

## I. Biographical Data

A. **Name: Jai Govind Singh**

B. **Education**

**Ph.D. (2008)**, Power and Control, EED, Indian Institute of Technology, Kanpur, India

**M. Tech. (2003)**, Power System, EED, Indian Institute of Technology, Roorkee, India

**B.E. (2001)**, Electrical Engineering, EED, Motilal Nehru National Institute of Technology, Allahabad, India

C. **Employment and Positions held**

| <b>Duration</b>                | <b>Position</b>                        | <b>Affiliation</b>   |
|--------------------------------|--|--|
| July, 2016 – present           | <b>Associate Professor</b>             | Department of Energy, Environment and Climate Change, SERD, AIT, Thailand.   |
| December, 2009 – June 2016     | <b>Assistant Professor</b>             | Department of Energy, Environment and Climate Change, SERD, AIT, Thailand.   |
| November, 2013 – December 2015 | <b>Coordinator</b>                     | Department of Energy, Environment and Climate Change, SERD, AIT, Thailand.   |
| November, 2013 – December 2015 | <b>Coordinator</b>                     | MBA in Energy Business, SERD/SOM, AIT, Thailand.   |
| November, 2013 – December 2015 | <b>Director</b>                        | Regional Energy Resources Information Centre, AIT  |
| July, 2009 – October, 2009     | <b>Postdoctoral Research Fellow</b>    | University of Queensland, Brisbane, Australia.   |
| April, 2008 – June, 2009       | <b>Postdoctoral Research Associate</b> | Electric Power System Division, Royal Institute of Technology-KTH, Sweden.   |
| Jun, 2003 – July, 2003         | <b>Research Fellow</b>                 | Asian Regional Research Program in Energy, Environment and Climate-III (ARRPEEC-III), Energy FoS, SERD, AIT, Thailand.                         |
| March, 2003 – July, 2003       | <b>Sr. Project Associate</b>           | Asian Regional Research Program in Energy, Environment and Climate-III (ARRPEEC-III),” Department of electrical engineering, IIT Kanpur, India |

D. **Special honors and awards**

- i) Recipient of MHRD (Ministry of Human Resource Department, India) Fellowship for Doctoral study at IIT Kanpur, India.
- ii) Recipient of MHRD (Ministry of Human Resource Department, India) Fellowship for Master study at IIT Roorkee, India.

- iii) Recipient of Young Scientist Travel Financial Assistantship award from Department of Science and Technology (DST), India.
- iv) Recipient of International Travel Support award to attend a conference from Dean of Resources and Alumni Office, Indian Institute of Technology, Kanpur, India.
- v) Recipient of awards in terms of free accommodation by *IEEE PES Student Support Committee* to attend IEEE conference in Florida, USA, 2007, during my Doctoral study.
- vi) Three times recipients of cash award by IIT Kanpur on research articles published in international journals.
- vii) Recipient of class merit-cum-means scholarship in Under Graduate Study.

**E. Teaching and research interest areas:**

- i) Power System Planning, Operation and Control
- ii) Smart Grid
- iii) Renewable Energy Generation and Integration
- iv) AC/DC Microgrid
- v) Power Sector Deregulation
- vi) Power Distribution Systems Planning and Analysis
- vii) Probabilistic Analysis of Power Systems

**II. Pedagogy**

**A. Experience as a teacher (all are Post Graduate courses unless mentioned as remarks)**

| Year                                | Semester  | Courses  | Course category | Remarks         |
|-------------------------------------|-----------|--|-----------------|-----------------|
| 2017<br>(8.5 Credits)               | January   | ED72.21:Power System Dynamics and Stability 3(2,3)                 | Elective        |                 |
|                                     |           | ED72.22:Power Sector Management under Deregulation 3(3,0)          | Elective        | 50% co-teaching |
|                                     |           | ED72.20: Workshop on Energy Issues and Communication 1(0,2)        | Required        |                 |
|                                     | Inter-sem | ED72.47:Smart Grid and Electrical Energy Management Systems 2(2,0) | Elective        |                 |
|                                     |           | ED72.9028: Renewable Energy Integration and DC Microgrid 1(1-0)    | Elective        |                 |
| 2016<br>(13+4 <sup>†</sup> credits) | January   | ED72.21:Power System Dynamics and Stability 3(2,3)                 | Elective        |                 |
|                                     |           | ED72.22:Power Sector Management under Deregulation 3(3,0)          | Elective        | 50% co-teaching |
|                                     |           | ED72.20: Workshop on Energy Issues and Communication 1(0,2)        | Required        |                 |
|                                     | Inter-sem | ED72.47:Smart Grid and Electrical Energy Management Systems 2(2,0) | Elective        |                 |
|                                     |           | ED72.9028: Renewable Energy Integration and DC Microgrid 1(1-0)    | Elective        |                 |
|                                     | August    | ED72.08:Power Distribution Systems 3(3,0)                          | Elective        |                 |
|                                     |           | ED72.07:Power System Design and Operations 3(2,3)                  | Elective        | 50% co-teaching |

|  |           |  |            |                 |
|--|-----------|--|------------|-----------------|
|  |           | BS208:Electrical Engineering and Electronics for Bio-Engineers 4 (3-1) | Elective   | UG course       |
| 2015<br>(12+4 <sup>†</sup><br>credits)                                 | January   | ED72.21:Power System Dynamics and Stability 3(2,3)                     | Elective   |                 |
|  |           | ED72.22:Power Sector Management under Deregulation 3(3,0)              | Elective   | 50% co-teaching |
|  |           | ED72.20: Workshop on Energy Issues and Communication 1(0,2)            | Required   |                 |
|  | Inter-sem | ED72.9022:Smart Grid for Sustainable Development 2(2,0)                | Elective   |                 |
|  | August    | ED72.07:Power System Design and Operations 3(2,3)                      | Elective   | 50% co-teaching |
|  |           | ED72.08:Power Distribution Systems 3(3,0)                              | Elective   |                 |
| BS208:Electrical Engineering and Electronics for Bio-Engineers 4 (3-1) |           | Elective   | UG course  |                 |
| 2014<br>(11+4 <sup>†</sup><br>credits)                                 | January   | ED72.21:Power System Dynamics and Stability 3(2,3)                     | Elective   |                 |
|  |           | ED72.22:Power Sector Management under Deregulation 3(3,0)              | Elective   | 50% co-teaching |
|  | Inter-sem | ED72.9022:Smart Grid for Sustainable Development 2(2,0)                | Elective   |                 |
|  | August    | ED72.07:Power System Design and Operations 3(2,3)                      | Elective   | 50% co-teaching |
|  |           | ED72.08:Power Distribution Systems 3(3,0)                              | Elective   |                 |
|  |           | BS208:Electrical Engineering and Electronics for Bio-Engineers 4 (3-1) | Elective   | UG course       |
| 2013<br>(14.5+3*<br>credits)   | January   | ED72.21:Power System Dynamics and Stability 3(2,3)                     | Elective   |                 |
|  |           | ED72.22:Power Sector Management under Deregulation 3(3,0)              | Elective   | 50% co-teaching |
|  |           | ED72.22:Power Sector Management under Deregulation 3(3,0) (PMEBM)*     | Elective   | 50% co-teaching |
|  | Inter-sem | ED72.9022:Smart Grid for Sustainable Development 2(2,0)                | Elective   |                 |
|  | August    | ED72.07:Power System Design and Operations 3(2,3)                      | Elective   |                 |
|  |           | ED72.08:Power Distribution Systems 3(3,0)                              | Elective   |                 |
| ED72.9026:Integration of Renewable Sources in Power Systems 2(2,0)     |           | Elective   | New course |                 |
| 2012<br>(12.5+3*<br>credits)   | January   | ED72.21:Power System Dynamics and Stability 3(2,3)                     | Elective   |                 |
|  |           | ED72.22:Power Sector Management under Deregulation 3(3,0)              | Elective   | 50% co-teaching |
|  | Inter-sem | ED72.9022:Smart Grid for Sustainable Development 2(2,0)                | Elective   |                 |

