

**Name: Dr. Susanta Dutta**

**Department: Electrical Engineering**

**Contact Nos.: 9434254591**

**Qualifications: B.E, M.Tech, PhD**

**Designation: Associate Professor**

**VIDWAN ID: 185700**

**Experience (Teaching / Research / Industry, in years): Teaching: 16 years,**

**Date of Joining at the Present Institution: 14<sup>th</sup> Nov 2006**

**Examinations Cleared: GATE 2005**

**Qualifications Summary (Reverse chronological order):**

<b>Degree</b>	<b>University/ Institute</b>	<b>Year of Passing</b>	<b>Subjects</b>
Ph.D	National Institute of Technology, Durgapur	2015	Optimal Power Flow Incorporating Different FACTS Devices using Evolutionary Algorithms
M.Tech	National Institute of Technology, Durgapur	2007	Industrial Electrical System , Power system, power electronics
B.E	Burdwan University. Dr. B.C. Roy engineering college, Durgapur	2004	Electrical Engineering



### Experience Summary (In chronological order):

Sl.no	Types of experience with Designation	Organization	from	to
1.	Teaching	N.I.T, Durgapur	1 <sup>st</sup> Sep 2005	13 <sup>th</sup> Nov 2006
2.	Lecturer in EE Department. (Basic pay 8000/-) DA@55%& HRA10%	Dr.B.C.Roy Engineering College, Durgapur	14 <sup>th</sup> Nov 2006	31.12.2008
3.	Senior Lecturer In EE Department Basic Pay 10000/-	Dr.B.C.Roy Engineering College, Durgapur	01.01.2009	30.06.2010
4.	Assistant Professor In EE Department Pay in Pay Band 19210/- AGP 7000/-	Dr.B.C.Roy Engineering College, Durgapur	01.07.2010	31.07.2017
5.	Assistant Professor In EE Department AGP 8000/-	Dr.B.C.Roy Engineering College, Durgapur	01.08.2017	31.10.2017
6.	Associate professor AGP 9000/-	Dr.B.C.Roy Engineering College, Durgapur	01.11.2017	Till date

**Specialization/Research Interest:** Optimal Power Flow Incorporating Different FACTS Devices using Evolutionary Algorithms, AGC , ELD and CHP.

#### Awards & Recognitions

**Best paper/ scholarship/Position in university exam / awards while at industry/ other organizations etc.**

**Courses taught:** Power Electronics, Power system and Control System in B.Tech and FACTS, Control System in M.Tech both theory and lab

**B.Tech:** Power Electronics, Power system and Control System

**M.Tech:** FACTS, HVTS

**Online Mode of Teaching:** google meet with the help of touchpad.

**The Faculty member needs to specify the online teaching/ assessment method adopted. (Link to any faculty created resources for Lecture notes / PPT/ Video Lecture etc. in Google Drive / Weblink etc)**

