

Dr B Vinod

Associate Professor

Department of Electrical and Electronics Engg.

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EDUCATION

Ph.D

(May 2007)

BHARATHIAR UNIVERSITY

‘Design and Development of Power Failure Detector Modules for Control of Axis Runaway in CNC Machines’,

Masters in Engineering

(May 1997)

‘Applied Electronics’,
Bharathiar University

B. Tech

(May 1991)

Electrical & Electronics
University of Calicut

EXPERIENCE

Period

Designation

January 2002 to till date

Associate Professor, Dept. of EEE
PSG College of Technology

June 1999 to Jan 2002

Head, Department of Mechatronics Engg.
PSG Polytechnic College,

May 1998 to June 1999

Assistant Manager, CNC Machines Division
CPC Ltd , Coimbatore.

June 1992 to May 1998

Assistant Engineer, CNC Division
PSG Industrial Institute, Coimbatore.

April 1991 to June 1992

Service Engineer, Control Equipments
Maxima Corporation, Bangalore

COURSES HANDLED

UNDERGRADUATE

- Course 1** : Factory Automation, Mechatronics Engineering,
Course 2 : Electric Drives & Control, Robotics, CNC Technology

POSTGRADUATE

- Course 1** : Computer Numerical Control, Power Semi-conductor Devices,
Course 2 : SCADA & DCS

RESEARCH AREAS

Number of Ph. D students completed: 1 , currently pursuing research: 7

ii) Areas of Research:

Robotics, Automation controls and industrial networking, PLC based automation, Mechatronics, Linux based Computer Numerical Control systems, interfacing and machine monitoring, Power electronics and electric drives, Power quality, Vision systems & Image processing, servo and stepper drives.

PUBLICATIONS

INTERNATIONAL JOURNALS – 7

- B.Vinod, G. Gurusamy and C. Sasikumar, “Design and Analysis of Power Failure Detector Module for CNC machines”, International Journal for Machine Tools and Manufacture, Elsevier Journal, United Kingdom, Vol. 46, Issue 12, October 2006, pp 1610-1616.
- B. Vinod, B. Giriraj, R. Gandhinathan, S. Prabhu & V. Prabhu Raja, “Self-Adjusting Online Tool Wear Compensation in High Speed Milling”, The International Journal for Manufacturing Science & Production, Freund Publishing House Ltd. Israel, Vol. 8, Nos. 2- 4, December 2007, pp 75 – 84.
- K. S. Sujatha and B. Vinod, “ Performance Evaluation of different soft clustering algorithms for bag of words model”, European Journal of Scientific Research, Euro Journals Publishing Inc, ISSN 1450-216X Vol. 70, No.2, 2012, pp 228-239.

- K. S. Sujatha, P. Keerthana, S. Suga Priya, E. Kaavya and B. Vinod,” Fuzzy based Multiple Dictionary Bag of Words for Image Classification” Proceedings of the International Conference on Modeling Optimisation and Computing, Proceedia Engineering, Elsevier Vol. 38, 2012,pp. 2196-2206
- K. S. Sujatha, G. M. Karthiga and B. Vinod,” Evaluation of Bag of Visual Words for Category Level Object Recognition”, International Journal of Electronics Signals and Systems (IJESS) ISSN: 2231- 5969 Volume 1 Issue 4,2012, pp104-110
- K. S. Sujatha and B. Vinod, “Soft Clustering Based Exposition to Multiple Dictionary Bag of Words”, Journal of Computer Science 8 (12), 2012, 2062-2068, ISSN 1549-3636.
- J. Joe Brislin, J. Chelladurai, B. Vinod, M. Sundaram, Modulation Strategies For Three Phase Inverters Supplying Unbalanced Three Phase Loads, International Journal of Innovative Research in Science, Engineering and Technology, Volume 3, Special Issue3, March 2014, pp-30-37.

