
Devendra Potnuru

Personal Profile

Date of Birth 15 -05-1977
Present Address Associate Professor, Department of EEE,
GVP College of Engineering for Women,
Kommadi ,Visakhapatnam



Objective

To become a great professor in Electrical Engineering with an esteemed organization as it provides a better platform for teaching, research, and learning. Further I can utilize my experience for the betterment of students.

Academic Profile			
Qualification	Name of the Board/University	Year	Class
B.Tech(EEE)	Bapatla Engineering College, Bapatla, Nagarjuna University, Andhra Pradesh.	2000	First class with Distinction
M. E.(Master of Engineering in Applied Electronics)	College of Engineering, Guindy, Anna University, Chennai, Tamil Nadu	2002	First
Ph.D.	J.N.T. University, Kakinada	2017	

Ph.D Thesis

Title : *Design and implementation of non-linear state estimators for a High performance BLDC Motor drive*

Area of Research : Power Electronics and Drives

Department : Electrical & Electronics Engineering

Professional Experience

Designation	Name of the Employer	Length of Service
Professor	Principal, GMR Institute of Technology, Rajam, Srikakulam, AP	1 year
Associate Professor	Principal,GMR Institute of Technology, Rajam, Srikakulam, AP	10 years
Assistant Professor (in senior scale), Department of EEE	Principal,GMR Institute of Technology, Rajam, Srikakulam, AP	2 years
Assistant Professor, Department of EEE	Principal,GMR Institute of Technology, Rajam, Srikakulam, AP	3 years

Memberships in Professional Societies

- Life member, ISTE (Indian Society for Technical Education) New Delhi
- Life member of IE (Institution of Engineers) India
- Member IEEE

Co-Curricular Activities

Workshops Organized

- Coordinated a two day national workshop on “optimization techniques in engineering applications”, held on 12th -13th march, 2009
- Coordinated a national workshop on “Sustainable Development and Environmental Challenges “held on 26th-27th march, 2010.
- Coordinated a two day training program for both EEE and ECE faculty on ”LabView software “held on 19th-20th march,2011 in GMR Institute of Technology ,Rajam.
- Coordinated a two day National workshop on,” Intelligent Control and Real-time Applications with dSPACE’ “, on 21st & 22nd November, 2014.
- Coordinated National workshop for the students of all departments in the institutional level during STEPCONE -2017 (Student Convention) from 27-29 January, 2017.

Coordinated a two day National workshop on,” Outcome Based Education & Accreditation (OBE & OBA) “, on 17th & 18th May, 2017.

Invited Talks

- Served as a resource person in the national workshop on “Emerging Trends in Electro mechanical Energy Conversion’ at GMR Institute of Technology, Rajam, during 5th -9th May, 2008.
- Given talk on ” MATLAB applications in Engineering” in a national workshop on “Statistical computing” at dept. of CSE,GMR Institute of Technology, Rajam, on 20th-24th December, 2010.
- Given talk on ” MATLAB/Simulink for Electrical Engineering Applications ” in Vignan Engineering College for Women, Visakhapatnam, on 20th-24th February, 2017.
- Session the co-chair in a three-day international conference on ‘Machine intelligence application to power, signal processing, communication and control’ (MIPSCCON) during 7th -9th April, 2011.
- Invited as a resource person for training program (add-on course) on “dSPACE with MATLAB/Simulink Applications”, from 09-03-2015 to 27-03-2015.

- Acting as a resource person for a workshop on “MATLAB for Engineering applications” for STEPCONE 2017 from 27-29 January, 2017 in GMRIT, Rajam.
- Delivered guest lecture on “Applications of Power Electronics in Renewable Energy Systems” in Sri Venkateswara College of Engineering and Technology, Etcherla, Srikakulam on 18-09-2018.
- Delivered talk on “Simulink Modeling of Physical Systems with MATLAB” for EEE & ECE students (Internal student workshop), February 2019
- Delivered talk, “Speed Control of BLDC Motors”, on 18-08-2018 for faculty of all departments as a part of Research Forum Lecture.
- Delivered talk on “Electric Vehicles –Present & Future” for all EEE faculty on 07-12-2018 as a part department forum Lecture.

