

Name : Dr. Bindu S. J.
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Educational Qualifications

PhD Power Electronics, CUSAT in 2016

M.Tech Power Electronics and Power Systems, IIT Bombay 2001

B. Tech. Electrical Engineering , University of Calicut, in 1985

Experience

Organisation	Designation	Period	Duration(Yr, Month)
College of Engg Perumon, Kollam	Associate Professor & Head	01-01-2011 to till date	10 years, 10 months
College of Engg Perumon, Kollam	Assistant Professor & Head	28-03-2005 to 31-12-2010	5 Years 9 months
A.C.Patil College of Engg Navi Mumbai	Assistant Professor	03-03-2003 to 27-03-2005	2 years&24 days
A.C.Patil College of Engg, Navi Mumbai	Lecturer	02-08-1994 to 02-03-2003	8years &7months
Agnel Polytechnic, Navi Mumbai	Lecturer	05-07-1993 to 31-03-1994	1 year
R I Centre, Kollam	Lecturer	01-04-1987 to 31-03-1988	1year

Career Profile

Dr. Bindu S.J. currently serves as HoD at the department of Electrical and Electronics Engineering, College of Engineering, Perumon. She has been in the teaching profession for the last 29 years. Her areas of research include Electrical Machine Drives, Signal Processing, Power Electronics and Alternate Energy System. She served earlier at A.C.Patil College of Engineering, Kharghar, New Bombay.

Dr. Bindu S.J. joined College of Engineering Perumon in the year 2005 as faculty in the Department of Electrical and Electronics Engineering and was undertaking teaching and projects for B. Tech students. She did her B. Tech. in Electrical & Electronics Engineering from N.S.S. College of Engineering Palghat in 1985 and M. Tech. in Power Electronics & Power System from IIT Bombay in 2001. Dr. Bindu S.J. did her Ph. D. in Power Electronics from School of Engineering, CUSAT in 2016.

She has published paper in IEEE international conferences at **Croatia** in the year 2005 at **Singapore** in the year 2008, at **Japan** in 2012 and in **Paris** in 2015.

She has guided several B. Tech. and M. Tech. research projects. She has served as reviewer for research papers in Electric Power Components and Systems, Taylor and Francis, Journal of Electrical and Electronic Engineering, IEEJ Journal of Industry Applications Japan. She has also served as technical committee member and reviewer for many conferences. She has published more than 18 research papers, chaired several sessions in National and International conferences.

She is TEQIP II coordinator and a member in Board of Governors of TEQIP II, College of Engineering Perumon, being the R&D coordinator of Teqip II she has guided 5 sponsored projects.

PROFESSIONAL/ACADEMIC/ADMINISTRATIVE EXPERIENCE

- 1. Associate Professor and Head of Department of Electrical and Electronics Engineering, College of Engineering, Perumon.**
- 2. Member, Board of Governors of TEQIP II, College of Engineering, Perumon.**
- 3. TEQIP-II Coordinator, College of Engineering, Perumon**
 - a. Convened 25 BoG meeting.
 - b. Effectively and efficiently spent 11 crore.**
 - c. Our college name is in the top list of best performing TEQIP II institutions in Kerala under my co-ordinatorship.
- 4. R&D Coordinator, College of Engineering, Perumon.**
 - a. Convened 6 meeting with Senior Research Associates Dr KKP Pillai, Dr Bindu G.R
 - b. Motivated students to carry out socially relevant project utilizing Teqip II funds

- c. UG projects like Solar Tunnel dryer, solar boat ,UVO scanner ,GARVIN,ETHAPP attracts the media,
- d. Organised National Research Colloquium on “Recent Advancement in Electrical Engineering”, 13-14 March 2017.
- e. Agricultural department approached for the technology of “Solar tunnel dryer” for their use of drying fruits ,vegetables,spices.
- f. Provided technical assistant to one farmer for drying coconut using solar tunnel dryer.
- g. Fisheries department approached for the technology of “Solar boat” for fishermen.

