




DAYANANDA SAGAR ACADEMY OF TECHNOLOGY AND MANAGEMENT
22 Mile, B.M Kaval, Udayapura, Kanakapura Road, Bangalore-560082.

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Faculty Name	Dr.K.Shanmukha Sundar	
Designation	Professor	
Educational Qualification	M.Tech., Ph.D.	
Experience in Years	27 Years	
Area of Interest	Power System, Renewable Energy sources and Power Electronics	
Email ID	bonniekhs@gmail.com	

Educational Details

- Obtained Ph.D in Faculty in Electrical & Electronics Engineering Sciences during the year 2010 under JNNCE, Shivamogga as R&D centre under Visvesvaraya Technological University.
- Obtained M.Tech in Power & Energy Systems during the year 1994 from KREC, Surathkal, Mangalore University.
- Obtained B.E in EEE during the year 1990 from Adi Chunchanagiri Institute of Technology, Mysore University.

Personal Details

- Hobbies: Cricket and listening to Music,
- Languages Known: Kannada ,English, Telugu, Hindi.

Professional Experience

Designation	Institution	Duration
Lecturer	Vijayanagar College of Engineering, Bellary.	1990-1992
Lecturer	Vijayanagar College of Engineering, Bellary	Feb-1994 November 1995
Lecturer	Dayananda Sagar College of Engineering, Bangalore.	Dec. 1995 to Oct- 2004
Senior Lecturer	Dayananda Sagar College of Engineering, Bangalore.	Oct- 2004 to Aug-2005
Asst Professor	Dayananda Sagar College of Engineering, Bangalore.	Sept-2005 to December 2009

Associate Professor	Dayananda Sagar College of Engineering, Bangalore.	Jan-2010 to Dec-2010
Professor & HOD	EEE Department, Dayananda Sagar College of Engineering, Bangalore.	Jan-2011 to 26-05-2019
Professor	EEE Department, Dayananda Sagar Academy of Technology and Management, Bangalore.	27-05-2019 to till date

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Publications

International Journals:

- **“Design Of Fractional Order PID Controller For AGC Loop In A Deregulated Power System With RFB & IPFC Units** “Journal of Engineering Science and Technology, Vol. 14, No. 2, PP.763-783, 2019, .[**Index- SCOPUS**].
- **Optimized Control of VAR/Voltage in the Off-grid Hybrid Power System.** “Emerging Research in Electronics, Computer Science and Technology”. Lecture Notes in Electrical Engineering, vol 545. April 2019Springer, Singapore .[**Index- SCOPUS**].
- **“Three Phase Transformerless Inverter For Grid Tied Renewable Application By Using Fuzzy Logic Based On P-Q Theory”** , Proc. in International Journal of Mechatronics ,Electrical and Computer technology , July 2019, Vol. 9, Issue 33,pp 4241-4247 **ISSN: 2411-6173 (Print), ISSN: 2305-0543 (Online)**.
- **“Optimized Controllers’ Designs using Adaptive Bacterial Foraging Algorithm for Voltage Control and Reactive Power Management in Off-grid Hybrid Power System”** International Journal of Image, Graphics and Signal Processing(IJIGSP),Vol. 11, No. 1, PP.33-43, Jan. 2019, DOI: 10.5815/ijigsp ISSN: 2074-9074 (Print), ISSN: 2074-9082 (Online) , Index-Google Scholar Citations / h5-index
- **“Optimal Controllers Design for Voltage Control in Off-grid Hybrid Power System”.** International Journal of Electrical and Computer Engineering (IJECE), accepted and under publication , <http://www.iaescore.com>, [**Index- SCOPUS**]
- **” Study of a Standalone Microgrid with Multiple Distributed Energy Resources “** , International Journal of Mechatronics , Electrical and Computer Technology, Volume 9(32), Apr. 2019, PP. 4154-4169.