NATIONAL JOURNALS – 2

- B. Vinod, “ Maintenance Techniques for CNC machines ‘, National journal for Excellence in Supervision, National Productivity council, Chennai, Vol. 3, Issue 5, April 2004, pp 10 – 13.
- B. Vinod, G. Gurusamy, C. Sasikumar N. Harikrishna and S. Elanchezhian, “Microcontroller based power failure detector for control of axis runaway in CNC machines”, National journal of Technology, PSG College of Technology, Coimbatore, Vol.1, Issue 2, June 2005, pp 93 – 98.

INTERNATIONAL CONFERENCES

- B. Vinod, G. Gurusamy, N. Harikrishna and S. Elanchezhian, “Automatic Power Failure Detector for CNC machines”, International Conference on Human Machine Interface, Indian Institute of Science (IISC), Bangalore, December 2004, pp 532-541.
- B. Vinod, G. Gurusamy, N. Harikrishna and S. Elanchezhian, “Intelligent Power Failure Detector”, proceedings of the International Conference on Enabling Technologies in Smart Appliances, IEEE Hyderabad, January 2005, pp 56.1- 56.5
- B. Vinod, G. Gurusamy and C. Sasikumar, “Performance Analysis of Three Phase Power Failure Detector for CNC Machines”, proceedings of the International Conference on Resource Utilisation and Intelligent Systems, Kongu Engg. College, Perundurai, Erode, T.N., India. Jan. 4 - 6, 2006. pp.1 - 8.

- J. Chelladurai, B. Vinod, G. Karthik and M. Bhupathi Subramani, “A Novel Cost Effective Single Phase SAF for Nonlinear Loads”, proceedings of the International Conference on Electrical Power and Energy Systems, National institute of Technology, Bhopal., India. August.26 - 28, 2010. pp.153 - 160.
- B. Vinod, “Design and Development of Underwater Tunnel Cleaning Robot”, Proceedings of the 6th India- Korea joint workshop on Robotics, Asian Research Network, Jeju, Korea. October 30-31, 2013. pp. 50-51.
- J. Chelladurai, Dr. B. Vinod, G. Karthik and M. Bhupathi Subramani, “A Novel Cost Effective Single Phase SAF for Non Linear Loads”, International Conference on Electrical Power and Energy Systems (Aug. 26-28, 2010), pp-153-160.

NATIONAL CONFERENCES – 9

- G. Gurusamy and B. Vinod, “Power Saving in CNC machines by new electromechanical techniques”, proceedings of the National Conference on Mechatronics for better productivity, LN .College of Technology, Bhopal, April 2002, pp 120- 128.
- B. Vinod, G. Gurusamy and C. Sasikumar, “An analysis on the effects of grounding in the performance of CNC machines”, proceedings of the second national conference on Power Conversion & Industrial control, NSS College of Engg, Palakkad, July 2004, pp 1.1- 1.8.
- B. Vinod, G. Gurusamy and C. Sasikumar, ” A study on axis run-away in vertical CNC machines during power failures”, proceedings of the National Conference on Emerging trends in Mechatronics, Marathwada Institute of Technology, Aurangabad, July 2004, pp 14- 20.
- B. Vinod, G. Gurusamy and C. Sasikumar, “Three Phase Voltage Tracking Detector for CNC machines”, proceedings of the National Conference on Cutting Edge Technologies in Power Conversion and Industrial Drives, Bannari Amman Institute of Technology, Sathyamangalam, March 2005, pp 629-633.
- B. Vinod, G. Gurusamy, C. Sasikumar, N. Harikrishna and S. Elanchezhian, “Axis control of servo motors in CNC machines during power failures”, proceedings of the National Conference on Modern trends in Electrical and Instrumentation systems, Government College of Technology, Coimbatore, March 2005, pp 3- 7.

