

## CURRICULAM VITAE

**Name** : Prof. Niranjan Kumar  
**Designation** : Professor  
**Department** : Department of Electrical Engineering  
**Organization** : National Institute of Technology, Jamshedpur,  
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### Educational Qualifications:

S. No.	Degree	Specialization	Board/University	Year
1.	Ph.D	Power System Engineering	IIT Roorkee	2010
2.	M.Tech	Power System Engineering	NIT Jamshedpur	1996
3.	B.Sc. (Engg.)	Electrical Engineering	NIT Jamshedpur	1988

### Ph. D Thesis Details:

**Topic** : “Transmission Pricing Strategy for Eastern Regional Grid of India”  
**Supervisors** : Dr. Devadutta Das, Professor, Dept. of WRDM, IIT Roorkee,  
Dr. Narayan Prasad Padhy, Professor, Department of Electrical Engg, IIT Roorkee.

### M.Tech Thesis Details:

**Topic** : “Microprocessor Based Impedance Relay”  
**Supervisor** : Dr. S. P. Singh, Professor, Department of Electrical Engg, NIT Jamshedpur

**Research Interests:** Power System Restructuring, Power Sector Reforms, Power System Economics and Management, Power System Operation & Control, Network Pricing, Electricity Market, Congestion Management.

### Research Publications:

#### **International Refereed Sci/Scopus Journals:**

- [1] Kaushik Paul, N Kumar “Optimal Rescheduling of Real Power to mitigate Congestion Using Gravitational Search Algorithm,” *Turkish Journal of Electrical and Computer Engineering*, Vol. 27, pp. 2213-2225, 2019.
- [2] Anamika Yadav, Rajgopal Peesapati, and Niranjan Kumar, “Electricity Price Forecasting and Classification Through Wavelet–Dynamic Weighted PSO–FFNN Approach,” *IEEE Systems Journal*, vol. 12, pp. 1 – 10, Dec-2018 (ISSN 1937-9234).

- [3] Rajagopal Peesapati, Anamika Yadav, Vinod Kumar Yadav, and **Niranjan Kumar**, “GSA–FAPSO-Based Generators Active Power Rescheduling for Transmission Congestion Management”, *IEEE Systems Journal*, pp. 1-8, Sep-2018 (ISSN 1937-9234).
- [4] Rajagopal Peesapati, **Niranjan Kumar**, Vinod Kumar Yadav, “Flower pollination algorithm based multi-objective congestion management considering optimal capacities of distributed generations”, *Energy*, Vol. 147, Page No. 980 – 994, Jan-2018 (ISSN 0360-5442).
- [5] Rajagopal Peesapati, Vinod Kumar Yadav, and **Niranjan Kumar**, “Transmission congestion management considering multiple and optimal capacity DGs,” *Journal of Modern Power Systems and Clean Energy*, vol. 5, no. 5, pp. 713–724, April-2017 (ISSN 2196-5420).
- [6] Pradeep Kumar, **Niranjan Kumar**, and Ashok Kumar Akella, “Comparative Analysis of Voltage and Current Source Inverter based DSTATCOM,” *Turkish Journal of Electrical and Computer Engineering*, Vol. 24, pp. 3838-3851, June-2016 (ISSN 3838-3851).
- [7] Anamika, Rajgopal Peesapati, and **Niranjan Kumar**, “Estimation of GSR to ascertain solar electricity cost in contest of deregulated electricity markets,” *Renewable Energy*, 87, 353-363, Oct-2015 (ISSN 0960-1481).
- [8] Hira Singh Sachdev, A. K. Akella, and **Niranjan Kumar**, “Analysis and evaluation of Small Hydropower Plants: A Bibliographical Survey,” *Renewable and Sustainable Energy Reviews*, Vol. 51, pp. 1013-1022, June-2015 (ISSN 1364-0321).
- [9] Vinod Kumar Yadav, **Niranjan Kumar**, S Ghosh, and K D Singh, “Indian Thermal Power Plants Challenges and Remedies via Application of Modified Data Envelopment Analysis,” *International Transactions in Operational Research*, Vol. 21, pp. 955-977, June-2014 (ISSN 0969-6016).
- [10] Pradeep Kumar, **Niranjan Kumar**, and A.K. Akella, “A Simulation Based Case Study for Control of DSTATCOM,” *ISA Transactions*, Vol. 53, pp. 767-775, March-2014 (ISSN 0019-0578).
- [11] **N. Kumar**, Devadutta Das, N.P. Padhy, “Transmission Pricing Reform in India: CERC’s next frontier” *Energy Sources, Part B: Economics, Planning, and Policy, Taylor and Francis*, 8, 328-338, 2013 (ISSN: 1556-7249).
- [12] Kaushik Paul and **Niranjan Kumar**, “Cuckoo Search Algorithm for Congestion alleviation with Incorporation of Wind Farm,” *International Journal of Computer Engineering*, Vol. 8, No. 6, December 2018, pp. 4871-4879. (ISSN: 2088-8708)
- [13] DSNMRAO and **Niranjan Kumar**, “Optimal Load Dispatch Solution of Power System using Enhanced Harmony Search Algorithm,” *European Journal of Electrical Engineering*, Vol. 4, pp.469-483, Dec-2018.
- [14] DSNMRAO and **Niranjan Kumar**, “Comparable Investigation on TLBO Algorithm for Power System Optimization,” *European Journal of Electrical Engineering*, Vol. 5, pp. 559-571, Dec-2018.
- [15] DSNMRAO and **Niranjan Kumar**, “An enhanced reactive power dispatch with finest location of dg using PSO algorithm”, *Modelling, Measurement and Control A*, vol. 91, no. 3, pp. 139-144, Semtember-2018.