**Publications:**

**Journal:**

1. **Susanta Dutta**, Provas Kumar Roy, Debashis Nandi “Optimal location of UPFC controller in transmission network using hybrid chemical reaction optimization algorithm”, *International Journal of Electric Power and Energy System*, Elsevier, Volume 64, January 2015, Pages 194-211. Impact factor: 3.43 , ISSN: **0142-0615**
2. **Susanta Dutta**, Pranabesh Mukhopadhyay, Provas Kumar Roy, Debashis Nandi “Unified power flow controller based reactive power dispatch using oppositional krill herd algorithm”, *International Journal of Electric Power and Energy System*, Elsevier, vol. 80, 2016, pp. 10-25, Impact factor: 3.43 ISSN: **0142-0615**
3. **Susanta Dutta**, Provas Kumar Roy, Debashis Nandi, “Hybrid Biogeography Based Optimization for Optimal Power Flow Incorporating FACTS Devices,” *International Journal of Power and Energy Conversion (IJPEC)*, *Inderscience*, Vol. 6, Iss 1, 2015. ISSN: 1757-1162
4. **Susanta Dutta**, Provas Kumar Roy, Debashis Nandi. “Optimal location of STATCOM using chemical reaction optimization for reactive power dispatch problem” *Ain Shams Engineering Journal* (Elsevier). web of science, Thomson Reuter, Vol.7,2016, pp. 233-247, doi:10.1016/j.asej.2015.04.013  
ISSN: **2090-4479**
5. **Susanta Dutta**, Provas Kumar Roy, Debashis Nandi. “Krill herd algorithm for Optimal UPFC placement in transmission system”, *International Journal of Power and Energy Conversion (IJPEC)*, *Inderscience*, Accepted for publication on 26-10-2015. ISSN: 1757-1162
6. **Susanta Dutta**, Provas Kumar Roy, Debashis Nandi “Artificial Bee Colony Optimization for Optimal Reactive Power Dispatch Incorporating FACTS Devices” *International Journal of Energy Optimization and Engineering (IJEEO)*, web of science, Thomson Reuter, Vol.2, Iss.2, 2014, *IGI Global*, 2013. ISSN: 2160-9500

7. Pranabesh Mukhopadhyay, **Susanta Dutta**, Provas Kumar Roy, “Optimal location of TCSC using opposition teaching learning based optimization” International Journal of Energy Optimization and Engineering (IJEQE), web of science, Thomson Reuter, vol. 4, iss.1, article 6, *IGI Global, 2014* ISSN: 2160-9500
8. Adhit Roy, **Susanta Dutta**, Provas Kumar Roy, “Load frequency control of interconnected power system using teaching learning based optimization” International Journal of Energy Optimization and Engineering (IJEQE), web of science, Thomson Reuter, volume 4, issue 1, article 7, *IGI Global, 2014* ISSN: 2160-9500
9. Shamik Chatterjee, **Susanta Dutta** “Some Studies on PWM Converter Controlled Wind Energy Conversion System,” International Journal of Engineering and Computer Science ISSN: 2319-7242, Vol. 3, Iss. 3, March, 2014 Page No. 5148-5154.
10. **Susanta Dutta**, Provas Kumar Roy, Debashis Nandi. “Optimal allocation of SSSC using chemical reaction optimization for reactive power dispatch” International Journal of Energy Optimization and Engineering (IJEQE), web of science, Thomson Reuter, *IGI Global*, Volume 5, Issue 3, Article 3. ISSN: 2160-9500
11. **Susanta Dutta**, Provas Kumar Roy, Debashis Nandi. “Quasi oppositional teaching-learning based Optimization for Optimal Power Flow Incorporating FACTS,” International Journal of Energy Optimization and Engineering (IJEQE), web of science, Thomson Reuter, *IGI Global*, Volume 5, Issue 2, Article 4. ISSN: 2160-9500
12. **Susanta Dutta**, Provas Kumar Roy, Debashis Nandi, “Biogeography Based Optimization for Optimal Power Flow Incorporating FACTS Devices” International Journal of Advanced Engineering Applications(IJAEA), Vol.5, Iss.4, pp.1-14 ,2012. ISSN: 0975-7783, 0975-7791.
13. **Susanta Dutta**, Sourav paul, Provas Kumar Roy, “Optimal allocation of SVC and TCSC using Quasi-oppositional chemical reaction optimization for solving multi-objective ORPD problem” International Journal of Electrical Systems and Information Technology, Elsevier, accepted for publication on 11/12/2016. **ISSN:** 2314-7172

#### Conference:

1. **Susanta Dutta**, Sourav Paul, Kuntal Bhattacharjee , Aniruddha Bhattacharya, P K. Roy, Ranadhir Sarkar, “Automatic Generation Control of an Interconnected Hydro-Thermal System with Thyristor Control Phase Shifter using Gravitational Search Algorithm,”

ICAESM-2012, International conference of IEEE on 30-31 March 2012, Nagapattinam Tamil Nadu ; pages 269-274.