|                        |           |  |          |                 |
|------------------------|-----------|--|----------|-----------------|
|                        | August    | ED72.07:Power System Design and Operations 3(2,3)                          | Elective |                 |
|                        |           | ED72.08:Power Distribution Systems 3(3,0)                                  | Elective |                 |
|                        |           | ED72.08:Power Distribution Systems 3(3,0) (PMEBM)*                         | Elective |                 |
| 2011<br>(12.5 credits) | January   | ED72.21:Power System Dynamics and Stability 3(2,3)                         | Elective |                 |
|                        |           | ED72.22:Power Sector Management under Deregulation 3(3,0)                  | Elective | 50% co-teaching |
|                        | Inter-sem | ED72.9022:Smart Grid for Sustainable Development 2(2,0)                    | Elective | New course      |
|                        | August    | ED72.07:Power System Design and Operations 3(2,3)                          | Elective |                 |
|                        |           | ED72.08:Power Distribution Systems 3(3,0)                                  | Elective |                 |
| 2010<br>(10 credits)   | January   | ED72.21:Power System Dynamics and Stability 3(2,3)                         | Elective |                 |
|                        | August    | ED72.07:Power System Design and Operations 3(2,3)                          | Elective |                 |
|                        |           | ED72.08:Power Distribution Systems 3(3,0)                                  | Elective |                 |
|                        |           | ED72.9019:Integration of renewable energy resources in power system 1(1,0) | Elective | New course      |

\*PMEBM: Professional Master in Energy Business Management

†Under Graduate (UG) Course

#### **Post Graduate Taught Courses/Tutorials at other Institutions:**

- Power system advanced course: (**KTH, Stockholm, Sweden**, as a teaching assistant)
- Power System Simulations Lab Development: 1<sup>st</sup> year postgraduate Lab (**EED, IIT Kanpur**, as tutor)
- Power system economics operation and control: 1<sup>st</sup> year postgraduate course (**EED, IIT Kanpur**, as a tutor)
- Economic operation and control of power systems: Sequential M. Tech. Program of Uttar Pradesh Technical University, Lucknow (**Invited Course Lectures**)

#### **Under Graduate Taught Courses/Tutorials at other Institutions:**

- Engineering Science: 1<sup>st</sup> year undergraduate course (**IIT Roorkee**, as a tutor)
- Engineering Science Optional: 2<sup>nd</sup> year undergraduate course (**IIT Roorkee**, as a tutor)
- Engineering Science: 1<sup>st</sup> year undergraduate course (**IIT Kanpur**, as a tutor)
- Engineering Science Optional: 2<sup>nd</sup> year undergraduate lab (**IIT Kanpur**, as a tutor)
- Basic Power Electronics : 2<sup>nd</sup> year undergraduate course (**IIT Kanpur**, as a tutor)

#### **B. Evaluation of teaching**

1. Copy of student teaching evaluation reports: **Attached**
2. Copy of student research supervision evaluation reports.\*
3. Copies of peer teaching evaluation reports.

#### **C. Pedagogical Development**

1. Publications: textbooks, laboratory manuals, articles in journals oriented toward pedagogy. None
2. Grants related to pedagogy and curriculum development.

I was involved in developing two Master Courses for National University of Laos (NUOL) in a project of curriculum development and sponsored by SIDA.

3. Initiation of new courses, degree programs, curricula (indicate the period delivered)

- i) A one credit new course titled “*ED72.9028: Renewable Energy Integration and DC Microgrid 1(1-0)*” has been developed and offered in Inter semester 2016.
- ii) Contributed in developing new UG curricula (BS208: Electrical Engineering and Electronics for Bio-Engineers 4 (3-1)) in August 2014.
- iii) A new doctoral degree program titled “PhD in Energy Business” has been developed in collaboration with SOM in 2014.
- iv) A new Policy and Procedure has been developed in collaboration with SOM to enabled “Professional Master” degree holders to be eligible to apply for regular AIT Master Degree from 2014 with option to transfer credits gained in their Professional Master degree.
- v) A new Policy and Procedure has been developed in collaboration with SOM to enabled “Professional Master” degree holders to be eligible to apply directly in Unified Master leading to Doctoral degree programs from 2014 with transfer of credits gained in their Professional Master degree.
- vi) One credit previously developed course *ED72.9019* modified and extended in two credit course titled “*ED72.9026: Integration of Renewable Energy Sources in Power System 2(2,0)*” and offered in August semester 2013.
- vii) Involved as a member and contributed to develop a new degree program called as “MBA in Energy Business” and first batch started from August-2012.
- viii) Involved as member and contributed to develop a new professional program called as “Professional Master in Energy Business Management” and first batch started from August-2012.
- ix) A two credit new interdisciplinary course titled “*ED72.9022: Smart Grid for Sustainable Development 2(2,0)*” has been developed and offered in each Inter semester from 2011 and onwards.
- x) A one credit course titled “*ED72.9019: Integration of Renewable Energy Resources into Power System 1(1,0)*” has been developed and offered in Inter semester 2010.