- **"ANFIS tuned PI Control of Inverter for VAR Support for Voltage Control in Off-Grid Hybrid Power System"** , International Journal of Pure and Applied Mathematics, Volume 118 No. 24 , 2018, ISSN: 1314-3395
- **" THD Comparison using different PWM Techniques for Single Phase Eleven level Inverter "**, Proc. in International Journal of Advanced Research in Science and Engineering ,Vol. 07, special Issue 07, April-2018, pp 1192-1203, ISSN: 2319-8346(print), ISSN: 2319-8354(online).
- **"Leakage Current Elimination by Single Phase Transformerless with Charge Pump Circuit for Grid Tied Renewable Applications "**, Proc. in International Journal of Advanced Research in Science and Engineering ,Vol. 07, special Issue 07, April-2018, pp 1097-1106, ISSN: 2319-8346(print), ISSN: 2319-8354(online).
- **"Grid Connected Eleven level Inverter with Renewable Energy Source."**, Proc. in International Journal of current Engineering and Scientific Research(UGC Approved- 43032): ,Vol. V, Issue V, May-2018, pp 72-77, ISSN: 2393-8374(print), ISSN: 2394-0697(online)
- **"Active and Reactive Power control for PV based water pumping system. "**, Proc. in International Journal on Recent and Innovation Trends in Computing and Communication ,Vol. 06, Issue 06, June-2018, pp 36-40, ISSN: 2321-8169
- **Photovoltaic Solar System for Active Power Generation and Reactive Power Support in Microgrids"**, Proc International Journal of Emerging Technologies and Innovative Research (UGC-63975) , Volume 5, Issue 7, July 2018 , ISSN: 2349-5162, pp 861-869 impact factor 5.87.
- **"Fuzzy Self Tuning PI Controller based Inverter Control for Voltage Regulation in Off-Grid Hybrid Power System"**, Elsevier Energy Procedia,Volume117, June 2017, Pages 409-416 , doi.org/10.1016/j.egypro.2017.05.160
- **"Solar Based Dual Output LED Driver"**, Proc. in Imperial Journal of Interdisciplinary Research ,Vol. 2, Issue 12, 2016, pp 883-888, ISSN: 2454-1362, Impact factor 3.42
- **" Open Loop and Closed Loop control of non-isolated high step up converter with reduced voltage stress"**, Proc. in Imperial Journal of Interdisciplinary Research ,Vol. 2, Issue 12, 2016, pp 965-970, ISSN: 2454-1362, Impact factor 3.42
- **" A Comparative Study on Two different Flyback Configurations at Input PFC Stage for Lighting Applications"**, Proc. in International Journal of Mechatronics, Electrical and Computer Technology(IJMEC) , Vol. 5, Issue 14, January 2015, pp 46-60, IJMEC DOI: 649123/10118 ISSN : 2305 – 0543. Impact factor : 2.84, ICV : 5.77

- **“Design of Piezoelectric Energy Harvesting and Storage Devices”**, Proc in International Journal of Advanced Research in Electrical , Electronics and Instrumentation Engineering(IJAREEIE) , Vol. 3, Issue 8, August 2014, pp 10945-10953, ISSN : 2320 – 3765, Impact factor :1.686.
- **“Interleaved High Step-up DC-DC Converter with PID Controller”**, Proc in International Journal of Advanced Research in Electrical , Electronics and Instrumentation Engineering(IJAREEIE) , Vol. 3, Issue 8, August 2014, pp 11447-11456, ISSN : 2320 – 3765, Impact factor :1.686
- **“ High Step-up DC-DC Converter with PID Controller for Photovoltaic Applications”**, Proc in International Journal of Engineering Trends and Technology(IJETT) , Vol. 12, Issue 4, June 2014, pp 176-182, ISSN : 2231 – 5381, Impact factor :0.569
- **“ A Simulation Study of Active Snubber Cell for a PWM DC-DC Boost Converter”**, Proc in International Journal of Advanced Research in Electrical , Electronics and Instrumentation Engineering(IJAREEIE) , Vol. 3, Issue 7, July 2014, pp 10728-10736, ISSN : 2320 – 3765, Impact factor :1.686
- **“ Performance Evaluation & Simulation of Solar Power System”**, Proc in International Journal of Innovative Research in Electrical , Instrumentation & Control Engineering (IJIREEICE), Vol. 2, Issue 7, July 2014, pp 1711-1717, ISSN : 2321 – 35526.
- **“Integration of Two Flyback Converters at input PFC Stage for Lighting Applications”**, Proc in International Journal of Advanced Research in Electrical , Electronics and Instrumentation Engineering(IJAREEIE) , Vol. 3, Issue 8, August 2014, pp 10987-10994, ISSN : 2320 – 3765, Impact factor :1.686
- **“High-Boost Ratio Hybrid Transformer DC-DC Converter”** proc. in “International Journal of Modern Science and Engineering Technology (IJMSET), ISSN 2349-3755”, Volume.1 and Issue.5, 2014
- **“Effect of UPFC on system performance under Normal and fault condition”** , International Journal of Electrical and Electronics Engineering (*IJEEE*) ISSN (*PRINT*): 2231 – 5284, Vol-2, Iss-1, 2012,pp 60-63
- **“Effect of static var compensator on voltage stability under network contingencies”**, International Journal of Electrical and Electronics Engineering (*IJEEE*) ISSN (*PRINT*): 2231 – 5284, Vol-2, Iss-1, 2012,pp 50-54
- **“Selection of TCSC Location for Secured Optimal Power Flow Under Normal and Network Contingencies”** , International Journal of Electrical Power and Energy Systems (Elsevier), 34(2012), pp. 29-37, DOI: 10.1016/j.ijepes.2011.09.002