2. Kuntal Bhattacharjee, **Susanta Dutta**, Sneha Sultana, Aniruddha Bhattacharya, P. K.. Roy, “Transient Stability Constraint optimal Power Flow Using Gravitational Search Algorithm,” ICECT-2012, Accepted, and presented.
3. **Susanta Dutta**, Sourav Paul, P. K. Roy, Aniruddha Bhattacharya, Kuntal Bhattacharjee, “Biogeography based optimization for automatic generation control of a multi area hydro-thermal system,” ICECT-2012, Accepted & presented.
4. Ranadhir Sarkar, Tapan Chatterjee, Kuntal Bhattacharjee, Aniruddha Bhattacharya, P.K. Roy, **Susanta Dutta** “Power system state estimation using Biogeography based optimization,” ICECT-2012, Accepted & presented.
5. **Susanta Dutta**, Provas Kumar Roy, “Optimal location of TCSC using Hybrid DE/BBO algorithm” Non Conventional Energy (ICONCE), 2014 1st International Conference of IEEE, on 16-17 Jan 2014, kalyani, pp 237-242, DOI: 10.1109/ICONCE.2014.6808738.
6. Adhit Roy, **Susanta Dutta**, Provas Kumar Roy, “Automatic generation control by SMES- SMES controllers of two-area hydro-hydro system” Non Conventional Energy (ICONCE), 2014 1st International Conference of IEEE, on 16-17 Jan 2014, kalyani, pp 302-307, DOI: 10.1109/ICONCE.2014.6808731.
7. **Susanta Dutta**, Provas Kumar Roy, Dipak Kumar Manna, “HBBO Optimization for Optimal Reactive Power Dispatch Incorporating TCSC and TCPS Devices” IET Conference, Kolkata. (Presented)
8. **Susanta Dutta**, Provas Kumar Roy, Debashis Nandi. “Optimal location of TCSC and TCPS using Hybrid DE/CRO algorithm” IET Conference, Kolkata. (presented)
9. **S. Dutta**, D. K. Manna, P. K. Roy. “Hybridization of Chemical Reaction Optimization for Optimal Reactive Power Dispatch with FACTS Devices” C2E2-2016 conference, Taylor & Francis. (Accepted & presented in C2E2 2016 on 15- 16 Jan 2016)
10. Madhu Singh, **Susanta Dutta**, Provas Kumar Roy. “ Optimal power flow with FACTS devices using a Novel Grey Wolf Algorithm” IEEE third International Conference On Science, Technology, Engineering and Management, ICONSTEM-2017 , (Accepted & presented on 23<sup>rd</sup> & 24<sup>th</sup> March 2017), Chennai.
11. Leena Goswami, Soumen Biswas, **Susanta Dutta**, Provas Kumar Roy. “Automatic Generation control of multi-area power system with De-regulation using OKHA” IEEE third International Conference On Science, Technology, Engineering and Management, JEPPIAAR-ICONSTEM-2017 , (Accepted & presented on 23<sup>rd</sup> & 24<sup>th</sup> March 2017) Chennai

12. Leena Goswami, **Susanta Dutta**, Provas Kumar Roy. "Optimal location of STATCOM device for solving ORPD problem using hybrid chemical reaction optimization" IEEE third International Conference On Science, Technology, Engineering and Management, JEPPIAAR-ICONSTEM-2017 , (Accepted & presented on 23<sup>rd</sup> &24<sup>th</sup> March 2017) Chennai

**Book:**

1. Provas Kumar Roy, **Susanta Dutta** "*Optimal Power Flow Using Evolutionary Algorithms*" Publisher: IGI Global, USA, ISBN13: 9781522569718, DOI: 10.4018/978-1-5225-6971-8, September, 2018

