## Research Profile of Electrical Engineering Department:

With its huge infrastructure, eminent and efficient faculty members the department is in a continuous process of producing quality research works. Publications in International Journals, International and National Conferences have brought credits in number of occasions to the departments. The participation of the faculty members at various International and National Conferences, Seminars and Symposium at in different capacities also flagged the research activities of the department.

### 1. Publications from Electrical Engineering Department[Dr. Abhijeet Lahiri]:

| Title of the Paper | Journal | Volume No. Page No. |
|---|---|---|
| "Electrode-Spacer Contour Optimization By Ann Aided Genetic Algorithm" | IEEE Transactions on Dielectrics and Electrical Insulation | Volume 11, No. 6, December 2004, Page 964-975 |
| "A Novel Approach Based on Simulated Annealing Coupled to Artificial Neural Network for 3D Electric Field Optimization" | IEEE Transactions on Power Delivery | Volume 20, No. 3, July 2005, Page 2144-2152 |
| "Simulation of Complex Electrode-Spacer Configurations Used in HV Systems for Accurate Electric Field Calculation" | Mathematics in Industry. Scientific Computing in Electrical Engineering Springer | Volume 4. Page 289-296 |
| "Optimization of Support Insulators used in HV Systems using Support Vector Machine" | IEEE Transactions on Dielectrics and Electrical Insulation | Volume 14, No. 2, April 2007, Page 360-367 |

| Title of the Paper | Proceedings | Volume No. Page No. |
|---|---|---|
| "Optimization of GIS Configuration for use in GIL" | Proceedings of XI$^{th}$ National Power Systems Conference (NPSC -2000). | Volume 1. Page 33-36 |
| "Studies on Field Distribution around a Conical Insulator in GIL" | Proceedings of XII$^{th}$ International Symposium on High Voltage Engineering (ISH 2001). | Volume 1. Page 17-20 |
| "Electric Stress Minimization around a Conical Spacer Used in Gas Insulated Substations" | Proceedings of 2$^{nd}$ World Engineering Congress | Electrical & Electronic Engineering Page 51-57 |
| "Studies on E-Field Distribution for Complex Electrode-Spacer Arrangements used in HV Systems" | Proceedings of Australasian Universities Power Engineering Conference (AUPEC 2002) | Book of Abstracts ISBN 0-7326-2205-0 Page 106-108 |
| "Resistivity Modified Electric Field Calculation Around A Disc Spacer Used in Gas Insulated Transmission Lines" | Proceedings of XII$^{th}$ National Power Systems Conference (NPSC-2002) | Volume 1. Page 65-68 |
| "Three Dimensional Electric Field Computation Around An Electrode-Spacer Configuration Used in 420 kV GITL" | Proceedings of XIII$^{th}$ National Power Systems Conference (NPSC-2004) | Volume 1 Page 389-394 |
| "A Comparative Study of ANN-Aided Schemes for Electric Field Optimization in Three Dimensional Systems" | Proceedings of XIV$^{th}$ National Power Systems Conference (NPSC-2006) | Soft Copy available |

**Participation in International Conference / Seminar:**

| Program | Organized by | Date & Venue | Participated as |
|---|---|---|---|
| XII$^{th}$ International Symposium on High Voltage Engineering ISH 2001 | | Aug 2001 Indian Institute of Science, Bangalore, India | Paper presenter |
| Tutorial Program on "Application of Soft-Computing Techniques in Power Systems" | Power Engineering Chapter, IEEE Calcutta Section & RE College, Durgapur | The 20$^{th}$ day of Sept. 2003 Electrical Engineering Department Jadavpur University Kolkata, India | Speaker |
| Short Term Course on "Advanced Computing Techniques in Electrical Engineering" | Power Engineering Chapter, IEEE Calcutta Section & Jadavpur University, Kolkata | 3-8 July, 2006, Electrical Engineering Department, Jadavpur University, Kolkata, India | Demonstrator |

**Research Guidance provided by Faculty Members of the Department:**

Dr. Abhijit Lahiri has already completed 01 M. Tech Thesis (as a joint supervisor) and is presently working as a joint supervisor of 02 numbers of research works leading to Ph.D. degree.

**Course Developed by the Faculty Members of the Department:**

Dr. Abhijit Lahiri has developed an online course on "Electric Field Computation by Indirect Boundary Element Method" available at the site *http://www.dlnet.vt.edu* hosted by DLNET-NSDL sponsored by US-National Science Foundation.

## Other Recent Publications from the Departments

1. "Application of CSM and ANN in determining Corona power loss", **Nabamita Roy** and **Kesab Bhattacharyya.** Proceedings of PEITSICON, Vol.1.pp.167-171, 2005.

2. "Application of Wavelet and Fourier Transforms for Vibration Analysis of Motor", **Nabamita Roy, P Purkait** and **Kesab Bhattacharyya**. Proceedings of INDICON-2005, Vol.1, pp.613, 2005.

3. "Application of CSM and ANN in determining Corona power loss", **Nabamita Roy** and **Kesab Bhattacharyya**. Publication in CPRI journal, Vol.2,no-2,pp. 163-170,sept-2005.

4. "A Survey on History and Prospect of Wind as an Alternative Energy Source", **Nabamita Roy** and **B. Biswas**. Proceedings of Emerging technology and Technical Education 2007, vol.1, 88-95, 2007.

5. "Application of Wavelet Transform in Estimation of Power System Faults", **Nabamita Roy** and **Kesab Bhattacharyya.** Proceedings of ICPS 2007. Accepted for publication.

6. "Micro grid: Control techniques and Modeling," **Prasenjit Basak.** Accepted in 44$^{th}$ International Universities, Power Engineering Conference 2009 (UPEC 2009).

7. "Concept and Benefits of Microgrid System with Modeling and Simulation," **Prasenjit Basak**, Proceeding of International Conference on Modelling & Simulation (MS'07, India), December 3-5, pp. 633, 2007

8. "Integrated Operation of PV array based Microgrid," **Prasenjit Basak**, Proceedings of International Conference on Recent Trends in Automation & its Adaptation to Industries, July 11-14, pp. 116, 2006

9. "Distributed Energy Resources & Microgrid Operation: An Evolutonary Power Scenario," **Prasenjit Basak**, Proceedings of International Conference on Power System Operation in Deregulated Regime(ICPSODR) dated 6th & 7th March, 2006.

10. "Key energy management issues of setting market clearing price (MCP) in micro-grid Scenario," **Ashoke Basu et al.**, 42nd International Universities Power Engineering Conf. UPEC 2007, pp. 854-860, Sept, 2007.

11. "Emerging Power Market in a micro-grid Scenario," **Ashoke Basu et al.**, 42nd International Universities Power Engineering Conf. UPEC 2007, pp. 1079-1085, Sept, 2007.

12. "Reliability study of a micro-grid system with optimal sizing and placement of DER," **Ashoke Basu et al.**, Smart Grids for Distribution, 2008, IET-CIRED, CIRED Seminar, pp. 1-4, June, 2008

13. "Setting of market clearing price (MCP) in micro-grid power Scenario," **Ashoke Basu et al.**, Power and Energy Society General Meeting – Conversion and Delivery of Electrical Energy in the 21st Century, 2008, IEEE, pp. 1-8, July, 2008