- **“Real Time Control of Power Station Parameters Using Mobile Communication”,** published in **International Journal of Electronics & Electrical Engineering (IJEEE)**, vol 11, No.1, pp.15-20, June-August 2010.
- **“Voltage Stability Enhancement via Optimal Utilization of SVC”,** published in **International Journal of Electrical Engineering and Electrical Systems Engineering (IJEEES)**, vol 2, No.1, pp. 10-15, April-June 2010.
- **“Selection of FACTS Devices Location for OPF and to Enhance the System Performance”,** published in **International Journal on Power Engineering (IJPE)**, vol 1, No.1, pp. 15-33, June 2009.
- **“Secured OPF via Optimal Utilization of SVC”,** published in **International Journal on Electronic and Electrical Engineering**, ISSN 0974-2042. **Pg. 77-86, vol. 1. No 1, Nov 2009,**
- **“Enhancement of system performance and OPF through an optimal utilisation of SVC”,** published in **International Journal on Electronic and Electrical Engineering**, ISSN 0974-2042. **Pg. 122-132, vol. 1. No 1, Nov 2009.**
- **“Optimal Utilization of TCSC to Improve the System Operating Conditions under Network Contingencies”,** published in **IETECH Journal of Electrical Analysis, International Engineering and Technology publications.** Pg. 59-64, vol. 3. No 2, 2009, ISSN 0973-8088.

National Journals: NIL

Conferences:

International Conference Proceedings:

- **“Effect of Equivalent Electrical Distance and Voltage Stability Improvement Using DSTATCOM in Radial Distribution System “,** Proc. Of first International Conference on Advanced Technologies in Intelligent Control, Environment, Computing and Communication Engineering (ICATIECE-2019)” on 19th & 20th March 2019.
- **“ Voltage and Frequency Control in Off-Grid Power System” ,** First International Conference on Advanced Technologies in Intelligent Control, Environment, Computing and Communication Engineering (ICATIECE-2019). IEEE conference ,19th - 20th March 2019 ,

