29. Krishnamurthy, K., Manoharan, S.C. & Swaminathan, R., "A Jacobian approach for calculating the Lyapunov exponents of short time series using support vector regression", *J Ambient Intell Human Comput* , (2020).
30. Sukanya, S. A., Kamalanand, K., Thayumanavan, B., Emmanuel, C., & Rajnikanth, V., "Time domain analysis on myoelectric activity of masseter muscles in resting and chewing conditions", *Network Modeling Analysis in Health Informatics and Bioinformatics*, (2020).
31. Alagumariappan, P., Krishnamurthy, K., & Jawahar, P. M., "Selection of surface electrodes for electrogastrography and analysis of normal and abnormal electrogastrograms using Hjorth information", *International Journal of Biomedical Engineering and Technology*, (2020).
32. Ambikapathy, B., & Krishnamurthy, K., "Mathematical Modelling to Assess the Impact of Lockdown on COVID-19 Transmission in India: Model Development and Validation", *JMIR Public Health and Surveillance*, (2020).
33. Krishnamurthy, K., Ambikapathy, B., Kumar, A., & De Britto, L., " Prediction of the Transition From Subexponential to the Exponential Transmission of SARS-CoV-2 in Chennai, India: Epidemic Nowcasting", *JMIR public health and surveillance*, (2020).
34. Alagumariappan, P., Krishnamurthy, K., Kandiah, S., Cyril, E., & Rajinikanth, V., "Diagnosis of Type 2 Diabetes Using Electrogastrograms: Extraction and Genetic Algorithmâ€Based Selection of Informative Features", *JMIR Biomedical Engineering*, (2020).
35. V. Rajinikanth, K. Kamalanand, B. Thayumanavan and P. Mannar Jawahar, "A nonlinear autoregressive exogenous model for patient specific modeling of the CD4 cell count and HIV-1 viral load interaction dynamics", *BMC Infectious Diseases*, (2020).

Papers Presented in Programmes

Research Papers Presented in International Programmes : 16
Research Papers Presented in National Programmes : 1

1. "Coupled jumping frogs/particle swarm optimization for estimating the parameters of three dimensional HIV model" presented in a International level conference on International symposium on HIV and infectious diseases (HIV Science 2012), organised by YRG Care.
2. "Cross-Validation for Enhancement of Diagnostic Accuracy in Chaos Theory Based Classification of Normal and Myopathic EMG Signals" presented in a International level conference on ASME 2012 Verification and Validation Symposium , organised by ASME.
3. "Measurement and correlation of electrical phase angle and static mechanical properties in models of tissue phantoms" presented in a International level conference on International Conference on Instrumentation , organised by ISOI.
4. "Correlation of electrical resistivity with mechanical measurements in soft tissue mimicking phantoms" presented in a National level conference on National symposium on Instrumentation-33, organised by ISOI.
5. "Mathematical Modelling of the Effects of Prebiotic Concentration on Lactobacillus Casei Growth" presented in a International level conference on 17th International Conference on Infectious Diseases.
6. "Development of a Intermittent Pneumatic Compression Device for Lymphoedema Therapy using Arduino Prototyping Platform" presented in a International level conference on Second International Conference on Biomedical Systems, Signals And Images, BSSI 2015..
7. "Characterization of Electrohysterograms using Hurst Exponents" presented in a International level conference on International Conference on Biosignals, Imaging and Instrumentation (ICBSII-2015).
8. "Kinetic Analysis on Nano Acrylamide Polymerization Reaction for Tissue Mimicking Applications" presented in a International level conference on Indo-Australian Conference on Biomaterials, Tissue Engineering, Drug Delivery System & Regenerative Medicine (BiTERM 2015).
9. K. Kamalanand and Lijin V Jacob, "An automated system based on 2D empirical mode decomposition and k-means clustering for classification of plasmodium species in thin blood smear images" presented in a International level conference on 2nd International Science Symposium on HIV & Infectious Diseases, HIV Science 2014, organised by YRG Care, India .
10. "Hybrid BFPSO algorithm based estimation of optimal drug dosage for antiretroviral therapy in HIV-1 infected patients" presented in a International level conference on 2nd International Science Symposium on HIV & Infectious Diseases, HIV Science 2014, organised by YRG Care, India .
11. "A method for classification of normal and myopathic EMG signals using chaos theory" presented in a International level conference on International Conference on Applied Mechanics, Materials and Manufacturing, organised by Sultan Qaboos University, Oman from 13-Dec-2010 to 15-Dec-2010.