Add on Courses delivered

- Add on Course on dSPACE DS1103 hardware controller in 2015.
- HT & AGL Systems in Airport 2012

Administrative and Developmental activities

- Departmental Coordinator for NBA/ ISO integration from 2006 to 2007 and at present Internal Auditor for ISO 9001:2008
- Coordinator for NBA in 2009, 2012 for EEE department.
- Coordinated the Criterion-8 of NBA for Tier-1 in 2016 in the Institution level.
- Department Coordinator for M.Tech from the academic year 2014-15.
- As Member-Secretary Akshay Urja Club (Energy Savers Club) conducting awareness programmes on Energy Conservation.
- Completed MODROBS project entitled “Power Electronics and drives Lab “and submitted completion report and utilization certificate to AICTE on 29th, March 2012.
- Worked towards development of Centre of Excellency in the Institute by establishing the Centre of Smart grid & Renewable Energy (CSRE).
- Coordinator for District level Non-conventional Energy Park in GMRIT, Rajam.
- Took complete ownership in development of Power Electronics and drives lab for M.Tech.
- Prepared and updated lab manuals for Power Electronics and Simulation lab, Power Converters Lab and Electrical Systems Simulation Lab.
- Organizing committee member for various workshops conducted by the department /college.

- At present chief–coordinator of Industry -Institute Partnership Cell (IIPC), from 2018 to till date.
- Convener Anti-ragging committee from 2020-21

Awards –Effective Teaching

- Received Best Teacher award (Institution Level)
- Received Appreciation award for effective teaching in “Electrical Drives” course.
- Received Telugu Vignana parithoshikam” (AP state merit Scholarship) in Intermediate
- Received MGR merit scholarship in M.Tech.

Major courses handled

Power Electronics , Electrical Drives , Linear Systems Analysis , Linear and discrete systems Analysis, Industrial Electronics , Power Electronic Control of DC drives , Power Electronic Control of AC drives ,Switching Mode Power Converters, Power Systems-1 , Electrical Power Transmission, Network theory ,Basic Electrical Engineering, Control Systems

Invited Reviewer

- Electric Power Components and Systems (SCI, Taylor & Francis Journal)
- Renewable Energy journal (SCI, Elsevier)
- International Journal of Systems Assurance Engineering and Management (Scopus Springer Journal)
- IET Signal Processing (SCI)

Expertise in Software & Hardware tools

- **Software tools** : MATLAB/Simulink , PSPICE ,PSIM, Mutlism
- **Hardware tools** : dSPACE DS 1103 ,DS1104, DSP & dSPIC controllers ,
Exposure on Aurdino Uno controller , PIC micro controllers

Details of Research Papers Published

A. JOURNALS

1. **Devendra Potnuru** , AyyaRao Tummal , “Implementation of Grasshopper optimization algorithm for closed loop speed control a BLDC motor drive”, in International Journal of Swarm Intelligence, Inderscience publications, February 2019.