4. Development and introduction of innovative pedagogical techniques.

- i) Developed small lab for hands on for student about connection and disconnections of two solar PV panel to two batteries in series and parallel combinations, DC/AC lamps and fan, charge controller, stand –alone inverter.
- ii) A one credit revised new course material entitled “*ED72.9028: Renewable Energy Integration and DC Microgrid 1(1,0)*” has been developed in 2016 for post graduate students.
- iii) Revised 8 courses in 2015 under curriculum review process lead by ADRC, AIT.
- iv) Prepared course materials for new UG curricula (BS208: Electrical Engineering and Electronics for Bio-Engineers 4 (3-1)) in August 2014.
- v) A two credit new course material entitled “*Integration of Renewable Energy Sources in Power System (ED72.9026)*” has been developed and offered in 2013 for post graduate students.
- vi) A two credit new course material entitled “*Smart Grid for Sustainable Development (ED72.9022)*” has been developed in 2011 for post graduate students and since then continuously offering in every inter-semester.

- vii) A one credit new course material entitled “*Integration of Renewable Energy Resources into Power System (ED72.9019)*” has been developed in 2010 for post graduate students.
- viii) I have revised/updated half of three credit course entitled “*Power Sector Management under Deregulation (ED72.22)*” in 2011 and onwards.

5. Participation in workshops, short courses, etc. relating to improvement of teaching.

- i) IEEE PES Webinar, "How to Write a Quality Technical Paper and Where to Publish Within IEEE," presented by Saifur Rahman, Advanced Research Institute at Virginia Tech, on 3rd March, 2015.
- ii) Wind Power Integration Seminar, 27<sup>th</sup> April 2009, KTH, Sweden.
- iii) Short-term training course on “*Best Practices in Transmission and Distribution of Power*”, 27-29, November, 2007, IIT Kanpur.
- iv) Short-term QIP course on “*Power System Operation and Control*”, IIT Kanpur, August 2006.
- v) National Workshop on "Electric Power Quality" during Nov. 9-10, 2004.
- vi) Training workshop on “*Electric Power Distribution: Reforms, Automation and Management*”, EE Dept. IIT Kanpur, May 10-14, 2004.

### III. Student Research Supervision

**A. Theses supervised.** Number of master and doctoral students graduated each year, on which the faculty served as committee chair or co-chair.

#### 3.A.1 Summary of student research supervision at AIT (January 2008 – May 2017)

| STUDENTS | COMPLETED              |                           |                         | IN-PROGRESS            |                           |                         |
|----------|------------------------|---------------------------|-------------------------|------------------------|---------------------------|-------------------------|
|          | Chair of the Committee | Co-Chair of the Committee | Member of the Committee | Chair of the Committee | Co-Chair of the Committee | Member of the Committee |
| Doctoral | 4                      | 1                         | 3                       | 3                      | 1                         | 3                       |
| Master's | 22+2*                  | 3+1*                      | 82                      | 14                     | 0                         | 11                      |

\*It was supervised at KTH, Stockholm.

**B. Doctoral students.** For each student who obtained/pursuing the doctoral degree under your supervision, provide the following:

#### Summary of Doctoral Research Supervisions as Program Committee Chairperson:

1. Miss Panaya Sudta (**Thai, Chairperson, pursuing, Course study**)
2. Mr. Pornchai Chaweewat (**Thai, Chairperson, pursuing, Course study**)
3. Ms. Raja Nivedha (**Indian, Chairperson, pursuing, on exchange program in Poland**)
4. Ms. Anongpun Man-Im (**Thai, Co-chair, pursuing**): Risk Limiting Multi-Objective Economic Dispatch by NSPSP Considering Wind and Solar Uncertainties (**Publication**: Two papers in international conference published and another one is revised and resubmitted in international journal)
5. Mr. Nimal Madhu M (**Indian, Chairperson, 2016**): Power Flow and ATC Estimation in Modern Power Systems (**Publication**: 5 articles in journal and 5 international conference papers are published)
6. Mr. Nikhil Sasidharan India (**Indian, Chairperson, 2016**): Renewable Powered Hybrid AC/DC Home Community Grid (**Publication**: 5 articles in journal and 3 international conference articles are published and another one journal article is revised and resubmitted submitted)

7. Mr. Vivek Mohan (**Indian, Chairperson, 2016**): Stochastic Optimal Energy, Reserve and Risk Management in Microgrid (**Publication**: 6 articles in journals and 6 papers in international conference are published)
8. Mr. I Made Wartana Indonesia (**Indonesian, Chairperson, 2012**): Optimal Placement of Multiple FACTS Devices for Maximizing Loadability by PSO (**Publication**: Published one journal and four conference articles)
9. Mr. Sasidharan Sreedharan (**Indian, Co-chair, 2010**): Development of the PSO Based Robust Controller for Maximizing Wind Energy Penetration in Power Systems (**Publication**: Three journals and five conference articles)

### **Summary of Doctoral Research Supervisions as Program Committee Member:**

1. Mr. Sheraz Khan (**Pakistani, TC/SET, Pursuing**): Demand-Side Energy Management in Smart Grid Using Cognitive Radio Communications
2. Mr. Titipong Samakpong (**Thai, Pursuing**): Robust Optimization-Based AC Optimal Power Flow for Managing Wind and Solar Power Uncertainty
3. Mr. Sittichoke Pookpunt (**Thai, Pursuing**): Optimal Placement of Wind Turbine Using a Discrete Particle Swarm Optimization with Time-Varying Acceleration Coefficients
4. Mr. Minn Thu Aung (**Burmese, WEM/SET, 2016**): Myanmar Assessment of Climate Change Impacts on Hydrology and Hydropower Generation in Belu Chaung Basin of Myanmar
5. Ms. Jirawadee Polprasert (**Thai, 2016**): Security Constrained Optimal Power Flow Using Self-Organizing Hierarchical Particle Swarm Optimization
6. Mr. Saksorn Chalermchaiarbha (**Thai, 2014**): Multi-Objective Economic Dispatch by Stochastic Weight Trade-Off Particle Swarm Optimization

**C. Master students.** For each student who obtained/pursuing the master degree under your supervision, provide the following:

### **Master Thesis Supervisions as Chairperson:**

**(Name, Nationality, Graduation Year, Thesis/Research title)**

1. Mr. Do Quang Viet (**Vietnamese, May 2018**):
2. Miss Rachawadee Puangsukra (**Thai, May 2018**):
3. Mr. Sukit Ingprasert (**Thai, May 2018**):
4. Mr. Pullagura Syam Sundar (**Indian, May 2018**):
5. Mr. Somalaraju Kalyan (**Indian, May 2018**):
6. Mr. Swejan Rangishetti (**Indian, May 2018**):
7. Mr. Kean Pagna (**Indian, May 2018**):
8. Mr. Manish Kumar (**Indian, May 2018**):
9. Mr. Malisetty Revanth (**Indian, May 2018**):
10. Mr. Hruday Vemuri (**Indian, May 2018**):
11. Mr. Sathi Manikanteswara Reddy (**Indian, May 2018**):
12. Mr. Meas Nimol (**Cambodian, December 2017**): Optimal Generation and Transmission Expansion Planning considering Renewable Uncertainty by using NSPSO
13. Mr. Mrutyunjaya Nanda (**Indian, December 2017**): Load Side Characteristics Analysis in Smart Grid Using Electric Spring
14. Mr. Srikanth Mukkamalla (**Indian, May 2017**): Pricing and Residential Power Scheduling for Demand response in Smart Grid

