

Faculty Profile

Name of Faculty	Dr. S. Sudalai Shunmugam
Department	Electrical and Electronics Engineering
Qualification	Ph.D., M.E., B.E.
Designation	Associate Professor
Area of specialization	AI applications in Power Engineering, Outdoor Insulation, Liquid and Solid Dielectrics
Date of Joining BNMIT	22.01.2018
Nature of Association (Regular/Contractual/Adjunct)	Regular
e-mail	sudalaishunmugam@bnmit.in , sudalai.shunmugam@gmail.com
No. of years of Experience	Teaching: 2.7 years Research: 4.7 years



Academic Qualifications

- **Ph.D.** (2018), High Voltage Division, Central Power Research Institute, Bangalore.
- **M.E.** (2012), High Voltage Engineering, National Engineering College, Kovilpatti (I Class).
- **B.E.** (2009), Electrical and Electronics Engineering, Francis Xavier Engineering College, Tirunelveli (I Class).

Working Experience Details

- Associate Professor, B.N.M. Institute of Technology, Bangalore (22nd January 2018 – Till date).
- Senior Research Fellow, Central Power Research Institute, Bangalore (15th May 2013 – 30th November 2017).
- Assistant Professor, National Engineering College, Kovilpatti (1st June 2012 – 10th May 2013).

Subjects Taught

High Voltage Engineering, Transmission and Distribution, Basic Electrical Engineering and Electromagnetic Field Computation and Modeling.

Research Experience Details:

Ph.D.

Thesis Title: Assessment of Pollution Level and Design of External Insulation for High Voltage Transmission System

Duration: 2013 -2018

M.E.

Thesis Title: Investigations on Ester, Silicone & Mineral Dielectric Liquids for Optimized Functions of Power Transformers [Project was partly funded by Midel Corporation, United Kingdom].

Duration: 2010 -2012

Research Projects / Consultancy Activities

- Title:** Modernization of Relay and High Voltage Laboratory
Funding Agency: All India Council of Technical Education, New Delhi
Team Members: Dr. R V Parimala, Dr. S Sudalai Shunmugam
Amount: ₹ 13,00,000 /-
Duration: 02 years (January 2020 – January 2022)
- Title:** Assessment of Pollution Level and Design of External Insulation for High Voltage Transmission System
Funding Agency: Central Power Research Institute, Bangalore
Team Members: N Vasudev, S Sudalai Shunmugam, V Asai Thambi, Rafiq Mathersa
Amount: ₹ 11,50,000 /-
Duration: 02 years (March 2016 – March 2018)
- Title:** Pollution Mapping for Western Dedicated Freight Corridor (WDFC)
Funding Agency: L&T, India.
Team Members: N Vasudev, S Sudalai Shunmugam, V Asai Thambi, Rafiq Mathersa
Amount: ₹ 16,39,900 /-
Duration: 01 year (2016 – 2017)
- Title:** Flashover of Bushing at Bhopal Sub-Station (Bhopal Dhule Transmission Company Limited)
Funding Agency: Bhopal Dhule Transmission Company Limited, India.
Team Members: N Vasudev, S Sudalai Shunmugam
Amount: ₹ 1,03,050 /-
Duration: 01 Month (May 2016)
- Title:** Pollution Mapping with Reference to Transmission System in Northern Region
Funding Agency: Power Grid Corporation of India Limited (PGCIL), Gurgaon, India
Amount: ₹ 1,55,11,358 /-
Team Members: N Vasudev, S Sudalai Shunmugam
Duration: 03 years (2013 – 2015)
- Title:** Pollution Mapping of Delhi Metro Rail Corporation Limited Network
Funding Agency: Delhi Metro Rail Corporation Limited Network
Amount: ₹ 22,69,335 /-
Team Members: N Vasudev, S Sudalai Shunmugam
Duration: 1.5 years (2014 – 2015)

Patents

- N Vasudev, **S Sudalai Shunmugam**, “Specially Designed Porcelain Long Rod Insulators for Highly Contaminated Environment”, **Indian Product Patent**, Patent Application No: 201641033690, filed during November 2016.
- N Vasudev, **S Sudalai Shunmugam**, “Improved insulator for use in high voltage electrical equipments installed in severely contaminated wet atmospheric conditions”, **Indian Product Patent**. (Patent generation under process – 2018CPRI01 TRISHUL INSULATOR)

Awards/ Achievements:

- Awarded **Senior Research Fellowship (SRF)** to pursue Ph.D. at Central Power Research Institute, Bangalore, provided by Ministry of Power, India (2013-2017).
- **Participated and co-authored** in the production of the report **“Pollution Mapping with Reference to Transmission System in Northern Region”**, one of the biggest pollution mapping project carried out in the Indian Power System.

