

Kings College of Engineering

Department of Electrical and Electronics Engineering

Name: Dr. G. Suganya	
Designation:	Assistant Professor
Qualification:	M.Tech., Ph.D.
Area of Specialization:	High Voltage Engineering, Power Systems, Machine Learning
Experience:	Teaching: 3 Yrs 6 Months UG: - 3 Yrs 6 Months
	Industry: - NIL
No. of workshop/Conferences/ FDP attended:	07
Publication:	Journal National: - NIL International: 20
	Conference National: NIL International: 02
Membership:	IEEE
Achievements:	

PUBLICATIONS

SCI/SCIE

1. J. A. Ardila-Rey, D. L. González, D. N. Muñoz, and **S. Govindarajan**, "An electronic tongue-based methodology for monitoring degradation of internal insulation in power transformers," *IEEE Trans. Instrum. Meas.*, 2025, in press. [IF: 5.9]
2. S. Torres Araya, J. Ardila-Rey, M. Cerda Luna, J. Portilla, **S. Govindarajan**, C. Alvear Jorquera, and R. Schurch, "Performance assessment of machine learning techniques in electronic nose systems for power transformer fault detection," *Energy and AI*, vol. 20, Art. no. 100497, pp. 1–15, 2025. [IF: 9.6]
3. A. Sharma, H. Devarajan, **S. Govindarajan**, T. B. Shanker, J. A. Ardila-Rey, and S. Nandi, "High-confidence classification of partial discharge acoustic signals using Bayesian networks for uncertainty quantification," *IEEE Trans. Instrum. Meas.*, vol. 74, Art. no. 3506511, pp. 1–11, 2025. [IF: 5.9]
4. **S. Govindarajan**, H. Devarajan, J. A. Ardila-Rey, M. P. Cerda-Luna, S. L. Torres Araya, and C. C. Delgado Diaz, "Intelligent interpretation of dissolved gases in transformer oil with electronic nose and machine learning," *IEEE Trans. Ind. Informat.*, vol. 21, no. 4, pp. 2839–2848, 2025. [IF: 9.9]
5. J. A. Ardila-Rey, D. Figueroa, F. P. Torres, **S. Govindarajan**, B. A. De Castro, and R. Schurch, "Bioinspired ultra-high frequency antenna for partial discharge detection in high-voltage equipment," *IEEE Trans. Instrum. Meas.*, vol. 73, Art. no. 6007318, pp. 1–18, 2024. [IF: 5.9]
6. J. A. Ardila-Rey, M. Cerda, C. Beltran, B. Albuquerque, and **S. Govindarajan**, "A novel E-nose system for the characterization of dissolved gases in dielectric oils," *IEEE Trans. Instrum. Meas.*, vol. 72, Art. no. 6009316, pp. 1–16, 2023. [IF: 5.9]
7. H. Devarajan, **S. Govindarajan**, J. A. Ardila-Rey, and S. Venkatraman, "Study of PD signatures in transformer using impulse voltage by Holo Hilbert spectral analysis," *IEEE Trans. Instrum. Meas.*, vol. 72, Art. no. 6008411, pp. 1–11, 2023. [IF: 5.9]
8. **S. Govindarajan**, A. Morales, J. A. Ardila-Rey, and N. Purushothaman, "A review on partial discharge diagnosis in cables: Theory, techniques, and trends," *Measurement*, vol. 216, Art. no. 112882, pp. 1–19, 2023. [IF: 5.6]

9. **S. Govindarajan**, M. Natarajan, J. A. Ardila-Rey, and S. Venkatraman, "Partial discharge location identification using permutation entropy based instantaneous energy features," *IEEE Trans. Instrum. Meas.*, vol. 70, pp. 1–12, 2021. [IF: 5.9]
10. J. A. Ardila-Rey, R. Schurch, N. Medina, **S. Govindarajan**, and O. Munoz, "Separation of partial discharges sources and noise based on the temporal and spectral response of the signals," *IEEE Trans. Instrum. Meas.*, vol. 70, pp. 1–13, 2021. [IF: 5.9]
11. **S. Govindarajan**, V. Ragavan, A. El-Hag, J. Subbaiah, and K. Krithivasan, "Development of Hankel singular-hypergraph feature extraction technique for acoustic partial discharge pattern classification," *Energies*, vol. 14, pp. 1–15, 2021. [IF: 3.2]
12. **S. Govindarajan**, J. A. Ardila-Rey, J. Subbaiah, K. Krithivasan, N. Sannidhi, and B. M., "Development of hypergraph based improved random forest algorithm for partial discharge pattern classification," *IEEE Access*, vol. 9, pp. 96–109, 2021. [IF: 3.6]
13. **S. Govindarajan**, J. Subbaiah, K. Krithivasan, A. Cavallini, and J. Jaikanth, "Partial discharge random noise removal using Hankel matrix based fast singular value decomposition," *IEEE Trans. Instrum. Meas.*, vol. 69, pp. 4093–4102, 2020. [IF: 5.9]
14. **S. Govindarajan**, J. Subbaiah, K. Krithivasan, A. Cavallini, and J. Jaikanth, "Development of Hankel-SVD hybrid technique for multiple noise removal from PD signature," *IET Sci. Meas. Technol.*, vol. 13, no. 8, pp. 1075–1084, 2019. [IF: 1.3]
15. **S. Govindarajan**, J. Subbaiah, K. Krithivasan, and M. Natarajan, "HANKEL-EM-SVD: A hybrid data dropout estimation technique for high voltage partial discharge signals," *IET Sci. Meas. Technol.*, vol. 13, no. 6, pp. 824–835, 2019. [IF: 1.3]

SCOPUS

1. **G. Suganya**, S. Jayalalitha, and K. Kannan, "A combinatorial technique using wavelet and empirical mode decomposition for denoising partial discharge signature," *ARPJ. Eng. Appl. Sci.*, vol. 12, no. 7, pp. 1–14, 2017.
2. **G. Suganya**, S. Jayalalitha, K. Kannan, and S. Venkatesh, "Survey of de-noising techniques for partial discharge interferences," *ARPJ. Eng. Appl. Sci.*, vol. 12, no. 2, pp. 414–427, 2017.
3. K. Balamurugan, **G. Suganya**, and N. Manojkumar, "Improving power system dynamics by series connected FACTS controllers (TCSC)," in *Proc. Int. Conf. Power, Energy and Control (ICPEC)*, 2013, pp. 98–103.

4. K. Balamurugan, **G. Suganya**, V. Dharmalingam, and R. Srikanth, "Performance comparison of LP, EP and DE approaches in optimal dispatch methodologies of bilateral real power market structures," *Int. Rev. Model. Simul.*, vol. 6, no. 1, pp. 105–113, 2013.

CONFERENCES

1. S. Govindarajan, V. Subramanian, K. R., A. J., E. G., and P. P., "Enhanced fault detection and classification in solar PV systems using RNN and IoT integration," in *Proc. 2024 10th Int. Conf. Electr. Energy Syst. (ICEES)*, Chennai, India, 2024, pp. 1–4.
2. J. G. Kishonica and A. Gayathri, "An enhanced Hankel matrix based singular value decomposition method for removing noise from partial discharge signals," in *Proc. 11th Int. Conf. Adv. Comput. (ICoAC)*, 2019, pp. 367–371.

PROJECTS SANCTIONED

1. An IoT based predictive interpretation of dissolved gases in transformer oil using edge impulse – TNSCST student Projects Scheme, 2025.