12. "Estimation of HIV-1 Viral Load from CD4 Cell Count using Bacterial Foraging Optimization and Three Dimensional HIV/AIDS model" presented in a International level conference on 1st Asian Conference on Hepatitis B and C, HIV and Influenza, organised by Virology Education, China from 18-May-2012 to 19-May-2012.
13. "Bacterial Foraging Based Estimation of Optimal Drug Dosage for Anti Retroviral Therapy in HIV/AIDS Patients" presented in a International level conference on International Conference on Biomedical Systems, Signals and Images, organised by IIT Madras, India from 28-Nov-2012 to 01-Dec-2012.
14. "Resource Limited Estimation of HIV-1 Viral Load From CD4 Cell Count Using Coupled Bacterial Foraging/Jumping Frogs Algorithm" presented in a International level conference on World Allergy Organization – International Scientific Conference, organised by World Allergy Organization, India from 06-Dec-2012 to 09-Dec-2012.
15. Kamalanand, K., Rajeshwari, P.M., Sridhar, B.T.N., and Ramakrishnan, S., "FPGA implementation of Genetic Algorithm based Scheme for Optimal Anaesthetic delivery" presented in a International level conference on International Conference on Biosignals, Images and Instrumentation, organised by SSN college of Engineering, Chennai, India from 14-Mar-2013 to 16-Mar-2013.
16. S. Supraja, M. Varun and K. Kamalanand , "FPGA implementation of Genetic Algorithm based Scheme for Optimal Anaesthetic delivery" presented in a International level conference on International Conference on Biosignals, Images and Instrumentation, organised by SSN college of Engineering, Chennai, India from 14-Mar-2013 to 16-Mar-2013.
17. "Finite element based design of a capacitive sensor for diagnosis of cirrhotic and malignant liver" presented in a International level conference on 22nd Annual Conference of. Indian National Association for Study of the Liver, organised by Indian National Association for Study of the Liver, India from 28-Mar-2014 to 30-Mar-2014.

Books Published

1. "Mathematical Modelling of systems and Analysis" authored by K. Kamalanand & P. Mannar Jawahar and published by Prentice Hall (PHI).(2018)
2. "Computational Techniques for Dental Image Analysis" and published by IGI Global.(2018)
3. "Advances in Nano Instrumentation Systems and Computational Techniques" and published by Nova Science Publishers.(2019)
4. "Advances in Artificial Intelligence Systems" and published by Nova Science Publishers.(2019)
5. "Biomedical Signal and Image Examination with Entropy-Based Techniques" authored by Rajinikanth, V., Kamalanand, K., Emmanuel, C., & T and published by CRC Press.(2020)
6. "Mechano-Electric Correlations in the Human Physiological System" authored by Bakiya, A., Kamalanand, K., & De Britto, R. L. J. and published by CRC Press.(2021)

7. "Computational Modelling and Imaging for SARS-CoV-2 and COVID-19" and published by CRC Press.(2021)

Programme Chaired

1. Chairman, International level conference titled "2nd International Conference on Biosignals, Images & Instrumentation, ICBSII-2015" conducted by SSN College of Engineering from 19-Mar-2015 to 21-Mar-2015.
2. Chairman, National level seminar titled "UGC National Seminar on Recent Trends and Challenges in Mathematical Sciences " conducted by Department of Mathematics, Sri Krishnadevaraya University, Ananthapuramu, India from 28-Nov-2015 to 29-Jan-2015.
3. Chairman, International level conference titled "Session 4: Oral Paper Presentations on Smart Computing", 9th International Conference on Advanced Computing" conducted by MIT, Anna University from 15-Dec-2017.
4. Chairman, International level conference titled "Advances in Design, International Conference on Materials, Manufacturing and Surface Engineering for Mobility (ADMMS'19)" conducted by MIT, Anna University and SAE from 11-Oct-2019 to 12-Oct-2019.

Programme Organized

1. Member, National Advisory Committee, International level conference on "International Conference on Control, Computing and Embedded System" from 27-Jan-2016 to 28-Jan-2016.
2. Member, National Advisory Committee, International level conference on "National conference on Advances in Mechanical Engineering (NCAME'17)" from 25-Mar-2017 to 25-Mar-2017.
3. Member, National Technical Advisory Comm, International level conference on "IEEE International Conference on Recent trends In Electrical, Control and Communication" from 20-Mar-2018 to 22-Mar-2018.