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- **Fuzzy self tuning PI controller based inverter control for voltage regulation in off-grid hybrid power system " , 1st International Conference on Power Engineering Computing and CONTROL (PECCON-2017) 2nd - 4 th March 2017, VIT Chennai**
- **"Preparation and switching studies on binary compound GeTe for memory applications" ,4th Elsevier International Conference on Materials Processing and Characterization, Materials Today: Proceedings, Volume 2, Issues 4–5, 14th & 15th March 2015, Pages 1435-1440.**
- **" Enhancement of System Performance using UPFC" , Proc. Of International Conference on Electrical, Electronics & Instrumentation Engineering (ICEEIE), Bengaluru, organized by IRAJ Research forum in association with Institute of Research & Journals on 5th July 2014, ISBN: 978-93-84209-33-9**
- **"DC-DC Converter with Maximum Power Point Tracking For TEG Application" , proc. International Conference on "An International Conference on Convergence of Science, Engineering & Management in Education and Research – A Global Perspective (II Edition)"., 26th and 27th September 2013.**
- **"Design of Off Grid PV System for Rural Community" , Proc .IEEE International Conference on Emerging Trends in Communication, Control, Signal Processing and Computing Applications (C²SPCA) . 10-11 October 2013.
DOI: [10.1109/C2SPCA.2013.6749365](https://doi.org/10.1109/C2SPCA.2013.6749365)**
- **"Real Time Control of DC Motor Drive using Speech Recognition" , paper published in Proc. Of IEEE IICPE 2010 (paper is going to be included in IEEE Xplore database) held during Jan 281 to 30, 2011 at Netaji Subhas Institute of Technology, New Delhi.
[Power Electronics \(IICPE\), 2010 India International Conference on Digital Object identifier: 10.1109/IICPE.2010.5728117](https://doi.org/10.1109/IICPE.2010.5728117), Publication Year: 2011 , Page(s): 1 - 5 .**
- **"Enhancement of System Performance and Static Security Through an Optimal Placement of SVC" , Paper presented in Proc. of IEEE conference TENCON-2008 sponsored by IEEE Region 10, held during 18-21 November 2008 at University of Hyderabad, India.
(This paper has been included in IEEE Xplore database), Digital Object Identifier 10.1109/TENCON.2008.4766799, ISBN: 978-1-4244-2408-5.**
- **"Enhancement of Power System Performance using TCSC" Paper presented in Proc. of IEEE conference POWERCON 2008 & IEEE Power India Conference, held during 12-15 October 2008 at New Delhi, India. (CCC 978-1-4244-1762-9/08/\$25.00 ©2008 IEEE)
(This paper has been included in IEEE Xplore database), Digital Object Identifier: 10.1109/ICPST.2008.4745253 ISBN: 978-1-4244-1763-6.**

- **“Enhancement of System Static Security and Optimal Power Flow Solution through an Optimal Placement of TCSC”**, Proc. of **International Conference on Power System Analysis, Control and Optimisation (PSACO-2008)** technically co-sponsored by **IEEE Hyderabad section**, held at Department of Electrical Engineering, AU College of Engineering, Andhra University, Visakhapatnam-530003, AP India, during 13-15th March 2008.
- **“TCSC–A Device in Ameliorating Line overloads under Network Contingencies”** in the Proc. **International Conference on Power Systems (ICPS-2008)** **organized by C.P.R.I**, Bangalore and is technically sponsored by IEEE (Bangalore section) and PES (IEEE-USA).

National Conference Proceedings:

- [1] "Simulation and MTPA Control of Permanent magnet synchronous motor", proceedings of , National Conference SEITCON-2016,22 &23 Feb 2016, pp-24-28., ISBN: 978-93-84935-79-5
- [2] "LED Driver Design Analysis" ,proceedings of , National Conference SEITCON-2016,22 &23 Feb 2016, pp-49-52, ISBN: 978-93-84935-79-5
- [3] "Design and Modelling of Solar PV System for DC & AC Loads and its effects of shading on PV Arrays" ,proceedings of , National Conference SEITCON-2016,22 &23 Feb 2016, pp-96-100, ISBN: 978-93-84935-79-5
- [4] "Car Battery Charger ,proceedings of , National Conference SEITCON-2016,22 &23 Feb 2016, pp-101-105, ISBN: 978-93-84935-79-5
- [5] "Low cost 36 W LED Driver for Indoor Applications", Proceedings on National Conference on RIESMS-2015, 10th & 11th Sept. 2015, pp-48-53, ISBN: 978-93-5254-017-4.
- [6] " High output voltage Generation for Medcila X-Ray Imaging Applications using N-Multiplier and Stacked Transformer", Proceedings on National Conference on RIESMS-2015, 10th & 11th Sept. 2015, pp-54-58, ISBN: 978-93-5254-017-4.
- [7] **“Implementation of STATCOM in Simulink to Mitigate Voltage Sag”**, Proceedings of National Conference on Recent Investigation in Electrical Engineering using Experimental & Computational Techniques held on 14th Oct 2011 at B.N.M Institute of Technology, Bangalore
- [8] **“1 kW Buck Topology Based SMPA”** at 18th IEEE Annual Symposium on “ Emerging Needs in Computing, Communication, Signals and Power ENC2SP 2009” on 29 August 2009 held at hotel Solitaire, Bangalore.
- [9] **“Contingency Ranking of a Power System by an Integer Linear Programming Method”** at National Symposium on **“Scenario of Scientific & Information Technology in Power and Electronic Systems”** on 3rd & 4th April 2008 held at

Dayananda Sagar College of Engineering, Bangalore and is co-sponsored by Central Power Research Institute, Bangalore.

