

# A GIAN Course on Recent Trends in Power System Reliability Evaluation: Models, Statistical Methods and Applications

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Organized By

**Department of Electrical Engineering  
Delhi Technological University**

Shahbad Daulatpur, Bawana Road, Delhi-110042, Website: [www.dtu.ac.in](http://www.dtu.ac.in)

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**Course Coordinator**  
**Prof. Rachana Garg**  
Associate Head, EED

**Coordinator**  
**Dr. Priya Mahajan**  
Associate Professor, EED

## About Speaker:



**Prof. Chanan Singh**, Fellow, IEEE is a Regents Professor and Irma Runyon Chair Professor in the Department of Electrical and Computer Engineering, Texas A&M University, College Station, Texas. He has also served as a Guest Professor at Tsinghua University, Beijing, China. He is also the Vice President, Associated Power Analysts, Inc., 1980-Present. His research and consulting interests are in the application of probabilistic methods to power systems. He has authored/co-authored around 400 technical papers and three books and has contributed to several books. He has consulted with many major corporations like California ISO; Central Electrical Agency, India; Edmonton Power, Canada; Electric Reliability Council of Texas; Electric Power Research Institute; Eletrobrass, Brazil; ESKOM, South Africa; General Electric Co.; Houston Lighting & Power Co.; Korea Electric Power Co.; Korea Power Systems Reliability Research Center; Ministry of Transportation & Communications, Ontario, Canada etc. He is a Registered Professional Engineer, State of Texas and has completed many funded projects. like Modeling and Analysis of Interdependent CyberPhysical Systems with Applications to Power Grids, Conacyt, \$24,000, 2011-2012, Integration of Storage Devices into Power Systems with Renewable Energy Sources, PSERC, \$240,000, 2010-2012, The Future Grid to Enable Sustainable Energy Systems: An Initiative of the Power Systems Engineering Research Center, Dept of Energy, \$5,512,900, 2011-2013, Reliability Assessment and Modeling of Cyber Enabled Power Systems with Renewable Sources and Energy Storage, PSERC, \$220,000, 2014-2016. He is the editor of many reputed Journals like European Transactions on Electric Power (ETEP), IEEE Transactions on Power Systems, IEEE Power letters etc. For his research contributions, he was awarded a D.Sc. degree by the University of Saskatchewan, Saskatoon, SK, Canada, in 1997. In 2008, he was recognized with the Merit Award by the PMAPS International Society. In 2010, he was the inaugural recipient of the IEEE-PES Roy Billinton Power System Reliability Award.

## Course Contents:

- Introduction to quantitative reliability and its application in Power Systems
- Probability concepts and their applications to power system reliability
- Markov Processes and their applications to reliability analysis
- Analytical techniques for reliability analysis
- Monte Carlo simulation techniques for reliability analysis
- Introduction to power system reliability indices-LOLE, EUE, Frequency and Duration Indices
- Reliability analysis of generation and distribution systems
- Intelligent systems applications to power system reliability analysis
- Reliability of RES and Cyber-physical power systems

## Registration Process and Fee

Overseas Participants : US\$ 200 Participants from Academic Institutions : Rs. 1000 (Rs. 500 for SC/ST candidates)  
Industry/ Research Organizations : Rs. 3000 Research Scholars/Students/Alumni : Rs. 500 (Rs. 250 for SC/ST candidates)

After registration on GIAN portal <http://www.gian.iitkgp.ac.in/GREGN/index>, the candidates are advised to submit the prescribed fee in the form of DD in favor of "Registrar, DTU" payable at Delhi along with printout of online submitted application form to Dr. Priya Mahajan, Course Coordinator (GIAN), Department of Electrical Engineering, Delhi Technological University, Bawana Road, Delhi-110042 on or before 25.09.2017. The shortlisted participants will be informed through e-mail. The above fee includes all instructional materials, computer use for tutorials and assignments and laboratory equipment usage charges. The course fee does not include boarding and lodging.

## Who can attend ?

Faculty, Research Scholars, M.Tech. Students, B.Tech. Students, Practicing Engineers from Industry, utilities may attend this course.

### Course Coordinator:

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