Programme Attended

1. Attended a National level Short Course on "One Day Awareness Course on ISO 9001:2008" , India.
2. Attended a National level seminar on "UGC National Seminar on Recent Trends and Challenges in Mathematical Sciences" organized by Department of Mathematics, Sri Krishnadevaraya University, Ananthapuramu, , India.
3. Participated in a National level conference on "National Conference on Recent Trends in Instrumentation & Control" organized by Anna University, India.
4. Attended a National level Short Course on "15-Day Short Term Course on "Mathematical Programming & Finite Element Methods" organized by Anna University, India from 09-Jul-2007 to 23-Jul-2007.

5. Participated in a International level conference on "13th International Conference on Biomedical Engineering (ICBME 2008)", Singapore from 03-Dec-2008 to 06-Dec-2008.
6. Participated in a International level conference on "6th International Conference on Trends in Industrial Measurements and Automation" organized by Anna University, India from 04-Jan-2009 to 06-Jan-2009.
7. Participated in a International level conference on "International Conference on Instrumentation", India from 21-Jan-2010 to 23-Jan-2010.
8. Participated in a International level conference on "International Conference on Applied Mechanics, Materials and Manufacturing" organized by Sultan Qaboos University, Muscat, Oman from 13-Dec-2010 to 15-Dec-2010.
9. Participated in a International level conference on "International Science Symposium on HIV & Infectious Diseases (HIV Science 2012)", India from 20-Jan-2012 to 22-Jan-2012.
10. Participated in a International level conference on "International Conference on Biomedical Signals Systems and Images (BSSI 2012)" organized by IIT Madras, India from 28-Nov-2012 to 01-Dec-2012.
11. Participated in a International level conference on "World Allergy Organization International Scientific Conference (WISC 2012)", India from 06-Dec-2012 to 09-Dec-2012.
12. Attended a National level Short Course on "Faculty Development Training Programme on AT2302-Automotive Electrical & Electronics" organized by Anna University, India from 10-Jun-2013 to 16-Jun-2013.
13. Attended a National level Short Course on "Faculty Development Training Programme on ME2026-Unconventional Machining Process" organized by Anna University, India from 04-Dec-2013 to 11-Dec-2013.
14. Participated in a International level conference on "8th International Conference on Trends in Industrial Measurements and Automation" organized by Anna University, India from 23-Dec-2013 to 24-Dec-2014.
15. Participated in a International level conference on "2nd International Science Symposium on HIV & Infectious Diseases (HIV Science 2014)", India from 30-Jan-2014 to 01-Feb-2014.
16. Attended a National level Short Course on "Faculty Development Training Programme on ME2353-Finite Element Analysis" organized by Anna University, India from 04-Dec-2014 to 10-Dec-2014.
17. Attended a National level Short Course on "Faculty Development Training Programme on ME6504-Metrology & Measurements" organized by Anna University, India from 30-May-2016 to 05-Jun-2016.

Special Representations

1. Member in Council of Asian Science Editors

2. Member in Asian Council of Science Editors
3. Associate Editor in Network Modeling Analysis in Health Informatics and Bioinfor
4. Guest Editor in Current Signal Transduction Therapy
5. Guest Editor in Current Bioinformatics
6. Guest Editor in European Journal for Biomedical Informatics
7. Member, National Advisory Committee in International Conference on Control, Computing and Embedded
8. Member, National Advisory Committee in National conference on Advances in Mechanical Engineering

Honours

1. "PMS Ayyar Memorial Award" given by Anna University from India (2007).
2. "Gate Fellowship" given by All India Council for Technical Education (2009).
3. "Alumni Association Prize" given by Anna University from India (2011).
4. "Young Investigatorâ€™s Grant" given by Virology Education (2012).
5. "Outstanding Contribution in Reviewing" given by Elsevier (2018).

Patents

1. Having a patent for "ROTARY TOOTHBRUSH WITH PASTE CHAMBER". Patent number:325850
2. Having a patent for "ENCLOSURE FOR EMG SIMULATOR". Patent number:328196
3. Having a patent for "GALVANIC SKIN RESPONSE SIGNAL GENERATOR". Patent number:327836
4. Having a patent for "LOCALIZED EDEMA TREATMENT DEVICE". Patent number:326824
5. Having a patent for "OVAL HEAD SELF ROTARY TOOTHBRUSH WITH INBUILT PASTE CHAMBER". Patent number:327958

Patents Filed

1. Filed patent rights for AN APPARATUS FOR GENERATION OF GASTRIC ELECTRIC WAIn India. File number: 2147483647
2. Filed patent rights for A GALVANIC SKIN RESPONSE (GSR) SIGNAL GENERATING Din India. File number: 2147483647