- B. Vinod, G. Gurusamy, C. Sasikumar N. Harikrishna and S. Elanchezhian, “Automatic power failure announcer for manufacturing industries”, proceedings of the National Conference on Emerging technologies in Electrical systems, Noorul Islam college of Engineering Kumaracoil, March 2005, pp 28-34.
- B. Vinod, and D. Jahnavi, “Implementation of SVPWM in brushless motor control”, proceedings of the National Conference on Power Conversion and Industrial Controls, NSS College of Engg. Palakkad, Kerala, 8-9th July 2005. pp. PC 2.1-2.5.
- B. Vinod, V. Prasanth Vakalapudi, C. Sasikumar, R. Jeyaraman, “FPGA Based Power Failure Detector”, proceedings of the National Conference on Modern trends in Electrical & Electronic systems, Government College of Engineering, Salem, March 2006, pp 77 – 82.
- Sunilkumar S Honnungar, V. Prabhu Raja and B. Vinod, “Modeling of thermally induced errors of CNC machining center”, Proceedings of the First national Conference on Energy Efficient Mechanical System and design, PSG College of Technology, Coimbatore, March 2011, pp 1-7.

SEMINARS / CONFERENCES ORGANISED

- **Convenor ICAARS2016** International conference on “ Advancements in Automation Robotics and Sensing on 23 -24 , June 2016.
- **Organizing Secretary, TWCRRA 13**, Thematic workshop on “Challenges in Robotics: Research to Application”, organized in association with Michigan State University (MSU), USA, PSG Institute of Advanced Studies, and Indira Gandhi Centre for Atomic Research (IGCAR) from 21-23rd February 2013 at PSG Tech
- **Organizing Secretary, ICEPEC 2011**, An International Conference on Enhancements in Power Electronics and Controls was successfully conducted. The conference was spread over 2- days from 24-25th November 2011 with 3 technical sessions each day. Keynote addresses were delivered by eminent personalities from reputed industries and academic institutions.
- Mr. Andreas Lapp, Chairman Lapp Holding and Honorary consul general of Germany for

India inaugurated the conference.

- **Convenor**, DRDO Sponsored National workshop on Android for Robotics, 29-30th June 2012
- **Convenor**, DRDO Sponsored National workshop on Design Simulation and Analysis of Brushless Permanent Magnet Motor, 9-10th November 2012
- **Organizing Secretary**, National Seminar on Robotics and Intelligent Automation in Manufacturing and Services, 5-6th August 2009, in association with PSG IAS
- **Coordinator**, Indian Society for Technical Education, Short Term Training Program (ISTESTTP) on “Programmable Logic Controller” at PSG Polytechnic College in November 2002.
- **Coordinator**, ISTE STTP on “Mechatronics” at PSG Polytechnic College in May 2001

Training Programmes:

- Organized training programmes on CNC Machines Programming, PLC Programming, SCADA& DCS, PLC Networking, Switchgears& Cable Technology, Electric drives.

SEMINARS / CONFERENCES ATTENDED

- Attended a ten day ISTE STTP on “Network Management” conducted at PSG Polytechnic College in Dec 1999 – Jan 2000.
- Attended a four day program on, “Certificate of Competence in Automation” conducted at Siemens Ltd., Bangalore, in May, 2002
- Attended a six day workshop on, “Simulation, analysis and Design of Power Electronic Systems”, conducted by AICTE and ISTE at Amrita Institute of Technology, Coimbatore from May 2004.
- Attended a training programme on ‘Cable Technology’ at Lapp Cables, Stuttgart, Germany for two weeks, in 2006

- Attended a two day training programme on “Question Paper setting”, ETC, PSG Tech, Jan
07- 08, 2011

SPECIAL LECTURES DELIVERED

- Speech on ‘ Research Opportunities in Robotic’ @ NGP College of Engineering on 05.07.2014.
- ‘Service Robotics’ @ Coimbatore Institute of Technology on 30.10.2014.
- ‘Robotics & Automation the future of Engineering’ @ NSS College of Engineering on 05.12.2014.