- 5. First Year coordinator, College of Engineering, Perumon**
- 6. IQAC member, College of Engineering Perumon**
- 7. PTA Executive Member, College of Engineering, Perumon.**
- 8. Purchase Committee member, College of Engineering, Perumon.**
- 9. Academic Monitoring Committee Member, College of Engineering, Perumon**
- 10. Served as Exam cell coordinator, B. Tech examinations ,CUSAT**
- 11. Served as Placement cell coordinator ,College of Engineering, Perumon**
- 12. Interview board member for selection of adhoc Faculty, College of Engineering Perumon**
- 13. Organizational chair, International Conference on Future Technology in Engineering ICFTE 2016, Kollam, Kerala**
- 14. Session chair , International Conference on Innovations in Science and Technology for Sustainable Development’ (ICISTSD 2020) , College of Engineering Perumon**
- 15. Session chair ,1st,2nd,3rd,4th,5th National conferences organized by EEE Dept, CE perumon**

INTERACTIONS WITH EXTERNAL WORLD

- 1. Academic Auditor, APJ Abdul Kalam Technological University (KTU) since 2017
- 2. Technical committee (Infrastructure) Member, S N open University ,Kollam.
- 3. Doctoral committee member , Amrita Vishwa Vidyapeetham
- 4. Vice chairman ,syllabus preparation committee for the Diploma programme “Renewable Energy” of SITTTR
- 5. Interview board member for the selection of Administrative officers, S N Open University, Kollam.
- 6. Interview board member for the selection of Data entry operator, S N Open University, Kollam.
- 7. Organisational chair International Conference on Future Technology in Engineering ICFTE 2016, Kollam, Kerala
- 8. Reviewer& Session chair, IEEE conference ICNTE 2017,Navimumbai
- 9. Reviewer& Session chair, IEEE conference ICNTE 2021,Navimumbai
- 10. In the Interview board member for selection of ad hoc Faculty, CAPE, Kerala.

Research Funding

Project Title	Funding Agency	Amount	Duration
Li-Fi communication system with Industrial Automation and Biomedical applications	TEQIP-II	Rs. 34,450/-	1 year
Advanced multifunction charge controller for vehicle	TEQIP-II	Rs.27,894/-	1 year
Smart solar Tunnel dryer	TEQIP-II	Rs 74,541/-	1 year
Wireless Signaling in Railways	CERD	Rs. 23,000/-	1 year
Smart Energy Management	KSCSTE	Rs. 7000/-	1 year
A Safety Vehicle Control System	INNOVATE KSCSTE	Rs.15000/-	1 year
GARVIN-GPS and real time computer vision based intelligent navigation system for electric vehicles	TEQIP-II	Rs. 5000/-	1 year
E-Mobility Lab	MODROB-AICTE	Rs. 20,00,000/-	3 Year
PV based open well submersible sensorless BLDC motor drive	KTU Research Seed Money	Rs. 1,16,000/-	1 Year

Award

Received certificate of appreciation from **Infosys** for the extra ordinary effort and commendable contribution towards Infosys' recruitment and engagement initiatives at CE Perumon

Best paper Award in International Conference on Innovations in Science and Technology for Sustainable Development' (ICISTSD 2020) from 23rd to 24th of November, 2020, College of Engineering Perumon.

Best paper Award in Third National conference on NFTPCOS'18.

IPR

Developed new IP titled MPPT_PO Cost effective Drift Free MPPT based Dual Boost PV utilising the HSRPEC technology of CDAC

ACHIEVEMENTS DURING HER TENURE AS HoD EEE, COLLEGE OF ENGINEERING PERUMON

- Received NBA accreditation (2018-2021 extended upto 30/06/2022)
- MODROB funding from AICTE for "E-Mobility Lab"
- Received fund from AICTE to conduct ATAL FDP
- Received NaMPET fund for 1 week FDP
- 4 MoUs were signed with various industries
- Motivated fellow faculty members to pursue PhD and to take up various research initiatives.
- Motivated students to publish research papers based on their final year projects.
- Regularly organizing National Conference since 2016.
- 4 class rooms and 2 labs runs on the supply provided from the solar power project, designed and developed by our students.
- 21 UNITS OF automatic sanitizer "e-Sudhi" developed by 2017-2021 Batch students with the

financial aid of PTA, Alumni and staff club ,CEP and delivered to 18 important public places in and around Kollam District (Collectrate, District hospital, KSRTC bus station , fire station are some of them)