- [16] Kaushik Paul and **Niranjan Kumar**, “Application of MATPOWER for the Analysis of Congestion in Power System Network and Determination of Generator Sensitivity Factor,” *International Journal of Applied Engineering Research*, vol. 12, no. 6, pp. 969-975, 2017 (ISSN 0973-4562).
- [17] Kaushik Paul and **Niranjan Kumar**, and S. Agarwal, “Optimal Rescheduling of Real Power to Mitigate Congestion with Incorporation of Wind Farm using Gravitational search algorithm in Deregulated Environment,” *International Journal of Renewable Energy Research*, vol. 7, no. 4, pp. 1731-1740, April-2017 (ISSN 1309-0127).
- [18] DSNMRAO and **Niranjan Kumar**, “A Non Convex Cost Function Based Optimal Load Dispatch using TLBO Algorithm,” *Journal of Engineering Science and Technology Review*, vol. 10, no. 1, pp. 155- 159, March-2017 (ISSN 1791-2377).
- [19] DSNMRAO and **Niranjan Kumar**, “An Enhanced Harmony Search Algorithm Based Power Flow Solution to Non Convex Load Dispatch Problem,” *International Journal of Applied Engineering Research*, vol. 12, no. 13, pp. 3837-3843, 2017 (ISSN 0973-4562).
- [20] DSNMRAO and **Niranjan Kumar**, “Comparisinal Investigation of Load Dispatch Solutions with TLBO,” *International Journal of Electrical and Computer Engineering*, vol. 7, no. 6, pp. 3246-3253, 2017 (ISSN 2088-8708).
- [21] Raja Gopal Peesapati, V. K. Yadav, and **Niranjan Kumar**, “Assessment of Temporary Over Voltages during Network Lines Re-energization,” *Advances in Electrical and Electronics Engineering*, vol. 14 no. 3, 227- 235, 2016 (ISSN 1804-3119).
- [22] **Niranjan Kumar** and Anamika, “Solar Resource Estimation Based on Correlation Matrix Response for Indian Geographical Cities,” *International Journal of Renewable Energy Research*, vol. 6, pp. 695-701, Feb-2016 (ISSN 1309-0127).
- [23] Pradeep Kumar, **Niranjan Kumar**, and A. K. Akella, “Six leg DVR topology for compensation of balanced linear loads in three phase four wire system,” *International Journal of System Assurance Engineering & Management*, vol. 5, no.4, pp. 524-533, Oct-2013 (ISSN 0975-6809).

#### **International / National Conferences:**

- [1] Kulwinder Kaur, **Niranjan Kumar**, Sanjay Kumar, Kaushik Khatua, “Congestion Management of Transmission Lines by FACTS Devices Using Krill Herd Technique” *IEEE- i-PACT2017, VIT University, Vellore, India*, pp.1-8.
- [2] Kaushik Paul, **Niranjan Kumar**, “A review on some aspects of transmission pricing in power system network” *IEEE- CERA 2017, IIT Roorkee*, 2017, pp. 175-180.
- [3] DSNMRAO, **Niranjan Kumar**, “A TLBO Algorithm Based Optimal Load Scheduling of Generators for Power System Network” *IEEE-ICPSI 2017, Chennai, India*, pp. 114-119.
- [4] DSNMRAO, **Niranjan Kumar**, “A Review on Trends of Management for Congested Transmission Lines in Restructured Environment,” *CIOCEM-2016, CPRI Bangalore, India*.
- [5] V V Rajagopal Peesapati, Anamika, **Niranjan Kumar**, “Electricity Point Price Evaluation Using Hybrid Algorithm,” *CIOCEM-2016, CPRI Bangalore, India*.
- [6] V V Rajagopal Peesapati, Anamika, **Niranjan Kumar**, “Regression Analysis of Temporary over Voltages during Power System Restoration”, *IEEE-ICEETS 2016*, pp. 485 – 490.