15. Ms. Menaka Karki (**Nepalese, May 2017**): An Approach to Enhance the Life of Transformer and the Battery of Gridable Vehicles in Active Distribution Systems
16. Mr. Md. Golam Mostafa (**Bangladeshi, May 2017**): Probabilistic and Combinatorial Approaches for Power Loss Minimization in Distribution Systems (**Publication:** Published one paper in international conference)
17. Mr. Pawarong Thepparat (**Thai, May 2017**): Short-run Electricity Generation scheduling considering wind and solar power
18. Mr. Watcharakorn Pinthurat (**Thai, May 2016**): Modeling and Stability Analysis of Thailand Power Grid Interconnection (**Publication:** Published two papers in scopus cited international conferences)
19. Mr. Tristan Guzman Magallones, Jr (**Filipino, May 2016**): Modelling and Dynamic Performance Analysis of the Philippine-Sabah Power Grid Systems (**Publication:** Published two papers in scopus cited international conferences)
20. Ms. Happy Aprillia (**Indonesian, December 2014**): Optimal Capacitor Placement by Considering Minimum Harmonic Distortion on Unbalanced Three Phase Radial Distribution System Using Direct Search Algorithm (**Publication:** one paper published in an international conference)
21. Mr. Pornchai Chaweewat (**Thai, May 2014**): Operational and Economic Assessment of Microgrid: A Case Study of Mae Sariang, Thailand (**Publication:** Two papers are published in international conferences)
22. Mr. Nachapol Wongwantanee (**Thai, May 2014**): Load Curtailment Minimization in Intentional Islanded Networks and Its Restoration Strategy Considering Voltage Stability Issues (**Publication:** Two papers are published in an international conference)
23. Mr. Subas Ratna Tuladhar (**Nepalese, May 2014**): Impact of Network Reconfiguration on Distribution Network Performance with Solar and Wind Generation using Non-Dominated Sorting Particle Swarm Optimization (**Publication:** One article in international journal (ISI IF 1.35) and another one paper in international conference are published)
24. Ms. Somticha Panich (**Thai, May 2014**): Impact of Plug-in Electric Vehicles on Voltage Imbalance in Distribution System (**Publication:** One paper published in international conference and then same selected for publication in international journal)
25. Ms. Kongsiri Mongkholkaset (**Thai, May 2014**): Flicker Problem Assessment of Different Wind Turbine Models in a Distribution System
26. Ms. Pathatai Dharmasaroj (**Thai, May 2014**): Impact of Solar PV Penetration on Harmonic and Flicker Problems and Their Mitigation in the Distribution System
27. Ms. Thitiporn Chaipattanawan (**Thai, May 2014**): Impact of Location and Penetration Level of Solar PV on Fault Current in a Distribution System
28. Mr. Pham Tuan Ngoc (**Vietnamese, May 2013**): Vietnam Optimal Placement of Fault Current Limiters to Reduce Short Circuit Current Level in Vietnam's Power Transmission Network (**Publication:** one paper revised and resubmitted in an international journal)
29. Ms. Tipaporn Munkong (**Thai, May 2013**): Impact of Distributed Generations on Small Signal Stability in Power Distribution Networks
30. Mr. Mujtaba Manavi (**Afghani, May 2013**): Impact of Renewable Power Source Integration on Voltage Stability in Southern Power System Network of Afghanistan
31. Ms. Hathaikan Mee-Kham (**Thai, May 2013**): A Multi-objective Approach for Optimal Placement of DG to Enhance Power Distribution Network Performance using NSPSO
32. Mr. Ta Nguyen Tan (**Vietnamese, May 2013**): Vietnam Optimal Operation of Cascade Hydropower Plants: A Case Study of IALY Hydropower Company in the Central Region of Vietnam
33. Mr. Nguyen Vinh Phuc (**Vietnamese, May 2012**): Vietnam A Probabilistic Power Flow Analysis Using the Cumulant Method and Gram-Charlier Series Expansion
34. Mr. Supan Thonprom (**Thai, Co-chair, December 2012**): A Study on Measures Towards Green Building: A Case Study of the AIT Energy Building



35. Mr. Natthaphatr Watthanasiriphuwadech (**Thai, December 2011**): A PSO Based Probabilistic Load Flow Approach for Minimization of the Load Shedding by Optimal Capacitor Placement in the Power Distribution System
36. Mr. Dinh Xuan Duc (**Vietnamese, 2011**): Vietnam Water Valuation in the Vietnamese Competitive Generation Market (**Publication**: one paper published in international conference)
37. Mr. Tran Tien Hung (**Vietnamese, 2011**): Vietnam Electromagnetic Transient Simulation for the 500 kV Vinh Tan - Song May Transmission Line
38. Ms. Pauranee Satphaisarnkit (**Thai, Co-chair, 2011**): Impacts of Distributed Generation on the Protective Devices in the PEA Distribution System
39. Ms. Ratchaporn Vairuangsiripong (**Thai, Co-chair, 2011**): Impact of Distributed Generation in Steady State, Voltage and Transient Stability Analysis: A Case of Dansai System, Thailand
40. Mr. Hassan Qazi Wazhat (**KTH Sweden, Pakistani, 2009**): Development of Sensitivity Based Indices for Optimal Placement of UPFC to Minimize Load Curtailment Requirements (**Publication**: One paper in international journal (Thomson Reuters IF= 1.084))
41. Mr. Priyanko Guha Thakurta (**KTH Sweden, Indian, 2009**): An Approach for Optimal Placement of SVC to Minimize Load Curtailment (**Publication**: One paper in international journal (Thomson Reuters IF= 1.084))
42. Mr. Umair Mahmud Sheikh (**KTH Sweden, Co-chair, Pakistani, 2009**): Analysis of Power System Stability by Using Optimally Located SVC and STATCOM

