

Dr. Prasanta Kundu

Google scholar webpage: <https://scholar.google.co.in/citations?user=KtmGCDgAAAAJ&hl=en>

1. **Full correspondence address:**

Electrical Engineering Department,
Sardar Vallabhbhai National Institute of Technology,
Ichchhanath, Dumas Road, Surat –395 007

2. **Designation:** Associate Professor.

3. **Email:** pk@eed.svnit.ac.in; pkundu.iitkgp@gmail.com

4. **Phone:** 0261-2201665 (O) **Mobile:** +91 9974556731

5. **Specialization:**
High Voltage Engineering
Electrical Machines and Power Systems.

6. **Academic Qualification (Undergraduate Onwards)**

| Sr. No. | Degree | Year | Subject | University/Institution |
|---------|--------|----------|------------------------|--|
| 1. | B.E. | 1992 | Electrical Engineering | University of Calcutta (B.E. College), now IEST, Shibpur |
| 2. | M.E. | 1994 | Electrical Engineering | Indian Institute of Science, Bangalore |
| 3. | Ph.D. | May 2009 | Electrical Engineering | Indian Institute of Technology Kharagpur |

7. Ph. D thesis title, Guide's Name, Institute/Organization/University, Year of Award.

Ph. D. thesis title: *Monitoring of Acoustic Emission Created by Partial Discharge in Transformer.*

Guide's Name: Prof. N. K. Kishore (kishor@ee.iitkgp.ernet.in) and

Prof. A. K. Sinha (passes away in March 2017)

Institute/Organization/University: Indian Institute of Technology Kharagpur

Year of Award: May 2009

8. Work experience (in chronological order).

| Sr. No. | Positions held | Name of the Institute | From | To |
|---------|---------------------|---|------------|------------|
| 01 | Associate Professor | Electrical Engineering Department, SVNIT, Surat, India. | 28.01.2019 | Till Date |
| 02 | Assistant Professor | Electrical Engineering Department, SVNIT, Surat, India. | 01-01-2006 | 27.01.2019 |
| 03 | Lecturer | Electrical Engineering Department, SVNIT, Surat, India. | 01-08-2000 | 31-12-2006 |
| 04 | Sr. Engineer | M/s. Jyoti Limited, Vadodara. | Jan-1998 | July-2000 |
| 05 | Engineer | M/s. Jayashree Insulators, Rishra, W.B | Jan-1996 | July-1997 |
| 06 | Engineer | M/s ERDA, Vadodara | Jan-1995 | Dec-1995 |
| 07 | Engineer | M/s. Jyoti Limited, Vadodara. | Feb- 1994 | Dec- 1994 |

9. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received

| Sr. No | Name of Award | Awarding Agency | Year |
|--------|---------------------------------------|-----------------|--------------|
| 1 | National Scholarship | Govt. of WB | 1988 to 1992 |
| 2 | GATE Scholarship | AICTE | 1992 to 1994 |
| 3 | QIP Ph.D. Scholarship | AICTE | 2005 to 2008 |
| 4 | IEEE DEIS Graduate Student Fellowship | IEEE DEIS | 2007 |