- [7] Rajagopal Peesapati, **Niranjan Kumar**, Vinod Kumar Yadav and Gitanjali Mehta, "Line Flow Indices for Placement of Distributed Energy Sources in Relieving Transmission Line Congestion", *ICICCD 2016*, Vol. 479, pp.527-536, DOI: 1708-7\_60.
- [8] Anumeha, Kaushik Paul, K.B.Yadav, **Niranjan Kumar**, "Application of Gravitational Search Algorithm to Analyse Economic Load Dispatch in Power System Network" *IEEE-PIICON 2016,Bikaner,India*, pp. 1-6.
- [9] V V Rajagopal Peesapati, **Niranjan Kumar**, Vinod Kumar Yadav, "Congestion Management Considering Optimal Capacity DGs by Flower Pollination Algorithm," *IEEE – EEEIC 2016, Florence, Italy*.
- [10] Pradeep Kumar, Niranjan Kumar, A. K. Akella, "Power quality analysis of DVR with balanced linear and nonlinear load," *ICCTCS – 2015*.
- [11] Anamika, **N. Kumar**, "Market Clearing Price Prediction Using ANN in Indian Electricity Markets," *IEEE- ICSSTCS 2016*, pp. 454 - 458.
- [12] V V Rajagopal Peesapati, **Niranjan Kumar**, Vinod Kumar Yadav, "Novel method for faster restoration of transmission lines," *IEEE - RDCAPE – 2015*, pp. 367 – 370.
- [13] Anamika, **N. Kumar**, A. K. Akella, "Prediction and Efficiency Evaluation of Solar Energy Resources by using mixed ANN and DEA Approaches," *IEEE PES General Meeting*, pp. 1-5, July 27-31 Washington (DC), USA, 2014.
- [14] Anamika, **N. Kumar**, A.K. Akella, "Prediction and Energy Efficiency Evaluation of Solar Energy: An Intercity comparison," *National conference on Emerging Trends in Engineering and Sciences (ETES)*, Nov. 9-10, Haridwar, 2013.
- [15] Anamika, **N. Kumar**, A. K. Akella, "Estimation and Energy Efficiency Evaluation of Solar Energy using Artificial Neural Network and Data Envelopment Analysis," *ICEECE*, Oct. 6, Pune, India, 2013.
- [16] V.K. Yadav, **N. Kumar**, D.K. Jha, V.V. Rajagopal Peesapati, "Benchmarking of Indian Thermal Power Plants," *IEEE PES General Meeting*, July 21-25, Vancouver, BC, Canada, 2013.
- [17] Pradeep Kumar, **N. Kumar**, A.K.Akella,, "Modeling and Simulation of Different System Topologies for DSTATCOM", *Elsevier AASRI Procedia*, Vol. 5, pp. 249 – 261, 2013.
- [18] Pradeep Kumar, **N. Kumar**, A.K.Akella, "Dynamic Performance of STATCOM on the Induction Generator based Wind Farm," *Global Scenario in Energy & Environment (ICGSEE), MANIT Bhopal*, March 14-16, India, pp.03-14, 2013.
- [19] **N. Kumar**, Y.R.V Reddy, Devadutta Das, N.P. Padhy, "Existing transmission charging practices in India: Discouraging for power market," *PSCE*, March 20-23, Phoenix, Arizona, USA. 2011.
- [20] **N. Kumar**, Y.R.V Reddy, Devadutta Das, N.P. Padhy, "Allocation of transmission charge by using MVA-Mile approaches for restructured Indian power utility," *IEEE PES General Meeting*, July 24-28, Detroit, MI, USA. pp. 1-6, 2011.