2. **Devendra Potnuru**, AliceMary.K, Sai Babu.Ch,” Experimental implementation of Flower Pollination Algorithm for speed controller of BLDC motor” in Ainshyam's Engineering journal, December, 2018 (Elsevier publication (SCI-Expanded, Scopus)
3. **Bharani Chandra**, Kumar Pakki, and Devendra Potnuru. "A nonlinear load frequency controller for hydropower plants." International Journal of Ambient Energy (2018) (Taylor & Francis journal, Scopus, ESCI)
4. **Devendra Potnuru**, Javva Anil Kumar, “A DC-DC converter for low power applications using Arduino Uno Microcontroller”, International Journal of Computer Technology and Applications (SCOPUS indexed journal)
5. **Devendra Potnuru**, Y.Santosh Kumar, “Sliding mode observer and controller for Performance improvement of Brushless DC Motor”, International Journal of Engineering and Technology (IJET) (SCOPUS indexed journal)
6. **Devendra Potnuru**, Alice Mary.K, Sai babu.Ch, “open loop speed control of brushless dc motor using Low cost arduino UNO processor”, i-manager's Journal on Electrical Engineering, Vol. 10,No. 1, July - September 2016.
7. **Devendra Potnuru**, Alice Mary K, Saibabu Ch., “Design and implementation methodology for rapid control prototyping of closed loop speed control for BLDC motor”, Journal of Electrical Systems and Information Technology. (Elsevier Journal publication) Article in press with DOI (<http://dx.doi.org/10.1016/j.jesit.2016.12.005>)
8. **Devendra Potnuru**, AliceMary.K, Sai Babu.Ch, “Adaptive PID Fuzzy gain scheduling for performance enhancement of Brushless DC Motor using dSPACE DS1103”, International Journal of Applied Engineering Research, Research India Publications , ISSN 0973-4562 Volume 11, Number 10 pp: 7020-7024, 2016.
9. **Devendra Potnuru**, Alice Mary, Ch.Saibabu et.al, “Derivative-free Square-root cubature Kalman filter for non-linear brushless DC motors”, IET Electric Power Applications, Vol.10, Issue 5, pp. 419-429, May 2016(SCI , SCOPUS indexed journal).
10. **P.Devendra**, Ch.PavanKalyan, K.Alice Mary, Ch.Saibabu , “Simulation Approach for Torque Ripple Minimization of BLDC Motor Using Direct Torque Control”, in International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering (ISSN: 2320 – 3765) Vol: 2, N0:8, August. 2013, PP3703 – 37010 (impact factor 1.686 for 2012).
11. **P. Devendra**, Madhavi TVVS*, K Alice Mary, 4Ch. Saibabu, “Microcontroller based control of three phase BLDC motor ” in Journal of Engineering Research and Studies (E-ISSN0976-7916), Vol. II No. IV October-December 2011.
12. **P. Devendra** , K. Vinodkumar, K. Alice Mary ,Ch. Saibabu , “Speed control of Four-Switch BLDC Motor Drive”, in the International journal of Research and Reviews in Electrical and ComputerEngineering (IJRRECE) Vol:1,N0:3 September. 2011, PP1009 – 1015; Science Academy Publication.

13. **P. Devendra**, Madhavi TVVS*, K Alice Mary, Ch. Saibabu, "Microcontroller based control of three phase BLDC motor " in Journal of Engineering Research and Studies (E-ISSN0976-7916), Vol. II No. IV October-December 2011.
14. Narendra B Soni, **P.Devendra** Published a paper titled, "The transition to LED Illumination: A case study on energy conservation" in the international 'Journal of Theoretical & Applied Information Technology' Vol: 4, Nov. 2008 NO:11, PP1083 - 1088; Asian Research Publication (SCOPUS indexed journal).