#### **Member list of Master Program Committee for Thesis/Research:**

**(Name, Nationality, Year, Thesis title)**

1. Mr. Sitav Bhadra (**Indian, May 2017**): Biomass Production Using Microalgae in Thermal Power Plants in West Bengal
2. Mr. Gatti Mourya (**Indian, July 2017**): Bio-diesel Production from Jatropha in Kakinada, India
3. Mr. Wahidullah Kharotai (**Afghani, May 2017**): Barriers and opportunities of off-grid solar household system in Afghanistan
4. Mr. Raunak Thapa (**Nepalese, December 2017**):
5. Mr. Hasan Masrur (**Bangladeshi, May 2017**): Techno-economic feasibility study of microgrids on the coastal areas of Bangladesh: St. Martin's Island
6. Mr. Pratik Karki (**Nepalese, December 2017**): Stakeholders' perception on Barriers on Cross-Border Electricity Trading Development in Nepal: A SWOT-AHP Analysis
7. Mr. Nguyen Phuoc (**Vietnamese, December 2017**): Allocation of Vesting contracts in Vietnam wholesale electricity market
8. Mr. Soeun Sophanith (**Cambodian, December 2017**): Reliability Improvement of Microgrid system integrating Solar PV Generation: A case study of Sihanouk Ville Province, Cambodia
9. Mr. Masingha Kavinda Randima Wijayawardena (**Sri Lankan, Research study, May 2017**): Hybrid Renewable Power System for Nainativu Island
10. Mr. Piriya Paokorkeatikul (**Burmese, December, 2017**): Geothermal energy in Thailand
11. Ms. Rana Shreeya (**Nepalese, May 2017**): The Cost of Electricity Not Served: An Analysis for the industrial Sector in Nepal
12. Mr. Ganji Manoj Kumar (**Indian, May 2017**): CO<sub>2</sub> Capture and Storage in Saline Aquifers in Andhra Pradesh, India
13. Mr. Danupol Wetchasirikul (**Thai, May 2017**): Wind Speed Forecasting Using Deep Learning Algorithm
14. Ms. Pallavi Das (**Indian, May 2016**): Cost and Reliability Analysis for Off-Grid PV Electrification Options

15. Mr. Nutthapong Sivapraphagorn (**Thai**, Research study, 2016): A Study on the Reduction of Electricity Consumption and Cost in Some Buildings at AIT
16. Ms. Syeda Ismoth Iqbal (**Bangladeshi**, Research study, December 2016): Analysis of Challenges and Opportunities for Green Energy Banking in Bangladesh
17. Mr. Amrit Paudel (**Nepalese**, May 2016): Optimal Scheduling of Active Distribution Network Considering DG Placement, Network Reconfiguration and Electric Vehicles
18. Mr. Wannakorn Supingklad (**Thai**, May 2016): Optimal Power Dispatch Considering Dispatchable Solar and Wind Generation Using Particle Swarm Optimization
19. Mr. Abhishek Pathak (**Indian**, May 2016): Maximizing Energy Generation from Photovoltaic Arrays Through Shading Analysis from Restricted Urban Roof Areas
20. Mr. Sachin Muralee Krishna (**Indian**, May 2016): Economic and Performance Evaluation of Optimal Diesel-Biodiesel-Ethanol Blends (Publication: One international journal)
21. Mr. Wais (**Afghani**, May 2016): Energy Consumption from Transport Sector: A Case of Kandahar City
22. Mr. Natthawut Weerarak (**Thai**, December 2015): Energy Consumption and CO2 Emission of Hotel Building in Thailand
23. Mr. Anand M.P.(**Indian**, May 2015): Optimal Day-Ahead Scheduling of a Smart Distribution Network: Considering the Effect of Demand Response, Electric Vehicles and Network Reconfiguration (Publication: Three papers published in international conferences)
24. Mr. Mohammad Nazrul Islam (**Bangladeshi**, May 2015): Online Voltage Stability Assessment Using Local Phasor Measurements
25. Mr. Amam Hossain Bagdadee (**Bangladeshi**, May 2015): Power Quality Improvement of Different Load Models in a Micro-Grid System
26. Ms. Wichayaphorn Phoosap (**Thai**, May 2014): Performance of Parabolic Trough Solar Collector
27. Mr. Thanongsak Kaewsai buathong (**Thai**, May 2014) : Application of Wattmon for System Design and Performance Improvement of PV Systems
28. Mr. Vinalong Phonekeo (**Laotian**, May 2014): Electric Vehicle as a Transportation Option for Vientiane: Impact on Transport Energy Demand, GHG Emission and Implications for Electricity Planning
29. Ms. Orawan Phochai (**Thai**, 2014): Voltage Control Strategies for Grid-Connected Solar PV Systems
30. Mr. Rung Punyachai (**Thai**, 2014): Impact of High Solar Rooftop PV Penetration on Voltage Profile in a Distribution System
31. Mr. Jukkrapun Prasomthong (**Thai**, 2014): Optimal Placement of Vehicle-to-Grid Charging Station in Distribution System Using Particle Swarm Optimization with Time Varying Acceleration Coefficients
32. Ms. Chanokwan Veerasathian (**Thai**, 2014): Voltage Stability Assessment of DFIG Wind Turbine in Different Control Modes
33. Ms. Anchuleeporn Chersin (**Thai**, 2014): Improvement of Uncertain Power Generation of Rooftop Solar PV Using Battery Storage Energy Management Strategy
34. Ms. Panipak Thipthiangthae (**Thai**, 2014, Research study): Estimating Greenhouse Gas Emission in the Corporate Sector: The Case of AIT, Thailand
35. Mr. Ekawut Chayakul (**Thai**, 2014, Research study): A Study on Street Lighting in the AIT Campus
36. Mr. Le Hoang Nam (**Vietnamese**, 2013): Hydro-Thermal Coordination using Pseudo-Gradient Based Particle Swarm Optimization Method Considering Wind Power Uncertainty: A Case of Vietnam
37. Mr. Pok Palpibal (**Thai**, 2013): Multi-Objective Power Distribution System Planning Considering PEVs Using NSPSO
38. Mr. Piyachai Sritunya (**Thai**, 2013): Multi-objective Service Restoration in Distribution System with DG Using NSPSO

