Dr. N.VINOTH

Assistant Professor, Department of Instrumentation Engineering

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Present Position

Assistant Professor, Department of Instrumentation Engineering, Madras Institute of Technology, Anna University, Chennai from February-2018.

Previous Positions

➢ Assistant Professor, Department of Instrumentation Engineering Annamalai University during December-2002 and February-2018.

Degree

❖ M.E. in Instrumentation Engineering, Instrumentation Engineering Annamalai University (2004 - 2007).

❖ B.E. in ELECTRONICS AND INSTRUMENTATION ENGG , Instrumentation Engineering Annamalai University (1998 - 2002).

Research Degree

❖ Ph.D. in Instrumentation Engineering from Instrumentation Engineering, Annamalai University (2008 - 2015).
Title: Model based parametric control and analysis of Blood Pressure .

Area of Specialisation

➢ Biomedical Engineering

➢ Industrial Automation

Research Guidance

Number of Ph.D Scholars Guided	NIL
Number of Ph.D Scholars Guiding	NIL
Number of M.E./ M.Tech. Projects Guided	3
Number of M.E./ M.Tech. Projects Guiding	1

Papers Published in Journals

Research Papers Published in International Journals   14
Research Papers Published in National Journals   0

1. N.Vinoth, J.Krishnan, R.Malathi, "Modelling of Four Compartment Model of Cardiovascular System Using Simulation.", CiiT International Journak of Biometrics and Bioinformatics, Volume 5, Number 1, Jan 2013, pp. 1-6. 2013.

2.   N.Vinoth, J.Krishnan, R.Malathi, "Performance analysis of neural network based control of hypnosis and analgesia during anesthesia by employing a pharmacokineticpharmacodynamic model.", International Journal of Current Research, Volume 5, Number 10, Oct 2013, pp. 3133-3139. 2013.

3. N.Vinoth, J.Krishnan, R.Malathi, "Modeling and Analysis of Sinoatrial Cell using SIMULINK - A Computational Approach.", International Journal of Engineering Research and Applications (IJERA), Volume 3, Number 1, Jan 2013, pp. 1-6. 2013.

4. N.Vinoth, J.Krishnan, R.Malathi, "Control of mean arterial pressure by cardiac drug infusion system using fuzzy logic controller.", Asian Journal of Science and Technology, Volume 5, Number 2, Feb 2014, pp. 148-152. 2014.

5. N.Vinoth, "Simulation And Realization Of Drug Infusion Based Cardiovascular System" MODEL Volume: 02, Issue: 02 , May 2015.

6.   N.Vinoth, "Modeling and control of Automatic Drug Delivery System for infusing Cardiac Drug", Volume: 02 , Issue: 03, June 2015.

7. N.vinoth, "DiabeticRetinopathy Evaluation using the support vector machine", Volume: 02, Issue: 07, Oct 2015

8. N.Vinoth M.Kirubakaran J.Krishnan, "Automation of mean arterial pressure control by infusion of sodium nitrro prusside using internal model controller.", EPRA International Journal of Multidisciplinary Research, Volume 3, Number 4, Apr 2017, pp. 40-45. April 2017

9. N.Vinoth S.Nagarjuna Chary, "Analysis of Human Cardiovascular System using Equivalent Electronic System.", International Journal Of Innovative Research In Electrical, Electronics, Instrumentation And Control Engineering, Volume 5, Number 2, Feb 2017, pp. 57-61. February 2017.

10. Sowparnika G.C., Thirumarimurugan M., Sivakumar V.M., Saranya S.N. & **Vinoth N**., "Investigation on Regulation of Critical Hemodynamic Variables by Correlative Optimal Control Studies for Pharmacokinetic-Pharmacodynamic Model.", Latin American Journal of Pharmacy, Volume 36, Number 9, pp. 1892-1900. July 2017.

11. GC Sowparnika, M Thirumarimurugan, VM Sivakumar, **N Vinoth "**Controlled infusion of intravenous cardiac drugs using global optimization" Indian journal of pharmacology 51 (1), 61, 2019.

12. GC Sowparnika, M Thiru-marimurugan, N Vinoth "Modeling and optimized controller for cardiac drug infusion system" Indian Journal of Science and Technology 13 (12), 1347-1354, 2020

13. N. Vinoth , M. Vijayakarthick, A. Ganesh Ram , S. Meyyappan and S. Sathishbabu " Thresholding of Skin Melanoma Images based on Kapur's Entropy with Harmony Search Algorithm", European Journal of Molecular & Clinical Medicine ,Volume 7, Issue 11, pp716-726,

2020.