Professional Memberships:

- Member, CIGRE (No. 92030600).
- Associate member, The Institution of Engineers, India (No. AM1915935)
- Life Member, Indian Society of Technical Education, (No. LM 127521)

Department Level Activities (At BNMIT):

- Serving as a subject expert in “Modernization of Relay and High Voltage Laboratory”, project under AICTE- MODROB scheme.
- Co-ordinated the MoU signing between the department of Electrical and Electronics Engineering and Manobhu Technology Pvt. Ltd., Bangalore, 2019.
- Established high voltage insulator display assembly comprising of transmission and distribution class insulators in the relay and high voltage laboratory of the EEE Department, BNMIT, Bangalore, 2018.
- In-charge of EEE Department Newsletter MINCHU.

Guest lectures delivered (past one year):

1. Dr S Sudalai Shunmugam, Associate Professor, Department of Electrical & Electronics Engineering presented a webinar on "Outdoor Insulators: Recent Trends And Research Opportunities" organized by the Department of Electrical and Electronics Engineering, St. Peter's College of Engineering and Technology, Chennai on 25th June 2020.
2. Dr S Sudalai Shunmugam, Associate Professor, Department of Electrical & Electronics Engineering presented a webinar on "Industry expectations from Academia" organized by the Department of Electrical and Electronics Engineering, National Engineering College, Kovilpatti on 12th June 2020.
3. Dr S Sudalai Shunmugam, Associate Professor, Department of Electrical & Electronics Engineering presented a webinar on "Research opportunities in Power Engineering" organized by the Department of Electrical and Electronics Engineering, Francis Xavier Engineering College, Tirunelveli, on 22nd May 2020
4. Dr S Sudalai Shunmugam, Associate Professor, Department of Electrical & Electronics Engineering presented a webinar on "Challenges in Power Engineering" organized by the Department of Electrical and Electronics Engineering, P.S.R. Engineering College, Sivakasi on 13th May 2020
5. Dr S Sudalai Shunmugam, Associate Professor, Department of Electrical & Electronics Engineering delivered a technical talk on "Applied statistical analysis in Power Engineering" on the Faculty Development Program “AI applications in Electric Power Systems and Locomotives” held during January 20-24, 2020 at BNM Institute of Technology, Bangalore.
6. Dr S Sudalai Shunmugam, Associate Professor, Department of Electrical & Electronics Engineering delivered a technical talk on "Importance of Transmission and Distribution”

organized by the Department of Electrical and Electronics Engineering, Global Academy of Technology, Bangalore on 25th February 2019.

FDP/Workshops /Seminars Organized:

1. Organized 5 days International Virtual Faculty Development Program, “Upskilling for the Future: Technical Innovations and Research Opportunities in Power Engineering” held during August 10-14, 2020 at BNM Institute of Technology, Bangalore.
2. Organized 5 days Faculty Development Program, “AI applications in Electric Power Systems and Locomotives” held during January 20-24, 2020 at BNM Institute of Technology, Bangalore.
3. Co-Coordinator for the conduction of “Energy efficient artificial intelligent drives – recent drives and perspectives” held during September 14-15, 2012, National Engineering College, Kovilpatti.

Research Publications:

I. International Magazines

1. **S Sudalai Shunmugam**, N Vasudev, K N Ravi, K A Venkatesh, “Influence of Profile on the Pollution Performance of Cap-and-Pin insulators: An Experimental Study”, *IEEE Electrical Insulation Magazine*, Vol. 32, No. 6, pp. 20-28, Nov/Dec 2016.

II. International Journals

1. **S Sudalai Shunmugam**, N Vasudev, K N Ravi, K A Venkatesh, “Applicability of Dimensional Analysis for the Prediction of Pollution Performance of Insulators: An Experimental Study”, *IET Generation, Transmission and Distribution*, Vol. 11, No. 5, pp. 1319-1324, March 2017.
2. R. Karthik, Sree Ranga Raja, **S Sudalai Shunmugam**, “Performance evaluation of Transformer oil using UV-Visible Spectrophotometer”, *Journal Acta Scientaria Technology*, Maringa, Vol.36, No. 2, pp. 245 – 250, April-June 2014.
3. R. Karthik, Sree Ranga Raja, **S Sudalai Shunmugam**, T Sudhakar, “Performance Evaluation of Ester oil and Mixed insulating fluids”, *Journal of Institute of Engineers- India*, Springer Publishers, Series B, Vol. 93, No.3, pp. 173-178, Nov-Dec 2012.