SPONSORED / CONSULTANCY ACTIVITIES

- i) Principal Investigator for the project ‘Control of axis run away in CNC machines during Unprecedented power failures’ funded by Department of Science and Technology, Govt. of India 2004- 2006 Amount Rs. 16 20 000/-
- ii) Co-investigator, ‘Design and development of 3 000 V, 250 kW AC Induction motor for underwater operations’, funded by National Institute of Ocean Technology, 2006-2008, Amount Rs. 76 00 000/-.
- iii) Co-investigator, ‘Compensation of steady state Thermal deformation of machining centre under a specified load cycle’ funded by Department of Science and Technology, Govt. of India 2009- 2010 Amount Rs. 26 25 600/-
- iv) Principal Investigator, Design and Development of Humanoid, Avon Corporation, Mumbai, 2011, Amount Rs. 55 00 000/-
- v) Principal Investigator for the project, ‘Design and Development of Linux based CNC controller’ funded by Department of Science and Technology, Govt. of India 2011 Amount Rs. 27 00 000/-
- vi) Principal Investigator for the project, ‘Design and Development of Underwater Tunnel cleaning Robot’ funded by BHAVINI, Govt. of India 2012 Amount Rs. 32 21 000/-
- vii) Principal Investigator for the project, ‘Vision-assisted Algorithms for Micro Air Vehicles’ funded by AR&DB, Govt. of India 2012 Amount Rs. 47 85 000/-
- viii) Principal Investigator for the project, ‘High-squint mode SAR data simulation and algorithm for image formation’ funded by RCI, Hyderabad, Govt. of India 2012 Amount Rs. 9 90 000/-

ix) Principal Investigator for the Indo-Korea R&D Project, “Design and Development of Endotrainer”, funded by GITA, DST, Govt. of India Amount Rs.1 07 28000/-

x) Principal Investigator for the R&D project, Development of Automated Welding System under the CoE in Welding Technology, funded by Department of Heavy Industries, Govt. of India Amount, Rs. 890 00 000/-

Consultancy Services:

- i) Development of LED based lighting system for Airports runway
- ii) Development of Lift controller system for Lakshmi envirotech, Coimbatore
- iii) Power supply for 80 kW electric drive for Larsen & Tubro, Mysore
- iv) Development of VMC Simulator, PSGII
- v) Setting up of Electrical & Electronics Laboratories for Naval Academy, Ezhimala

MEMBERSHIP OF PROFESSIONAL BODIES

- Life Member, Indian Society for Technical Education (ISTE)
- Member of the Institution of Engineers (MIE – India) Member,
- Managing Committee Southern India Engineering Manufacturers Association (SIEMA), Coimbatore from 2012
- Vice-Chairman, Forum for Automation, CII Coimbatore Chapter 2014-15
- Member, Research and Development Board, BHEL, India 2012
- Visiting Researcher, University of Paderborn, Germany, 2011-12
- Member, Editorial Advisory & Review, National Journal of Technology, PSG College of Technology 2011-2013
- Member, Editorial Board, Asian Power Electronics Journal, Hong Kong, 2012-13
- Member, Editorial Board, Austin Journal of Robotics & Automation, New Jersey, USA, 2014
- Chairman, Board of Studies, Mechatronics Engineering, PSG Polytechnic College
- Chairman, Board of Studies, Robotics and Automation Engineering, PSG Tech
- Member, Board of Studies, Karpagam College of Engineering, Coimbatore
- Anna University Nominee, Board of Studies, Kongu Engineering College Erode, 2013-15
- Member, Board of Studies, Bannariamman Institute of Technology, Sathyamangalam, 2014-15

- Member, Indo-Korea joint research group on Robotics, 2013-14

DOCTORAL GUIDANCE / SUPERVISION

Number of Ph.D under progress : 7

Number of Ph.D Completed : 1