39. Mr. Muhammad Ahad Rahman Miah (**Bangladeshi**, 2013): Sustainable Extraction and Usage of Coal in Jamalganj Coal Field, Bangladesh
40. Mr. Wichien Tunyasrivorakul (**Thai**, 2013): Time Series and Panel Data Analysis of Crude Oil Consumption for Indonesia, Malaysia and Thailand
41. Ms. Perada Limloetmongkol (**Thai**, 2013): Panel Cointegration and Causality Analysis on CO2 Emissions in Selected ASEAN Countries
42. Ms. Prow Choompradit (**Thai**, 2012): Estimating Short and Long Run Time-of-Use Tariff Elasticities for PEA's Customer Demand
43. Mr. Bhawat Traipattanakul (**Thai**, 2012): Technical and Policy Options for Wind Energy Development in Thailand
44. Mr. Thanaset Petchwattananon (**Thai**, 2012): Impacts of Plug-in Hybrid Electric Vehicles on Power Sector Development in Thailand
45. Mr. Taskin Jamal (**Bangladeshi**, 2012): An Approach Towards Smart Distribution Network in Dhaka, Bangladesh by Rooftop Solar PV Using GIS
46. Mr. Sutsil Khedkaw (**Thai**, 2012): Robust Combined-Objective Particle Swarm Optimization for Planning Transition to Plug-in Hybrid Electric Vehicle
47. Mr. Passapong Saneaphunt (**Thai**, 2012): An Empirical Analysis on CO2 Emissions from the Electricity Sector and Income Based on the Environmental Kuznets Curve
48. Ms. Thanyaporn Harnboonyanon (**Thai**, 2012): Impacts of Electric Vehicle Charging on Distribution Transformers
49. Ms. Pradsamon Rodchuea (**Thai**, 2012): Impacts of AMI Deployment in Thailand: Generation Expansion Model
50. Mr. Tran Truong Han (**Vietnamese**, 2012): Technical and Financial Impact Assessment of a Wind Farm: A Case Study of An Phong Project, Vietnam
51. Mr. Jakkrapun Tessiri (**Thai**, 2012): A Study on Small Scale Applications of Biogas
52. Ms. Shahina Perveen (**Bangladeshi**, 2012, Research study): Comparative Study of Index Decomposition Analysis Approaches for CO2 Emission Changes: A Case Study in South-East Asian Countries
53. Ms. Chonlapat Leewarinpanich (**Thai**, 2011/12): Monthly Electricity Demand Forecast for Provincial Electricity Authority Using Autoregressive Integrated Moving Average (ARIMA) and Artificial Neural Network (ANN): A Case Study of Chiangmai
54. Mr. Tharakorn Chanlapa (**Thai**, 2011/12): An Assessment of Micro Hydropower for Rural Electrification: A Case Study of Maesa Basin, Thailand
55. Ms. Pun Phullsub (**Thai**, 2011/12): Electricity Consumption during Flooding in Thailand: Case Study in Bangkok, Nonthaburi and Samut Prakan
56. Mr. Peerakit Theerasopon (**Thai**, 2011/12): GHG Mitigation Potential of Clean Coal Technologies and Carbon Capture and Sequestration in Thailand
57. Ms. Klairung Kositthanasaran (**Thai**, 2011/12): Financial Risk Analysis of Biomass Power Plant: A Case study of Sungoen Rice Husk Power Plant in Nakhonratchasima
58. Mr. Warodom Khamphanchai (**Thai**, 2011): A Multi-Agent based Power System Restoration Approach in Distributed Smart Grid
59. Mr. Watchara Jaroenpan (**Thai**, 2011): Multi-Areas Economic Dispatch by Particle Swarm Optimization with Time-Varying Acceleration Coefficients
60. Mr. Pasapong Gamonwet (**Thai**, 2011): Electricity Retail Price in Competitive Market using the Risk Adjusted Capital asset pricing model (CAPM): A Case of Thailand
61. Ms. Pensupa Sattawatananon (**Thai**, 2011): Risk Analysis in Financial Evaluation of Electricity Transmission System Extension Project: A Case Study of Samui Island, Thailand
62. Mr. Hoang Thanh Hai (**Vietnamese**, 2011): Feeder Automation Planning for Hanoi Power Distribution System
63. Mr. Kritsnai Jantawongsri (**Thai**, 2011): Optimal DG Placement in Island Microgrid System by PSO with Time-Varying Acceleration Coefficients
64. Mr. Phoukhong Sinyasone (**Laotian**, 2011): Optimal Capacitor Placement for Voltage Improvement and Loss Reduction in Power Distribution Networks in Lao PDR

65. Ms. Vipasinee Kesornpikul (**Thai**, 2011): Comparison of Harmonic Behavior of Compact Fluorescent Lamp in Thailand
66. Mr. Paveen Suwannawat (**Thai**, 2011): Optimal Scheduling of Combined Heat and Power Units in a Household Islanding Microgrid System
67. Mr. Chakkapong Somsri (**Thai**, 2011): Optimal Distribution Substation Placement, Size and
68. Installation Period by Improved-Binary Particle Swarm Optimization
69. Ms. Su Yin Min (**Burmese**, 2010, Research study): Optimal TCSC Placement for Minimization of Transmission Losses
70. Mr. Bhakbhum Kaewkamthong (**Thai**, 2010, Research study): Fault Identification and Locating on PEA Distribution System
71. Mr. Phan The Hieu (**Vietnamese**, 2010): Distribution Expansion Planning: A Case of Travinh City, Vietnam
72. Mr. Thad Aosombatkun (**Thai**, 2010): An Analysis of Electricity Demand and Pollutant Emissions Using Cointegration and ARIMA Modeling: A Case Study of Thailand
73. Ms. Wikanda Pensupa (**Thai**, 2010): Assessment of Clean Development Mechanism (CDM) Projects for Net GHGs Mitigation in Thailand
74. Mr. Paradorn Sriprasat (**Thai**, 2010): Distribution System Planning Considering Grid Connected Rooftop PV Systems: A Case of Chiang Mai City, Thailand
75. Mr. Sitthigorn Promthaworn (**Thai**, 2010): Reliability Improvement by the Microgrid System: A Case of Mae Hong Son, Thailand
76. Mr. Bancha Rangsakorn (**Thai**, 2010): Multi-Objective Distributed Generation Optimal Placement in Distribution System using Nondominated Sorting Particle Swarm Optimization
77. Mr. Yusak Tanoto (**Indonesian**, 2010): Long Term Peak Load Forecasting Using Artificial Neural Networks: The Case of Java-Madura-Bali Interconnection, Indonesia
78. Mr. Nuttawich Khamsawasd (**Thai**, 2010): Optimal Bidding Strategy in LMP-Based Electricity Market Considering Demand Elasticity by Particle Swarm Optimization with Time-Varying Acceleration Coefficients
79. Mr. Apinat Saksinchai (**Thai**, 2010): Multi-objective Bidding Strategy for Generation Company using Non-Dominated Sorting Particle Swarm Optimization
80. Ms. Cherry Myo Lwin (**Burmese**, 2010): Greenhouse Gas Mitigation by Hydropower Trading from Myanmar to Thailand
81. Ms. Seema Thakur (**Nepalese**, 2010): Optimal Generation Scheduling of Cascaded Hydro-Thermal and Wind Power Generation by Particle Swarm Optimization
82. Ms. Yada Rungreang (**Thai**, 2010): Financial Transmission Right Bidding Strategy in Competitive Power Market Using Particle Swarm Optimization
83. Mr. Nitipong Thipwiang (**Thai**, 2010): Wind Power Bidding Strategy in Short-Term Power Market Based on Particle Swarm Optimization
84. Mr. Mom Kirivathanak (**Thai**, 2010): Optimal DG Placement in a Nodal Price Based Electricity Market: The Case of Cambodia
85. Mr. Dinesh Rangana Gurusinghe (**Sri Lankan**, 2010): Saddle Node Bifurcation and Voltage Stability Analysis by Particle Swarm Optimization
86. Ms. Arisa Sumthong (**Thai**, 2010): Long-term Co2 Emission Reductions Target and Scenario for the Industrial Sector of Thailand
87. Mr. Agapol Pukprayura (**Thai**, 2010): Optimal Under-Voltage Load Shedding for Northeastern EGAT System
88. Mr. Purna Bdr Rai (**Bhutanese**, 2010): Total Transfer Capability Enhancement using FACTS Devices: A Case Study of Bhutan Power System
89. Mr. Arshad Mahmood (**Pakistani**, 2010, Research study): Energy Consumption and Economic Growth in Pakistan: A Causality Analysis
90. Mr. Ngo Dang Chien (**Vietnamese**, 2010): Integrated Resources Planning Considering Demand Side Management: A Case Study of Vietnam