14. Vinoth, N., Vijayakarthick, M., Ramesh, S., & Sivaraman, E. (2021). Taxonomy of Diabetic Retinopathy Patients Using Biogeography-Based Optimization on Support Vector Machine Based on Digital Retinal Images. In Sustainable Communication Networks and Application (pp. 631-642). Springer, Singapore 2021.

15. Automatic Mask Detection and Social Distance Alerting Based on a Deep Learning Computer Vision Algorithm N*. Vinoth, A. Ganesh Ram, M. Vijayakarthick and S. Meyyappan (I*SBN 9780367695293September 3, 2021 Forthcoming by CRC Press)

16. ANFIS Algorithm based Modeling and Forecasting of the COVID-19 Epidemic: A Case Study in Tamil Nadu, India . *M.Vijayakarthick, E.Sivaraman, S. Meyyappan and N.Vinoth, (I*SBN 9780367695293September 3, 2021 Forthcoming by CRC Press)

Papers Presented in Programmes

Research Papers Presented in International Programmes   4
Research Papers Presented in National Programmes   2

1. N.Vinoth and S.Anbu, IMC based PID controller for a multivariable process, National Symposium on Instrumentation (NSI-33), Dec 8-10, 2008, College of Engineering, Andhra University, pp. 122-123. Andhra University, National Symposium on Instrumentation.

2.N.Vinoth, and J.Krishnan, Simulation study of baroreceptor activity and control of heart rate, 36th National System Conference " Recent Advancements in System Modelling Applications", Dec 6-8, 2012, Annamalai University, Annamalai Nagar, Tamil Nadu, India, pp. 138-141. Annamalai University, Annamalai Nagar, Tamil Nadu, India, National System Conference.

3.L.Abunesan, **N.Vinoth** and J.Krishnan, Parameter Estimation of Cardiovascular Model With Pulsatile And Non-Pulsatile Components, Biomaterials, Implant Devices and Tissue Engineering (BIDTE), Jan 6-8, 2012, Rajalakshmi Engineering College, Chennai, India, pp. 76-76. Rajalakshmi Engineering College, Chennai, India, Rajalakshmi Engineering College, Chennai, India.

4. M.Kirubakaran, **N.Vinoth**, J.Krishnan, R.Malathi, Fuzzy logic based multidrug infusion for blood pressure control, TRENDS IN INDUSTRIAL MEASUREMENTS & AUTOMATION, Dec 22-24, 2013, Madras Institute of Technology Campus Anna University Chennai, pp. 190-194. Madras Institute of Technology Campus Anna University Chennai, Trends In Industrial Measurements & Automation.
5.**N.Vinoth**, **M.Vijayakarthick**, S. Sathishbabu and E.Sivaraman, "Taxonomy of diabetic retinopathy patients using bio geography based optimization on support vector machine based on digital retinal images", International Conference on Intelligent Computing and sustainable system (ICICSS), 20-21, September 2018.

6. **M.Vijayakarthick**, S.Sathishbabu, **N.Vinoth** and S. Ramesh, "Intelligent learning control strategies for speed control of DC motor", International Conference on Intelligent Computing and sustainable system(ICICSS), 20-21, September 2018.