10. Publications (*List of papers published in SCI Journals, in year wise descending order*).

| Sr. No. | Author(s) | Title | Name of Journal | Volume | Page | Year |
|---------|---|---|--|-------------------------------------|------------------|-------|
| 1 | Deepak M. Sonje, P. Kundu , A. Chowdhury | A Novel Approach for Sensitive Inter-turn Fault Detection in Induction Motor Under Various Operating Conditions | Arabian Journal for Science and Engineering | Vol. 44 | pp. 6887–6900 | 2019 |
| 2 | Mukul Dixit, Prasanta Kundu , Hitesh R. Jariwala | Optimal integration of shunt capacitor banks in distribution networks for assessment of techno-economic asset | Computers & Electrical Engineering An International Journal | Vol. 71, Issue No. October 2018, | pp. 331 - 345, | 2018 |
| 3 | DM Mehta, P Kundu , A Chowdhury, VK Lakhiani , | A review on critical evaluation of natural ester vis-a-vis mineral oil insulating liquid for use in transformers: Part 1 | IEEE Transaction on Dielectric & Electric Insulations | Vol. 23, Issue No. 2, | pp. 873 - 880, | 2016. |
| 4 | DM Mehta, P Kundu , A Chowdhury, VK Lakhiani , | A review of critical evaluation of natural ester vis-a-vis mineral oil insulating liquid for use in transformers: Part II | IEEE Transaction on Dielectric & Electric Insulations | Vol. 23, Issue No. 3; | pp. 1705 – 1712, | 2016 |
| 5 | CA Naik, P Kundu , | Power quality disturbance classification employing S-transform three-modul neural network, | International Transactions on Electrical Energy Systems | Vol. 24, Issue 9 | | 2014 |
| 6 | CA Naik, P Kundu | Power quality index based on discrete wavelet transform | International Journal of Electrical Power and Energy Systems | Volume 53 | pp. 994–1002 | 2013 |
| 7 | P Kundu , NK Kishore, AK Sinha, | Identification of two simultaneous partial discharge sources in an oil-emission techniques | Journal of Applied Acoustics | -, Volume 73, Issue - 4, | pp. 395 – 401. | 2012 |
| 8 | P Kundu , NK Kishore, AK Sinha, | A non-iterative partial discharge source location method for transformers | Journal of Applied Acoustics | Volume 70, Number | pp. 1378 – 1383. | 2009 |

Conference Articles:

| Sr. No. | Title | Author'sName | Publisher | Year of Publication |
|---------|--|---|---|---------------------|
| 1 | A Unified Power Flow Analysis for VSC-MTDC System With Distributed Generation | Sunilkumar Agrawal and Prasanta Kundu | 2017 7th International Conference on Power Systems (ICPS) College of Engineering Pune, India | 2017 |
| 2 | Analysis of Electric Stress and Partial Discharge Ultra High Frequency Signal | Karthik B G, Kavya C.S, Prasanta Kundu | 2017 3rd International Conference on Condition Assessment Techniques in Electrical Systems (CATCON) | 2017 |
| 3 | Partial Discharge Source Localization using UHF Sensors | Nidhi J Gohil, Prasanta Kundu , Anandita Chowdhury | 2017 3rd International Conference on Condition Assessment Techniques in Electrical Systems (CATCON) | 2017 |
| 4 | Optimal placement of Photovoltaic array and Electric Vehicles in distribution network under load uncertainty | Mukul Dixit, Prasanta Kundu , Hitesh. R. Jariwala | IEEE PES General Meeting 2017, Chicago, USA | 2017 |
| 5 | Temperature Dependency of Partial Discharge Acoustic Emission Signal in Transformer Oil | P Kundu , NK Kishore, AK Sinha | NTPC O&M Conference, IPS 2017 | 2017 |
| 6 | Assessment of distribution system reliability using artificial bee colony algorithm | Mukul Dixit, Prasanta Kundu , Hitesh. R. Jariwala | 2nd IEEE Conference on Electrical, Computer and Communication Technology (ICECCT-2017) | 2017 |

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| 7 | Mitigation of voltage fluctuation in the transmission line by using SEN transformer, Power Electronics, Intelligent Control and Energy Systems | Suraj Ankush Dahat, Anandita Chowdhury, Prasanta Kundu and G. Santosh Kumar Viranchi | IEEE International Conference | 2016 |
| 8 | Optimal placement of PV array in distribution system for power loss minimization considering feeder reconfiguration | Mukul Dixit, Prasanta Kundu , Hitesh. R. Jariwala | 16th IEEE International Conference on Environment and Electrical Engineering (EEEIC), 2016 | 2016 |
| 9 | Optimal placement and sizing of DG in Distribution system using Artificial Bee Colony Algorithm | Mukul Dixit, Prasanta Kundu , Hitesh. R. Jariwala | IEEE 6th International Conference on Power Systems (ICPS), 2016 | 2016 |
| 10 | Optimal allocation and sizing of shunt capacitor in distribution system for power loss minimization | Mukul Dixit, Prasanta Kundu , Hitesh. R. Jariwala | IEEE Students' Conference on Electrical, Electronics and Computer Science (SCECS) | 2016 |
| 11 | Detection and Discrimination of Simultaneous Stator Inter-Turn and Broken Rotor Bar Faults in Induction Motor | Deepak M. Sonje, P. Kundu , A. Chowdhury | IEEE 2nd International Conference on Condition Assessment Techniques in Electrical Systems 2015 (CATCON 2015) | 2015 |
| 12 | DGA diagnostics save transformers –Case Studies | Dhruvesh Mehta, P. Kundu , A. Chowdhury, V.K. Lakhiani | IEEE 2nd International Conference on Condition Assessment Techniques in Electrical Systems 2015 (CATCON 2015) | 2015 |
| 13 | Wavelet Packet Transform Based Parameter for the Analysis of Short Duration Power Quality Disturbances | Chirag A. Naik and Prasanta Kundu | 9th IFAC Symposium on Control of Power and Energy Systems (CPES) –2015 | 2015 |
| 14 | Indian transformer industry gearing up for next-gen green liquids | Dhruvesh Mehta, Prasanta Kundu , Anandita Chowdhury | 5th Nirma University International Conference on Engineering (NUICONE) | 2015 |