MEMBERSHIP IN PROFESSIONAL BODIES

- IEEE Member
- ISTE Life Member
- ISSE Life Member

CONSULTANCY SERVICES PROVIDED

- AllIMS Delhi Dentistry Department(2020-2021). A portable chair side dental cryotherapy unit that could continuously deliver the irrigant at 2.5°C was developed based on the research work done by Dentistry department of AllIMS Delhi(2020-2021) in collaboration with CDAC. The equipment was developed for the use in sedation purpose for dental surgery department. The equipment is under experimentation process in AllIMS hospital where more than 50 patients were successfully sedated. Now the experimentation is to be done on more 100 patients and looking forward for ICMR Funding.
- Member, Committee for identifying obsolete laboratory equipment and hardware District Govt. Hospital, Kollam.
- Consultancy work with KEL, Kundra for Determination of stress acting on alternator shaft of Air conditioning coaches used in Indian Railways.
- Consultancy with SK Electricals and Contractors Kollam “Quality test of 20W LED street lighting system (2018-2019)”.
- Project with Energy Management Cell Trivandrum Automatic Urinal Flushing System(2019-2020)

Management Courses Attended

- MDP on “Academic Leadership Programme for TEQIP Institutions”, **IIM Kozhikode**, 23 to 28 June, 2014
- FDP on “Management of technology and innovation” , IIM Kozhikode, 24 to 26 Nov 2016
- MDP on “Managerial Excellence”, IIM Culcutta, 02-04 Mar 2017
- “High Impact Leadership Programme” , 08-10 Oct 2015, TPLC, Trivandrum

List of MOUs Signed with various companies while serving as HoD

Sr.no	Name of Company	Area of Expertise	Objectives of MOUs
1	Entuple technologies (P) ltd, Bangalore	FPGA	To participate in product development activities through projects sponsored by firm

2	Kerala Electrical Limited,,Kundara.Kerala	Electrical machines	To carry out industry institute interaction through projects, research participation, student internship and also by joint projects
3	Centre for Development of Advanced Computing (C-DAC), Trivandrum	HSPERC	Research in frontier area of power systems, power electronics and to Conduct seminars, conference, expert lectures
4	Silicon Microsystems /silicon education world pvt ltd, Bangalore	PLC	Conduct short courses, lectures, workshops and seminars

Teaching - Evaluation Technology Programmes,

Pedagogical Training	23.02.2015	25.02.2015	IIT Madras
Training Program on Power Industry Familiarization Program	25.08.2016	27.08.2016	Power Engineers Training & Research Centre, Moolamattom, Idukki
IEEE International Conference on Power Systems	04.03.2016	06.03.2016	IIT Delhi
Design and Degree Show 2016 and two day of design conference on "DESIGN FOR THE FUTURE"	19.06.2016	21.06. 2016	IDC School of Design at VMCC, IIT Bombay
Smart Grid and Renewable Energy	26.11.2015	27.11. 2015	Central Power Research Institute, Bangalore
Power Trading - Power Exchanges and Merchant Power Plants	14.02.2017	16.02.2017	ESCI , Hyderabad
Design of Microwave Filters and Passive Components	02.05.2016	08.05.2016	IIT Kharagpur
Short Term Course on Robotics & Control	01-07-2019	05-07-2019	IIT ROORKEE

LIST OF PUBLICATIONS

Conferences:

1. Bindu S J and C A Babu, "Analysis and Design of a Single Stage Single Switch Power Factor Converter to reduce Bus Voltage Stress with High Input Power Factor and Fast Output Voltage Regulation", in IEEE 13th Workshop on Control and Modeling for Power Electronics (COMPEL), 2012 **JAPAN** , pp.1-7.
2. Bindu S J and C A Babu, "Analysis and Design of a Single Stage Single Switch Power Factor Corrected Converter" 6th International Congress on Energy and Environment Engineering and Management, July 22-24 2015, **PARIS**
3. "High Power interleaved Flyback Inverter for PV applications" International conference on Electrical Electronics Software and Communication Engineering organized by IFERP 20th February 2016.
4. "Simulation and analysis of smart tunnel dryer" International conference on Electrical Electronics Software and Communication Engineering organized by IFERP 20th February 2016.
5. "High efficiency interleaved converter for PV applications" International conference on Electrical Electronics Software and Communication Engineering organized by IFERP 20th February 2016.
6. "An efficient interleaved flyback converter", National Conference on Future Technologies in Power Control and Communication Systems March 2016.
7. "Power Quality Improvement using DVR" ICFTE 2016, Kollam, Kerala
DOI: [10.1109/COMPEL.2012.6251760](https://doi.org/10.1109/COMPEL.2012.6251760)

International Journals :