III. International Conferences

1. **S Sudalai Shunmugam**, N Vasudev, M. Krishna Kumar, B N De Bhowmick, Sunkara B R Rao, “Insulator Pollution Mapping of the Northern Region of the Indian Power System”, *20th International Symposium on High Voltage Engineering (ISH)*, Buenos Aires, Argentina, paper no. 594, 2017.
2. **S Sudalai Shunmugam**, N Vasudev, K N Ravi, K A Venkatesh, “Pollution performance of HVAC Insulators: An Interpretation using Dimensional Analysis Technique”, *19th International Symposium on High Voltage Engineering (ISH)*, Pilsen, Czech Republic, paper no. 374, 2015.
3. **S Sudalai Shunmugam**, N Vasudev, K N Ravi, K A Venkatesh, “Applicability of Multiple Regression Analysis for the Prediction of Pollution Performance of HVAC Insulators”, *International Conference on High Voltage Engineering and Technology (ICHVET)*, Ultra High Voltage Laboratory, Hyderabad, India, pp. 67-70, 2015.
4. **S Sudalai Shunmugam**, N Vasudev, R S Shivakumara Aradhaya, “A Comparison of the Pollution Performance of Long rod and Disc type HVAC insulators – A Laboratorial Study”,

International Conference on High Voltage Engineering and Applications (ICHVE), Poznan, Poland, B-5-4, 2014.

5. M. Sunganya Bharathi, M. Willjuice Iruthayarajan, **S Sudalai Shunmugam**, L. Kalaivan, "Interpretation of Dissolved Gas Analysis using Fuzzy Logic System", *IEEE International Conference on Power, Energy and Control (ICPEC)*, pp.245 -249, Tamil Nadu, India, 2013.

III. National Conferences

1. **S Sudalai Shunmugam**, N Vasudev, K N Ravi, K A Venkatesh, "Effect of Profiles on the Pollution Performance of HVAC Cap-and-Pin Porcelain Insulators", *Poster presentation made at National Power Engineering Research Scholars Meet*, 29-30 December, IIT Madras, 2015.
2. **S. Sudalai Shunmugam**, N. Vasudev and R. S. Shivakumara Aradhaya, "Design of Outdoor Insulation for Polluted Environment – A Review", *National High Voltage Engineering Conference*, Ultra High Voltage Laboratory, CPRI, Hyderabad, India, pp. 132-137, 2014.
3. **S. Sudalai Shunmugam**, R Karthik, M Willjuice Iruthayarajan, Presented a technical paper in National Level Conference titled "Application of Mixed Dielectric Fluids in Power Transformers- a Review" at Einstein College of Engineering, Tirunelveli. 2012.

Participation in Seminars/ Short Term Courses/ Workshops (Last 3 years)

1. Participated in 5 day virtual FDP on "Upskilling for the future: Technical innovations and research opportunities" held during August 10-14, 2020 organised by Department of EEE, BNM Institute of Technology, Bangalore
2. Participated in Technical Education Quality Improvement Programme (TEQIP III) sponsored International Workshop on "Electric power grid modernization: trends, challenges and opportunities" held during July 20-24, 2020 organised by Department of EEE, National Institute of Engineering, Mysuru.
3. Participated in Technical Education Quality Improvement Programme (TEQIP III) sponsored FDP on "Power electronic applications to renewable energy systems and energy storage systems" held during July 6-10, 2020 organised by Department of EEE, National Institute of Engineering, Mysuru.
4. Participated in two day webinar on "Recent trends in power engineering and future energy systems" held during June 26-27, 2020 organised by Department of EEE, BNM Institute of Technology, Bangalore
5. Participated in one day webinar on "Recent trends in research of electric power transmission" held during June 06, 2020 organised by Department of EEE, Sapthagiri College of Engineering, Bangalore.
6. Participated in faculty development programme on "Transcending Language Skills" organised by Bangalore, January 16-18, 2020.
7. Undergone 5 day faculty development programme on "AI applications in Electric Power Systems and Locomotives" held during January 20-24, 2020 at BNM Institute of Technology, Bangalore.
8. Undergone one week training programme for teachers on "Machine Learning and Deep Learning with Python Programming" at VTU Human Resource Development Cell (VTU-HRDC), Muddenehalli, July 22- 26, 2019.
9. Participated in faculty development programme on "Transcending Language Skills" ", organised by BNMIT, Bangalore on July 15-20, 2019.
10. Attended Industry Academia Interface on "Imperatives of Engineering Education: Enhancing Skills and Employability", organised by BNMIT, Bangalore, 19th July, 2019.
11. Participated in one day national workshop on "High Voltage Insulator Manufacturing and Testing", National Power Training Institute, Bangalore, 30th January, 2019.

12. Attended One day workshop on “Assessments for the Introductory Programming Course” organized by BNM Institute of Technology, Bangalore, in association with bites on 18th and 19th December 2018.
13. Participated in One day workshop on “Internet of Things” organized by BNM Institute of Technology, Bangalore, 22nd September 2018.
14. Attended “IEEE deep learning boot camp” at BMS College of Engineering, July 7, 2018.
15. Participated in two day Workshop on “A to Z of Transformer Design”, Department of EEE, B.N.M. Institute of Technology, Bangalore, February 17-18, 2018.
16. Participated in 2nd National conference on high voltage engineering and technology, Central Power Research Institute, Bangalore, January 27-28, 2017.

Personal Details:

- **Date of Birth:** 23.01.1988 **Sex:** Male. **Marital Status:** Married

15th September 2020

Dr. S. Sudalai Shunmugam