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|----|---|--|--|------|
| 15 | Extending the Power Transmission Capability to 765 kV through emerging EHV/UHV Transformers | Dhruvesh Mehta, Prasanta Kundu , Anandita Chowdhury | 2014 9th International Conference On Industrial And Information Systems (ICIIS), Gwalior, India | 2014 |
| 16 | Analysis of Power Quality Disturbances Using Wavelet Packet Transform | Chirag A. Naik and Prasanta Kundu | 2014 IEEE Sixth India International Conference on Power Electronics (IICPE 2014), NIT, Kurukshetra | 2014 |
| 17 | Detection and Analysis of Partial Discharge using Ultra High Frequency Sensor | P.Gurumurthy Reddy, Prasanta Kundu | IEEE Annual International Conference on Emerging Research Areas: Magnetics, Machines and Drives (AICERA/iCMMD) 2014, AJCE, Kottayam, Kerala, India July 2014 | 2014 |
| 18 | Fault diagnosis of induction motor using parks vector approach | Deepak M.Sonje, Anandita Chowdhury, Prasanta Kundu | International Conference on Advances in Electrical Engineering (ICAEE), 2014 , Vellore 9-11 Jan. 2014 | 2014 |
| 19 | S-transform based Feature for the Identification of Power QualityDisturbances | Chirag A. Naik and Prasanta Kundu | IEEE INDICON 2013 IIT Mumbai December 2013 | 2013 |
| 20 | Frequency Dependent Propagation Characteristics of Partial Discharge Acoustic Emission Signal | P Kundu , NK Kishore, AK Sinha | IEEE International Conference on Condition Assessment Techniques in Electrical systems, Jadavpur University, Kolkata6 –8 December 2013 | 2013 |
| 21 | Detection of simultaneous transients and harmonics disturbances employing discrete wavelet transform | SaurabhKamble, Chirag A. Naik and Prasanta Kundu | IEEE Annual International Conference on Emerging Research Areas-2013, Kanjirappally, Kerela4-6 June, 2013 | 2013 |
| 22 | Investigation of Electrical Stress in High Voltage IGBT Power Module Using Finite Element Simulations | Mihir B. Chaudhari, Prasanta Kundu | IEEE ICARET 2013, Vijayawada, India 08 Feb - 09 Feb 2013 | 2013 |

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| 23 | New Power Quality Indices based on S-transform for non stationary signals | Chirag A. Naik and Prasanta Kundu | IEEE PECON 2012, Malaysia2 – 5 December 2012 | 2012 |
| 24 | New approach of sensor positioning for optimizing source location of partial discharge | Prathamesh Dhole, Tanmoy Sinha, SumeetNayak, Prasanta Kundu , N K Kishore | 2011 IEEE CEIDP, Mexico.16-19 Oct. 2011 | 2011 |
| 25 | Identification of short duration power quality disturbances employing S-transform | Chirag A. Naik and Prasanta Kundu | Proceedings of ICPS 2011, IIT Madras, India,22-24 December, 2011, Paper No. 21018. | 2011 |
| 26 | Performance Analysis of Hybrid Energy Storage System Using Hybrid Control Algorithm with BLDC Motor Driving a Vehicle | Varsha Shah, Ritesh Chaudhari, Dr. Prasanta Kundu , Dr. Ranjan Maheshwari | IEEE Power India Conference20-23 December, 2010 | 2010 |
| 27 | Classification of Acoustic Emission Based PartialDischarge in Oil Pressboard Insulation System usingFractal Features | P Kundu , NK Kishore, AK Sinha | IEEE CEIDP, USA.17-20, October, 2010 | 2010 |
| 28 | An Energy Management System for a Battery Ultra capacitor Hybrid Electric Vehicle | Varsha A. Shah, Sanjay G. Karndhar, RanjanMaheshwari, Prasanta Kundu , Hardik Desai | Proceedings of 4 th ICIS 2009, Sri LankaDecember, 2009 | 2009 |
| 29 | Behaviour of Acoustic Partial Discharge Signal in Oil-Pressboard Insulation System | P Kundu , NK Kishore, AK Sinha | Proceedings of 3 rd ICIS 2008, IIT, Kharagpur, India.December, 2008. | 2008 |
| 30 | Identification and localization of multi source partial discharges by acoustic measurements in oil-pressboard insulation system | P Kundu , NK Kishore, AK Sinha | IEEE CEIDP, Canada,October, 2008. | 2008 |
| 31 | Analysis of Partial Discharge Acoustic Emission Signal using Wavelet Transform | P Kundu , NK Kishore, AK Sinha | Proceedings of ICPS 2007, Bangalore, India,December, 2007, Paper No. P96. | 2007 |