Programme Attended

1. Attended a National level Short Course on "One Day Awarness 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.

Special Reprasentations

Patents

1. MACHINE LEARNING BASED SMART HELMET FOR UNDERGROUND WORKERS

Invited Lectures

1. Lecture delivered on "Matlab GUIDE" in STTP on Hands on Experience in MATLAB organized by   Department of EIE, Annamalai University during 5th December 2012.
2. Lecture Delivered on " Programming in Labview" in Trends and Challenges in Virtual Instrumentation, Under the Aegis of UGC - XII Plan General Development Assistance, organized by Department of EIE, Annamalai University during 21st October 2016.
3. Lecture delivered on "Computational approach for modeling CVS", DBT sponsored STTP on Engineering Approaches to Systems Biology, 14th November 2016.
4. Lecture delivered on "Modeling and control of cardiovascular system"   DBT sponsored National Seminar on Innovative Approaches for Diagnosis and Control of Cardiac Arrest during 22nd September 2017 at Department of Mechatronics of Bannari Amman Institute of Technology.
5. Lecture delivered on "PLC Programming" @ Intecho Students Technical Symposium conducted during February 2019
6. Lecture delivered on "Recent trends in Industrial Automation" at Department of Instrumentation Engineering, Jerusalem College of Engineering @2019.
7. Online Lecture delivered on "Industrial Automation" for Satyabama University by May 2020.
8. Online Lecture delivered on " Model based parametric control and analysis of blood pressure" @ AICTE Training and Learning Academy (ATAL) FDP "Trends and issues in control system analysis and design" conducted by department of Electronics and Communication Engineering, Government College of Engineering, Srirangam, during 19th August 2020.
9. Online Lecture delivered on " Convolutional Neural Networks" @ Government college of Thanjavur, FDP conducted by Faculty Training Centre, GCT Coimbatore during 15/2/2021

Programme Organized

1. Conducted two days National Seminar. "Trends and Challenges in Virtual Instrumentation" UGC XII plan (under UGC Agies) on 21st and 22nd October 2016 at Department of EIE, Annamalai University.

2. Conducted two days workshop in "PLC and HMI Programming" on 2019. @ Department of Instrumentation Engineering, MIT, Anna University

3. Conducted two days in house training program in "PLC and DCS Training" on 28th and 29th October 2020. @ Department of Instrumentation Engineering, MIT, Anna University

4. Going to conduct online ATAL FDP by 15th November 2021in " Hands on training with industrial automation systems". @ Department of Instrumentation Engineering, MIT, Anna University

Programme Attended

1. ISTE-STTP on "Recent trends in process automation", Department of EIE, Pondicherry Engineering College, Puducherry 30/4/07 to 13/05/07.

2. STTP on "Matlab", NITTTR, Chandigarh, 19/11/07 to 24/11/07.

3. STTP on "Microprocessor and Embedded microcontroller system", Asansol Engineering College, Department of Electrical Engineering, Asonsol, 23/6/08 to 28/6/08.

4. STTP on "Digital Control System", Department of Electrical Engineering, NITTTR, Kolkatta, 22/06/09 to 26/06/09.

5. STTP on "Virtual Instrumentation", Department of Electrical Engineering, NITTTR, Chandigarh, 30/11/09 to 4/12/09.

6. STTP on "Matlab and Simulink", Department of Electrical Engineering, NITTTR, Chandigarh, 22/11/10 to 26/11/10.

7. AICTE FDP on "Computational Biology", Department of EIE, Annamalai University, 21/11/11 to 3/12/11.

10. ISTE-STTP on "Hands on Experience in MATLAB", Department of EIE, Annamalai University, 1/12/12 to 5/12/12.

9. ISTE-STTP on "Application of Modelling and Simulation in Engineering Research", Department of Mechanical Engineering, Annamalai University, 10/12/12 to 15/12/12.

10. AICTE FDP on " Recent Advances in Industrial Automation Control and Embedded system", St Joseph College, Palai, 10/6/13 to 22/06/13.

11. one day workshop on "Technical document Preparation using LATEX", Department of CSE, Annamalai University, 15/03/16.

12. STTP on "Matlab and its hardware interface", Department of Electrical Engineering, NITTTR, Chandigarh, 28/11/16 to 2/12/16.

13. Short term Training Program on "PLC, SCADA, Industrial Automation and Control (Hands on Training)", @ Department of Electronics Engineering Indian Institute of Information Technology Design and Manufacturing (IIITD&M), Kancheepuram, 5th - 7th, July 2018.

14. AICTE sponsored two weeks Faculty Development Programme on "Data science and exploratory data analysis with R and python" from 7th June 2019 to 20th June 2019.

15. FDP on eLearning for Professional Development programme for 10days conducted by Koneru Bhaskara Rao & Hemalata Human Development Foundation, Andhra Pradesh through virtual mode from 1st -10th April 2020.

16. five day FDP on "INTERNET OF THINGS" through On-Line mode to be held on *11th – 15th, May, 2020*, conducted by Department of ECE, GCT Srirangam.

17. Two weeks online Faculty Development Programme(Phase –II) on "Formal Modeling, Control & Real Time Implementation of Cyber-Physical Systems", conducted by V.S.B. Engineering College, Karur during 19.10.2020 to 2 .11.2020.