91. Mr. Natthakich Assanee (**Thai**, 2010, Research study): The Transition to a Hydrogen Economy in Thailand
92. Ms. Tran Thi Kieu Ngoc (**Vietnamese**, 2010, Research study): Analysis of a Micro Combined Heat Power as a Clean Development Mechanism Project in Residential Area, Hanoi, Vietnam

#### IV. Research

##### A. Publications

Publications must be listed with complete citations in the categories indicated below. Include all names of authors in the order in which they appear. List the number of the first page and last page of the paper. If papers are submitted or accepted for publication, copies of the letter of receipt or acceptance must be provided. Manuscripts in preparation should not be listed. Papers of a principally pedagogical nature must be listed in Section II, C.

1. Books and Monographs:
  - i) Hassan Qazi Wazhat, Jai Govind Singh, Mehrdad Ghandhari. *Development of Sensitivity Based Indices for Optimal Placement of UPFC to Minimize Load Curtailment Requirements*. XR-EE-ES-2009:006. Master Thesis, KTH, School of Electrical Engineering (EES), Electric Power Systems, Stockholm, Sweden.
  - ii) Umair Mahmud Sheikh, Hector Latorre, Jai Govind Singh, Mehrdad Ghandhari. *Analysis of Power System Stability by Using Optimally Located SVC and STATCOM*. XR-EE-ES 2009:010. Master Thesis, KTH, School of Electrical Engineering (EES), Electric Power Systems, Stockholm, Sweden.
  - iii) Priyanko Guha Thakurta, Jai Govind Singh, Lennart Soder. *An Approach for Optimal Placement of SVC to Minimize Load Curtailment*. Master Thesis, KTH, School of Electrical Engineering (EES), Electric Power Systems, Stockholm, Sweden.
2. Refereed journal articles: international, regional, national. For each article, indicate the publisher of the journal and the number of SCOPUS citations.

##### 2.A Summary of journal articles published(e.g. Jan. 2004 – January, 2016)

| Published         |               |                   |          |                   |          |
|-------------------|---------------|-------------------|----------|-------------------|----------|
| Refereed Journals | International | Refereed Journals | Regional | Refereed Journals | National |
| (24)              |               |                   |          |                   |          |

| In Progress   |                            |                            |
|---|----------------------------|----------------------------|
| Refereed International Journals   | Refereed Regional Journals | Refereed National Journals |
| 2 manuscripts are revised and resubmitted among total 6 communicated, and 4 are under preparation |                            |                            |

##### 2.B Articles in Refereed **International Journals**

- i) Vivek Mohan, Reshma Suresh, Jai Govind Singh, Weerakorn Ongsakul, Nimal Madhu M (2017). Microgrid Energy Management Combining Sensitivities, Interval and Probabilistic Uncertainties of Renewable Generation and Loads. *IEEE Journal on Emerging and Selected Topics in Circuits and Systems* (in press). (ISI Thomson Reuters IF=3.129)

- ii) Nikhil Sasidharan, **Jai Govind Singh** (2017). A Novel Single Stage Single Phase Reconfigurable Inverter Topology for a Solar Powered Hybrid AC/DC Home in Smart Grid. *IEEE Transactions on Industrial Electronics*, 64(4), pp 2820-2828. (Thomson Reuters IF=6.498)
- iii) Nikhil Sasidharan, **Jai Govind Singh** (2017). A Resilient DC Community Grid with Real Time Ancillary Services Management. *Sustainable Cities and Society*, 28, pp. 367–386. (Thomson Reuters IF=1.044)
- iv) Vivek Mohan, **Jai Govind Singh**, and Weerakorn Ongsakul (2017). Sortino Ratio Based Portfolio Optimization Considering PHEVs and Renewable Energy in Microgrid Power Market. *IEEE Transactions on Sustainable Energy*, 8(1), pp. 219-229. (Thomson Reuters IF=3.727)
- v) Subas Ratna Tuladhar, **Jai Govind Singh**, Weerakorn Ongsakul (2016). Multi-Objective Approach for Distribution Network Reconfiguration with Optimal DG Power Factor using NSPSO. *IET Generation, Transmission & Distribution*, 10(12), pp. 2842 - 2851. (Thomson Reuters IF=1.353)
- vi) **Jai Govind Singh**, Hassan Wajahat Qazi, and Mehrdad Ghandhari (2016). Load Curtailment Minimization by Optimal Placement of Unified Power Flow Controller. *International Transactions on Electrical Energy Systems*. 26(10), pp. 2272–2284. doi:10.1002/etep.2209. (Thomson Reuters IF= 1.084)
- vii) Vivek Mohan, **Jai Govind Singh**, Weerakorn Ongsakul and Reshma Suresh M P (2016). Economic and Network Feasible Online Power Management for Renewable Energy Integrated Smart Microgrid with Improved DER Dynamics. *Sustainable Energy, Grids and Networks*, 7(1), pp. 13-24.
- viii) Vivek Mohan, **Jai Govind Singh**, Weerakorn Ongsakul, Reshma Suresh M P (2016). Performance Enhancement of Online Energy Scheduling in a Radial Utility Distribution Microgrid. *International Journal of Electric Power and Energy Systems*, 79, pp. 98–107. (Thomson Reuters IF=2.587)
- ix) Nimal Madhu M, Nikhil Sasidharan and **Jai Govind Singh** (2016). A Droop Control Based DC Equivalent Power Flow Method for Low and Medium Voltage Distribution Systems. *Electric Power System Research*, 134, pp. 56–65. (Thomson Reuters IF=1.809)
- x) Sachin Muralee Krishna, Nimal Madhu M, Vivek Mohan, Reshma Suresh M P and **Jai Govind Singh** (2015). A Generalized Approach for Enhanced Solar Energy Harvesting Using Stochastic Estimation of Optimum Tilt Angles: A Case Study of Bangkok City. *GREEN - a systemic approach to energy, DE GRUYTER*, 5(1-6), pp. 95-107. (SNIP=0.939, SJR=0.560)
- xi) Vivek Mohan, **Jai Govind Singh**, Weerakorn Ongsakul (2015). An Efficient Two Stage Stochastic Optimal Energy and Reserve Management in a Microgrid. *Applied Energy*, 160, pp. 28–38. (Thomson Reuters IF=5.746)
- xii) Nikhil Sasidharan, Nimal Madhu M, **Jai Govind Singh** and Weerakorn Ongsakul (2015). An Approach for Efficient Hybrid AC/DC Solar Powered Homegrid System based on Load Characteristics of Home Appliances. *Energy and Buildings*, 108, pp. 23–35. (Thomson Reuters IF=2.973)
- xiii) Somticha Panich and **Jai Govind Singh** (2015). Impact of Plug-in Electric Vehicles on Voltage Unbalance in Distribution Systems. *International Journal of Engineering, Science and Technology*, 7(3), pp. 76-93.
- xiv) Nimal Madhu M, S Nikhil, Anand M.P., **J. G. Singh** (2015). Distributed AC power flow method for AC and AC-DC hybrid autonomous microgrids with droop control. *International Journal of Engineering, Science and Technology*, 7(3), pp. 58-64.
- xv) Jai Govind Singh, Priyanko Guha Thakurta and Lennart Soder (2014). Load Curtailment Minimization by Optimal Placement of SVC. *International*