3. Filed patent rights for A SIGNAL GENERATING DEVICE FOR CALIBRATION OF ELECin India. File number: 2147483647
4. Filed patent rights for A PNEUMATIC DECOMPRESSION THERAPEUTIC DEVICE FOR Tin India. File number: 2147483647

Experience Abroad

1. Visited 13th International Conference on Biomedical Engineering, Singapore from 03-Dec-2008 to 06-Dec-2008. Purpose of visit :Conference.
2. Visited International Conference on Applied Mechanics, Materials and Manufacturing, Oman from 13-Dec-2010 to 15-Dec-2010. Purpose of visit :Conference.

Invited Lectures

1. Delivered a Lecture on "Modelling of Biomedical Systems" in ICMR sponsored workshop on Application of MATLAB and LABVIEW for Biomedical Applications organized by B.S. Abdur Rahman University, Chennai (14-Dec-2011).
2. Delivered a Lecture on "Hands on Experience on ANN" in Faculty Development Training Programme on Applied Soft Computing organized by MIT Campus, Anna University, Chennai (13-Dec-2012).
3. Delivered a Lecture on "Hands on Experience on FLC/GA" in Faculty Development Training Programme on Applied Soft Computing organized by MIT Campus, Anna University, Chennai (14-Dec-2012).
4. Delivered a Lecture on "Hands on Experience on Simulation of Lumped Parameter System" in Faculty Development Training Programme on Advanced Control System, MIT Campus organized by Anna University, Chennai (29-May-2015).
5. Delivered a Lecture on "Fuzzy Logic and Adaptive Control" in Faculty Development training Programme on Engine and Vehicle Management Systems organized by Department of Automobile Engineering, MIT Campus, , Chennai (11-Jun-2015).
6. Delivered a Lecture on "Mathematical modeling and analysis of real world systems" in UGC National Seminar on Recent Trends and Challenges in Mathematical Sciences organized by Department of Mathematics, Sri Krishnadevaraya Uni, Ananthapur (28-Nov-2015).
7. Delivered a Lecture on "Flow Measurement Systems" in Certification Programme in Instrumentation and Process Control for Cognizant Technology Solutions (C organized by Department of Instrumentation Engineering, MIT Cam, Chennai (15-Feb-2016).
8. Delivered a Lecture on "Mathematical modeling in Mechanical Engineering" in Guest Lecture organized by KCG College of Technology, Chennai (03-Aug-2016).
9. Delivered a Lecture on "Mathematical Modelling of Biosignals" in IEEE 2nd Workshop on Emerging Trends and Future Perspective in Image Processing and Computer Vision organized by Sri Sairam Engineering College, Chennai (05-Jan-2017).

10. Delivered a Lecture on "Mathematical Modelling in Nanotechnology" in National Conference on Recent Advances in Graph theory and its Applications organized by Department of Applied Mathematics, S.P.MahilaVisva, Tirupathy (27-Jul-2017).
11. Delivered a Lecture on "Nanotechnology for Biomedical Applications" in Two Weeks Faculty Training Programme on Nano Instrumentation Systems and Biomedical Nanotechnology organized by B.S. Abdur Rahman Crescent University, Chennai (15-Nov-2017).
12. Delivered a Lecture on "Introduction to Mathematical Modelling" in National Seminar on Computational Biomedical Engineering organized by Jointly Organized by Department of Biomedical Engi, Chennai (27-Sep-2018).
13. Delivered a Lecture on "Advances in Nano Electronics and Devices" in Guest Lecture organized by Hindustan Institute of Technology and Science (Dee, Chennai (08-Oct-2018).
14. Delivered a Lecture on "Intelligent Healthcare Technologies" in Faculty Development Programme on Machine Learning and Artificial Intelligence in Automation, Chennai (22-Aug-2019).
15. Delivered a Lecture on "HIV-1 Viral Load Estimation using Artificial Intelligence Techniques" in National Conference on Diagnostic Imaging in Healthcare Screening organized by Department of Biomedical Engineering, School of Bi, Chennai (05-Sep-2019).

Extension & Outreach Programme

1. Co-ordinator, 2015 Research Scholars Day, participated by Research Scholars and funded by Department of Instrumentation Engineering, MIT Campus, Anna University at Department of Instrumentation Engineering, MIT Campus, Anna University during 05-Sep-2015 and 05-Sep-2015. No. of participants: 20.