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| 32 | Frequency Domain Analysis of Acoustic Emission Signals for Classification of Partial Discharge | P Kundu, NK Kishore, AK Sinha | IEEE CEIDP, Canada, October 2007, pp. 146-149. | 2007 |
| 33 | Wavelet based Fractal Analyzing Method of Partial Discharge Acoustic Emission Signal | P Kundu, NK Kishore, AK Sinha | Proceedings of 2 nd ICIIS - 2007, Sri Lanka, 9-11, August 2007, pp. 104. | 2007 |
| 34 | Simulation and Analysis of Acoustic Wave Propagation due to Partial Discharge Activity | P Kundu, NK Kishore, AK Sinha | 2006 IEEE CEIDP, USA 15-18, October 2006, pp. 607-610. | 2006 |

11. Brief note on level of already achieved success

- Expertise with electrostatic field simulation using FEM software.
- Expertise on development and operation of High Voltage Laboratory.
- Studied ester based insulation as a substitute of mineral oil insulation for power transformer.
- Developed acoustic emission based and UHF based partial discharge monitoring and source location algorithms.
- Developed robust condition monitoring techniques for induction motor.
- Developed vacuum pressure impregnated insulation system for 6.6. kV and 11 kV rotating electrical machines.

12. Any other Information

- **Co-developer for** *Developing suitable pedagogical methods for various classes, intellectual calibre and research in e-learning.*
Course Name: Basic Electrical Engineering,
- **Professor In-Charge** (Electrical and communication systems) : Involved in development, operation and maintenance of HT - LT power supply and telecommunication system at SVNIT campus.
- Published another 9 papers in non-sci, Scopus or web of science indexed journals.
- Developed High Voltage laboratory, FEM computational laboratory in SVNIT
- Reviewer for the IEEE Transactions on Power Delivery, Electrical Power System Research, Journal of Applied Acoustics, Interwoven and many conferences.

- M. Tech. and Ph. D. Examiner in various universities.
- Coordinator for more than 8 training programs at SVNIT and other institutes.
- Delivered expert talk at more than 12 events.
- Served as a subject expert for the GTU interview of Assistant Professor in Electrical Engineering.
- PG Student's supervision: **20** M .Tech. dissertation completed.
- **List of Ph. D. students**

| Sr. No. | Name | Joining Month and Year | Completed/Pursuing |
|---------|------------------------|------------------------|--------------------|
| 1 | Mrs. Varsha A.Shah | July 2009 | October 2013 |
| 2 | Mr. Chirag A. Naik | January 2010 | July 2015 |
| 3 | Mr. Deepak M. Sonje | July 2012 | July 2019 |
| 4 | Mr. Mukul Dixit | July 2013 | June 2019 |
| 5 | Mr. Dhruvesh M. Mehta | July 2013 | Pursuing |
| 6 | Mr. Sunilkumar Agrawal | January 2014 | Pursuing |
| 7 | Ms. Harshada M. Nerkar | January 2018 | Pursuing |
| 8 | Mr. Jayesh U Kothavade | January 2019 | Pursuing |
| 9 | Ms. Nidhi J Gohil | January 2019 | Pursuing |
| 10 | Mr. Jitendra D. Patil | January 2020 | Pursuing |