B. CONFERENCES

1. TSLV Ayyarao, A.Apparao, **P.Devendra**, "Control of Induction motor by adaptive input-output Linearization", by presented at National conference NADCON-09 at GRIT, Hyderabad on 26th & 27th November 2009.
2. **P.Devendra**, Prof. N.B Soni , "Design of Low cost & Energy efficient Solar Power based illumination System for remote villages " presented on 8th & 9th ,January 2010 at International Conference ICRAES-10, KSR college of Engineering, Tiruchengode, Tamilnadu.
3. M.Anusha, **P.Devendra**, "Direct torque control of induction motor", presented on 15th -16th, May 2011 at National Conference NCP SOEM-2011, Bhubaneswar, and Orissa.
4. **P.Devendra**, JSV Sivakumar, Prof. N.B Soni, "Harmonic Reduction in PWM type AC chopper using genetic algorithm", by presented on 1st- 2nd ,October 2010 at national Conference NCEPES-2010, Siksha O Anusandhan University , Bhubaneswar, Orissa.
5. Prabhavathi, **P.Devendra**, Ch.Anandbabu,"Flux and speed estimation of decoupled induction motor", presented on 15th-16th, May 2011 at National Conference NCP SOEM-2011, Bhubaneswar, Orissa.
6. **P.Devendra**, Rajatesh.g, K.Alice Mary ,Ch.Saibabu "Sensorless Control of Brushless DC Motor Using Adaptive Neuro Fuzzy Inference Algorithm ", presented on 28th - 29th ,December 2011 at IEEE Conference ICEAS-2011 at Bhubaneswar, Orissa
7. JSV Sivakumar, **P.Devendra**, "Simulation studies on MRAC technique for vector controlled PMSM drive", presented on 8th -10th, July 2011 at international Conference ICNEAC-2011, Swarnadhra College of Engineering & Technology, Vishakhapatnam.
8. M.Ratnamala , **P.Devendra** , "Torque ripple reduction technique for Four switch for BLDC motor", presented on 2nd ,September 2012 at international Conference ICAEEEE-2012, organized by Institute for Research and Development India ,Bangalore.
9. P.Devendra, V.Lavanya, K.Alice Mary, Ch.Saibabu, 'Parameter Estimation and speed control of BLDC Motor', in National Conference on Electrical Power & Energy Systems (EPES-2015) held on 8th & 9th May, 2015 at GVP College of Engineering, Visakhapatnam.
10. Devendra Potnuru, AliceMary.K, Sai Babu.Ch, "Self-tuning of PID controller for speed control of BLDC Motor using Fuzzy gain scheduling", SERB, DST- New Delhi Sponsored Two day

National Conference on “Recent Trends in Power Electronics & Drives”, organized by AITAM , Tekkali, AP.

11. Devendra Potnuru, AliceMary.K, Sai Babu.Ch, “Open loop Speed control of BLDC Motor with dSPACE DS1103”, Springer International Conference on Soft Computing, Intelligent Systems and Applications, April 8th -9th ,2016 , organized by RL Jalappa Institute of Technology, Bangalore.
12. Devendra Potnuru, “Design of a Front End DC-DC Converter for a Permanent Magnet DC motor Using Fuzzy Gain Scheduling ”, IEEE International Conference on Power, Control, Signals & Instrumentation Engineering (ICPCSI), , 21st -22nd September ,2017, organized by Saveetha Engineering College ,Chennai.
13. Devendra Potnuru, “implementation of grasshopper optimization algorithm for controlling a bldc motor drive”, Springer international conference on Soft Computing in Data Analytics (SCDA) , 10th -11th March ,2018, organized by Sivani Engineering College, Srikakulam, Andhra Pradesh.
- 14.Devendra Potnuru, “Grey wolf optimization based Improved closed loop speed control for a bldc motor drive”, Springer 2nd international conference on “Smart computing and Informatics on 27th-28th Jan ,2018, organized by Prasad V Potluri Siddhartha Institute Of Technology Vijayawada, Andhra Pradesh
15. Devendra Potnuru, “Adaptive sliding mode controller design for a Single input –Multiple output (SIMO) DC–DC converter in Electric Vehicle Application”, Springer International Conference on Systems, Control and Computing (AISCC-2020) held at MNIT Jaipur during February 27-28, 2020.
16. C. V. Nageswara Rao, M. S. N. Murty and D. Potnuru, "Control of Four Tank System using Grasshopper Algorithm," *2020 IEEE India Council International Subsections Conference (INDISCON)*, 2020, pp. 200-203, doi: 10.1109/INDISCON50162.2020.00049.

C. BOOK CHAPTERS

1. **Devendra Potnuru**, AliceMary.K, Sai Babu.Ch, “Adaptive PID Fuzzy gain scheduling for performance enhancement of Brushless DC Motor using dSPACE DS1103” in *Advanced Engineering Research and Applications (AERA)*, Research India publications, May 2019.
2. **Devendra Potnuru**, and Ayyarao SLVTummala. "Implementation of grasshopper optimization algorithm for controlling a BLDC motor drive." *Soft Computing in Data Analytics*. Springer, Singapore, 2019. 369-376.
3. **Potnuru, Devendra**, and Ayyarao SLV Tummala. "Implementation of grasshopper optimization algorithm for controlling a BLDC motor drive." *Soft Computing in Data Analytics*. Springer, Singapore, 2019. 369-376.