- [21] **N. Kumar**, Y.R.V Reddy, Devadutta Das, N.P. Padhy, "Transmission cost allocation by using MW-Mile approaches in a restructured Indian power system," *IEEE PES General Meeting*, July 25-29, Minneapolis, USA. pp. 1-8, 2010.
- [22] **N. Kumar**, Devadutta Das, N.P. Padhy, "Transmission Charging Practices in ER of Indian Power Utility," *IEEE PES General Meeting*, July 26-30, Calgary, Alberta, Canada, pp. 1-8, 2009.
- [23] **N. Kumar**, Devadutta Das, N.P. Padhy "Transmission charging mechanism in Indian scenario: From Regional system to STOA," *Recent Advances in Electrical Engineering (RAEE-2008), N I T Hamirpur, India*, December 26-27, 2008.
- [24] **N. Kumar**, Devadutta Das, N.P. Padhy, "Transmission pricing mechanism to complement bulk power trading in India," *Power System Analysis, Control and Optimization (PASCO-2008), March 13-15, Vishakhapatnam, India*, pp. 650-654, 2008.

### **Conference/ Workshop Organized:**

- Organized a Five Days Short Term course on "Emerging Trends and Future Challenges in Power System Operation and Control Systems" during 20 – 24 June, 2016.
- Organized One Day Workshop on "Practical Power Flow Controllers Brings Benefits of Power Electronics to the Grid" on 9th November, 2015.
- Organized Two Days Workshop on "Regulation and Policy Framework for Power Sector Reforms in India" during 12-13 June, 2014.

**Ph. D. guidance** : Awarded : **06**  
 Submitted : **01**  
 Ongoing : **04**

**M. Tech. theses guided** : **27**

### **Teaching Experience:**

Position Held	Institution	From	To	Nature of Job
Asst. professor	NIT Jamshedpur	March-1998	December-2005	Research & Teaching
Assoc. professor	NIT Jamshedpur	January-2006	April-2018	Research & Teaching
Professor	NIT Jamshedpur	May-2018	Till Date	Research & Teaching

### **Awards, Honours & Recognitions:**

- Jury at student's poster presentation contest in IEEE PES GM-2013 (International Conference) at Vancouver, Canada.
- Worked as Panel expert for Bihar State Public Service Commission (BPSC).
- Worked as Panel expert for UPSC (IES Exam).
- Worked as observer for various national level exams IIT JEE (Mains), UGC NET, NEET.
- Ph. D and M. Tech Viva-Voce Examiner for various Institutions.
- Chairman of DRC OP Jindal University, Raigarh.

### **Books Chapters:**

1. Rajagopal Peesapati, Niranjana Kumar, Vinod Kumar Yadav, Gitanjali Mehta, “Line Flow Indices for Placement of Distributed Energy Sources in Relieving Transmission Line Congestion”, Chapter 60 in Proceedings of International Conference on Intelligent Communication, Control and Devices Vol. 479, pp. 527 – 536, 2017.
2. Anamika, Niranjana Kumar, “Market-Clearing Price Forecasting for Indian Electricity Markets”, Chapter 72 in Proceedings of International Conference on Intelligent Communication, Control and Devices Vol. 479, pp. 633 – 642, 2017.

### **Member of Professional Academic Bodies:**

- Member of IEEE (Membership no. 91181424)
- Life Member of Indian Society for Technical Education, ISTE (Membership No. LM 85179)

### **Invited Talks/Seminars Given:**

- Delivered a Technical Talk on “Sustainable Development and Advances in Power Electronics” which is conducted by C-DAC Trivandrum at NIT Jamshedpur, 2017.
- Delivered a Technical Talk on “Modelling & Reliability Analysis of Electrical Systems” at RVS College of Engineering & Technology, Jamshedpur, 2016.
- Delivered a Technical Talk on “Emerging Trends and Future Challenges in Power System Operation and Control Systems” at NIT Jamshedpur, 2016.
- Delivered a Technical Talk on “Regulation and Policy Framework for Power Sector Reforms in India” at NIT Jamshedpur, 2014.

### **Any other information:**

- Visited Phoenix (AZ), USA to present a technical research paper entitled “Existing Transmission Pricing Mechanism in India: Discouraging for Power Market” IEEE-PSCE, March 20-23, 2011.
- Visited Vancouver (BC), Canada to present a technical research paper entitled “Benchmarking of Indian Thermal Power Plants” IEEE PES GM, July 27-31, 2013.
- Visited Florence, Italy to present a technical research paper entitled “Congestion Management Considering Optimal Capacity DGs by Flower Pollination Algorithm” IEEEIC – IEEE, 7 – 10 June, 2016.