**Book Chapter:**

1. Provas Kumar Roy, **Susanta Dutta**, Debashis Nandi. "Optimal Reactive Power Dispatch incorporating TCSC-TCPS devices using different Evolutionary Optimization Techniques", Chapter 14 of "Sustaining Power Resources through Energy Optimization and Engineering", A volume in the Advances in Computer and Electrical Engineering (ACEE) Book Series, ISBN 9781466697560 .Published in the United States of America by Engineering Science Reference IGI Global. Published May: 2016

**Supervision of Ph.D/M.Tech/ B.Tech Projects:**

**For Ph.D**

Sl. No.	Title of Thesis	Name of Student	Year of completion
1	Optimal Reactive Power Dispatch Incorporating FACTS devices using Evolutionary Algorithm	Basudeb Mondal	continuing
2	Comparative performance evaluation of FACTS device in automatic generation control of multi source power generation under deregulated	Mou das Mahapatra	continuing

	environment		
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**Projects:**

- 1. Name of the student/s (with university roll number), Name of the supervisor, " Title of the Project / thesis" , Year (only final year 8<sup>th</sup> Sem Project for B.Tech and Thesis for M.Tech )**

**M.Tech**

<b>Sl. No.</b>	<b>Title of Thesis</b>	<b>Name of Student</b>	<b>Year of completion</b>
1	Automatic Generation Control of an Interconnected Hydro thermal System with Thyristor controlled phase shifter (TCPS)	Prakash Singha	2012
2	Performance optimization of a high penetration No storage wind Turbine-Diesel micro grid power system	Kuntal Mukherjee	2012
3	Genetic algorithm based optimization for automatic generation control of three area Hydro thermal system	Parth Sarithi	2013
4	Fuzzy Based pitch controller of variable speed wind Turbine system	Shamik Chatterjee	2014
5	Optimal location of TCSC using opposition teaching learning based optimization.	Pranabesh Mukhyapadhyay	2014
6	Optimal power flow analysis	Chandrima Sarker	2015
7	Optimal Reactive Power Dispatch Incorporating FACTS devices using Evolutionary Algorithm	Dipak Kumar Manna	2016
8	Application of Evolutionary Optimization for small signal stability of power system	Aparna Maji	2016
9	Optimal location of STATCOM device for solving ORPD problem using hybrid chemical reaction optimization and automatic generation control of multi source power generation under deregulated environment.	Leena Goswami	2017

10	Optimal power flow with FACTS devices using a novel Grey wolf algorithm.	Madhu Singh	2017
11	Load frequency control of multi source power generation with FACTS devices.	Aparna Maji	2018
12	Optimal power flow using Evolutionary algorithm	Amit Mukherjee	2018
13.	Optimal power flow solution using FACTs devices	<b>Dilruba Ferdous</b>	2019
14	Chemical reaction optimization based Fuzzy-PID controller for automatic generation control with SMES	<b>Abhijit Ghosh</b>	2019
15	Robust Compensation for Load Frequency control of Multiarea Power System.	Manas Bairagya (12013418006)	2020
16	Power Enhancement by mitigating voltage sag/swell using D-statcom	Sri Krishna Roshan	2020
17	Control Circuit for fault detection	<b>Debayan Chatterjee (12013319002)</b>	2021

**B. Tech:**

**Invited Lectures: nil**

**Participation in seminar/conference/symposium/workshop/discussion meeting**

Name of the event, duration, Year, Organized by.

**Participation in faculty development programmes**

Name of the faculty development programmes, Online / Face-to-face/ From Date - To Date, Duration, Year, Organized by.

**Organization of events (Dr. B. C. Roy Engineering College)**

Name of the event, Date, Year

**Participation in administrative committees (selected)**



M.Tech. Co-ordinator in  
ElectricalEngineering  
department , B.C.Roy  
Engineering College,  
Durgapur

Chairman Library  
Committee (B.C.Roy  
Engineering College,  
Durgapur)

HOD/EE (BCREC)

**Project Ideas Submitted to Govt. Agencies/ On-going Projects / Research Ideas under preparation & execution**

**Membership of professional bodies:** The Institution of Engineers (India), Member, (M-1537630)