Faculty Development programs Attended

1. Attended a One week Workshop on 'Methods of Improving Teaching Techniques' conducted by National Institute of Technical Teachers Training & Research, Chennai at GMRIT, Rajam, from 25-11-03 to 29-11-03.
2. Attended in the AICTE-ISTE sponsored STTP Program on "Application of Power Electronics to Power Systems" on 6th-10th December, 2005 at Gayatri Vidya Parishad (GVP) College of Engineering, Visakhapatnam.
3. Attended a Two-Day Workshop on 'VLSI and Embedded Systems' at GMRIT, Rajam, 17th – 18th Feb 2006.
4. Attended a Two-Day Workshop on 'Recent Trends in Nanoelectronics' at GMRIT, Rajam, 8th – 9th Sep 2006.
5. Attended a three day workshop on "Entrepreneurship" organized by Department of EEE, GMRIT, Rajam during 10th-12th May 2008
6. Attended a five day workshop on 'Emerging trends in Electromechanical Energy conversion" organized by Department of EEE, GMRIT, Rajam during 5th-9th May 2008
7. Organized a two-day national workshop for faculty on "Optimization Techniques in Engineering Applications" from 12th -13th March 2009.
8. Attended training course on 'internal auditing' course on ISO 9001:2008 held on 21st & 22nd August 2009.
9. Attended DST sponsored a Two-Day Workshop on 'Advanced Signal Processing Applications in Electronics and Telecommunications' at GMR Institute Technology, Rajam, 19th – 20th Feb 2010
10. Attended a One-Day Workshop on 'Solar photovoltaic Installations' at Vignan's Institute of information Technology, Vishakhapatnam on March 21st, 2011.
11. Attended Five- day faculty development program on 'High Impact teaching Skills' at GMRIT, Rajam, from 11th -15th, July 2011.
12. Attended a Two-day Mission10X Certification Workshop on 19th & 20th, September 2011 at G M R Institute of Technology, Rajam.
13. Attended a Two-Day national workshop on 'Artificial Intelligence Techniques in Engineering Applications -2011(AITEA-11) at MVGR college of Engineering, Vizianagaram, on 17th - 18th December, 2011
14. Attended one week training on 'Power Plant Familiarization' at Rosa Power Supply Company Ltd (Reliance Power), Shahjahanpur, Uttar Pradesh from 01.02.2012 to 07.02.2012.
15. Attended a One-Day workshop on 'Implementation of Simulink models on dSPACE' at Vignan's Institute of Information Technology, Vishakhapatnam, on 18th February, 2012.

16. Attended a Five-Day National Workshop on 'Advanced Signal Processing Applications in Electronics and Telecommunications' at GMR Institute Technology, Rajam, 21st – 25th March, 2016.
17. Attended a Two-Day program on 'Internal Auditor Training on quality Management Systems based on ISO 9001:2015 at GMR Institute Technology, Rajam, 30th & 31st March, 2016.
18. Attended a Two-Day program on 'Empowering Engineering Faculty in Question Paper Setting', at GMR Institute Technology, Rajam, 11th & 12th November, 2016.
19. Attended a Five-Day National Workshop on 'Advanced Signal Processing Applications in Electronics and Telecommunications' at GMR Institute Technology, Rajam, 21st – 25th March, 2016.
20. Attended a Two-Day program on 'Internal Auditor Training on quality Management Systems based on ISO 9001:2015 at GMR Institute Technology, Rajam, 30th & 31st March, 2016.
21. Attended a Two-Day program on 'Empowering Engineering Faculty in Question Paper Setting', at GMR Institute Technology, Rajam, 11th & 12th November, 2016.

NPTEL –online certifications

- Successfully completed NPTEL online course on “Design of Photovoltaic systems (12 weeks course)” with Elite grade in 2018
- Successfully completed NPTEL online course on “DC Microgrids (8 weeks course)” with Elite grade in 2019

Dr.P.Devendra