1. Bindu S J and C A Babu, "Implementation of a low cost, compact single stage power quality converter with reduced bus voltage stress", International Journal of Energy Technology and Policy (IJETP), Vol.13, No.12, 2017, Inderscience publication. DOI: 10.1504/IJETP.2017.080612
2. Bindu S J and C A Babu, "A Design Solution to reduce DC Bus Voltage Stress in Single Switch Power Quality Converter", Journal of Electrical and Electronic Engineering, December 18, 2014 , pp. 75-81
3. Bindu S J and C A Babu , "Equal Area Criterion Scheme to Reduce DC Bus Voltage Stress of Single Stage Single Switch Power Factor Corrected Converter", American International Journal of Research in Science, Technology, Engineering & Mathematics, Issue 6, Volume 1 & 2, March-May, 2014, pp. 74-82.
4. Bindu S J and C A Babu, " Design of Single Stage Single Switch Improved Power Quality AC-DC converter", International Journal of Engineering Research & Technology (ISSN: 2278-0181), Vol.3 March 2014, pp. 1726-1733
5. "Implementation of a low cost, compact single stage power quality converter with reduced bus voltage stress", International Journal of Energy Technology and Policy (IJETP), Vol.13, No.12, 2017, Inderscience publication. DOI: 10.1504/IJETP.2017.080612

6. "Reduction of harmonic distortion in BLDC drive using BL- BUCK BOOST converter BLDC drive", IJEET, Volume 7, Issue 5, September- October 2016, pp. 79-88; ISSN online: 0976-6553
7. "Advanced MultiFunction Charge Control Module", International Journal of Electrical Engineering & Technology (IJEET) Volume:7, Issue:6 Dec 2016 Pages:11-24.
8. "Design and Fabrication of Solar Boat", International Journal of Electrical Engineering & Technology (IJEET) Volume:7, Issue:6 Dec 2016 Pages:1-10
9. "Smart Solar Tunnel Dryer", IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE) e-ISSN: 2278-1676, p-ISSN: 2320-3331, Volume 11, Issue 5 Ver. IV (Sept-Oct 2016), PP 43-51
10. "High efficiency interleaved DC-DC converter for PV applications", IJEREEE, Volume 2, Issue 2 February 2016, 01.1617/vol2iss2pid054
11. "Simulation and analysis of smart tunnel dryer", IJEREEE, Volume 2, Issue 2 February 2016, 01.1617/vol2iss2pid049
12. "High power interleaved flyback inverter for PV applications", IJEREEE, Volume 2, Issue 2 February 2016, 01.1617/vol2iss2pid051
13. "An efficient interleaved flyback converter", IJAREEIE, Vol 5, special issue 2, March 2016. 10.15662/IJAREEIE.2016.0503542
14. "Power Quality Improvement using DVR", IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE) e-ISSN: 2278-1676, p-ISSN: 2320-3331, Volume 11, Issue 5 Ver. IV (Sept-Oct 2016), PP 43-51, DOI 10.9790/1676-1105044351
15. "Improving Utility Mining Based on Dimensionality Reduction", IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE) e-ISSN: 2278-1676, p-ISSN: 2320-3331, Volume 11, Issue 5 Ver. IV (Sept-Oct 2016),
16. "High Transaction weighted Rare Utility Item set mining over data streams using sliding window algorithm", IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE) e-ISSN: 2278-1676, p-ISSN: 2320-3331, Volume 11, Issue 5 Ver. IV (Sept-Oct 2016),
17. "Light fidelity enabled data transmission with automation and Biomedical Application", IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE) Volume 10, Issue 2 Ver. IV (March-April 2016),
18. "Distributed generation control and energy management using high speed reconfigurable controller", Bindu S J, Amina Nizar, Volume 9/issue 7/July 2019/PRINT ISSN NO. 2249-555X, Indian Journal of Applied Research
19. "Wi Fi Based Signalling in Railways", International Journal of Innovative research in Electrical, Electronics, Instrumentation & Control Engineering, 219-223, Volume 6, Special Issue 2, March 2018, ISSN online: 2321-2004 ISSN(Print) 2321-5526
20. "Energy efficient hybrid electric vehicle driven by brushless DC motor", International Journal of Innovative research in Electrical, Electronics, Instrumentation & Control Engineering, 266-271, Volume 6, Special Issue 2, March 2018, ISSN online: 2321-2004 ISSN(Print) 2321-5527

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