[10] **“Optimization Methods in Power Systems”** at Second National Seminar on Modern Trends in Power Systems, organized by E & E Dept. D.S.C.E, Bangalore, and sponsored by CPRI, Bangalore during 5-6, April-2007

[11] **“Enhancement of System Static Security under N-1 Contingency through Optimal Placement of TCSC”** Paper presented in the Proc. of IEEE Fifteenth Annual Symposium on Technological Advances and IT Applications for Indian Power Sector, Bangalore, India, 24-25 Nov, 2006.

[12] **“The Allure of Parallel Processing in Power System”** at Two-Day National Seminar on Modern Trends in Power Systems, organized by E & E Dept., D.S.C.E, Bangalore and sponsored by CPRI, Bangalore on 10-11, Nov-2005

Awards

Academic Activity

Total Experience in Years	Teaching: 27 yrs	Administrative: 8.5 yrs
PhDs/Projects Guided/Guiding	PhDs	04
	Ph.Ds Produced	01
	Projects at Master level	32
	Projects at UG level	25
Research Area	Power System –Optimal Power flow & Power Quality, Power Electronics and Renewable Energy Resources.	
Professional Memberships	ISTE life member	
Grants fetched	1 Lac Seminar grants from AICTE during 2013 4.04 lacs from AICTE for conducting Two week FDP during April 2019	

Faculty Development Activity

- Participated in 5 Faculty development Programmes
- Organized two Faculty Development Programmes

Administrative Activity

Administrative Experience:

Implementation of OBE (NBA) in the department

- BOE Member, Visvesvaraya Technological University, Belgaum
- Served as Expert committee member for Ph.D selection under Visvesvaraya Technological University, Belgaum.
- Served as Local Inspection Committee member under Visvesvaraya Technological University, Belgaum
- BOS Member , Jain University, Bengaluru
- Served as member of BOS, Alliance University, Bengaluru
- Served as NBA Coordinator and instrumental in getting accreditation to the department twice in the past. As HoD, able to get 3years accreditation for the department in the year 2017.
- Served as Deputy Custodian for Bangalore University Examination at Bangalore University in the year 1998-1999.
- Served as Tabulator for Bangalore University Examination under Bangalore University.
- Serving as Examiner for Bangalore University & V.T.U.
- Serving for VTU and Bangalore University for confidential works.
- Actively involved in Planning & Organizing the departmental activities, viz. organizing Departmental Seminars/ Invited Talks /Workshops /Staff Training Programs/Symposium, Preparation of Manuals, arranging technical tours etc.
- Served as chairperson for selected committees formed during various functions held at college level viz: Graduation Day, Fresher's Day etc.
- Served as PG (M.Tech) coordinator from Oct 2006 to July 2008.
- Key responsibilities include Department development and Annual program funding allocation for Laboratories other activities.

Administrative Skills:

My administrative and teaching experience has enhanced my professional skills in dealing with various academic activities. Few of them are:

- Implementation of academic planning and policies with appropriate collaborations.
- Fostering academic excellence culture in the organization/Institution
- Promote individual student success by acquiring and analyzing the strengths and weakness of each student

- Communication of Student academic progress to the parents.
- Coordinating departmental and other academic meetings which involves students and/or students
- Monitoring and mentoring new Faculty members
- Enthusiastic and experienced in setting up administrative and academic rules and regulations.

Professional Membership

- ISTE

Contact Details

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My Vision

- To share and enhance my knowledge by guiding Ph.Ds.

- To become good administrator by using my skills and intelligence with an option to share and teach the technical knowledge to students and Faculty community.