- Transactions on Electrical Energy Systems*, doi: 10.1002/etep.1990. (Thomson Reuters IF= 1.084)
- xvi) I Made Wartana, **Jai Govind Singh**, Weerakorn Ongsakul, and Sasidharan Sreedharan (2013). Optimal Placement of FACTS Controllers for Maximizing System Loadability by PSO. *Int. J. of Power and Energy Conversion*, 4(1), pp. 9 – 33. (Scopus)
  - xvii) Sachin K. Jain, S. N. Singh, and **J. G. Singh** (2013). An Adaptive Time-Efficient Technique for Harmonics Estimation of Non-stationary Signals. *IEEE Transactions on Industrial Electronics*, 60(8), pp. 3295-3303. (Thomson Reuters IF=6.383)
  - xviii) Sasidharan Sreedharan, Weerakorn Ongsakul, **Jai Govind Singh**, Mahapatra S. S. (2012). Development of PSO based Robust Controller for Maximizing Wind Penetration. *International Journal of Renewable Energy Technology*, 3(1), pp. 58-78.
  - xix) Sasidharan Sreedharan, Weerakorn Ongsakul, and **J. G. Singh** (2010). Maximization of Instantaneous Penetration using Particle Swarm Optimization. *International Journal of Engineering, Science and Technology*, 2(5), pp. 39-50.
  - xx) J. G. Singh, S. N. Singh, and S. C. Srivastava (2009). Optimal Placement of UPFC based on System Loading Distribution Factors. *Electric Power Components and Systems*, 37(4), pp. 441-463. (Scopus)
  - xxi) J. G. Singh, P. Tripathy, S. N. Singh, S. C. Srivastava (2009). Development of a Fuzzy Rule Based Generalized Unified Power Flow Controller. *European Transactions on Electrical Power*, 19(6), pp. 702–717. doi: 10.1002/etep.250 (Thomson Reuters IF=1.084)
  - xxii) J. G. Singh, S. N. Singh, S. C. Srivastava (2007). An Approach for Optimal Placement of Static VAr Compensators based on Reactive Power Spot Price, *IEEE Transactions on Power Systems*, 22(4), pp. 2021-2029. (Thomson Reuters IF=3.342)
  - xxiii) J. G. Singh, S. N. Singh and S. C. Srivastava (2006). A Sensitivity Based Approach for Optimal Location of Multi-Converter Unified Power Flow Controller Considering Its Impact on Generation and Wheeling Costs. *International Journal of Energy Technology and Policy*, 4(3), pp. 394 - 409.
  - xxiv) J. G. Singh, S. N. Singh and V. Pant (2004). Modeling of Generalized Unified Power Flow Controller for Suitable Location and Power Flow Controller. *Iranian Journal of Electrical and Computer Engineering*, 3(2), pp. 103-110.

**Submitted/communicated articles** in international journal:

- i) Nikhil Sasidharan, **Jai Govind Singh**. Static ZIP Load Modelling of Microwave Ovens and its Impact on Distribution System. *Electric Power Components and Systems* (revised and resubmitted). (Scopus)
- ii) Nimal Madhu M, Vivek Mohan and **Jai Govind Singh**. Strategic Multi-objective Optimization of ATC for System and Operator benefits with Stochastic Renewables. *Journal of Modern Power Systems and Clean Energy*. (ISI Thomson Reuters IF=0.975)
- iii) Pham Tuan Ngoc and **Jai Govind Singh**. Short Circuit Current Level Reduction in Power System by Optimal Placement of Fault Current Limiter. *International Transactions on Electrical Energy Systems* (revised and resubmitted). (Thomson Reuters IF=1.084)

- iv) Anongpun Man-Im, Weerakorn Ongsakul, **Jai Govind Singh**, Chanwit Boonchuay (2016). Multi-objective Economic Dispatch Considering Wind Power Penetration Using Stochastic Weight Trade-off Chaotic NSPSO. *Electric Power Component and Systems*. (revised and resubmitted) (Scopus cited)
- v) Anongpun Man-Im, Weerakorn Ongsakul, **Jai Govind Singh**, Chanwit Boonchuay (2017). Multi-objective Optimal Power Flow Using Stochastic Weight Trade-off Chaotic NSPSO. *International Transactions on Electrical Energy Systems*. (Thomson Reuters IF=1.084)

### 3. Papers in Refereed Conference Proceedings

- i) Nachapol Wongwantanee, **Jai Govind Singh** and Bharat Singh Rajpurohit (2016). Load Curtailment Minimization in Intentional Islanded Networks and its Restoration Strategy Considering Voltage Stability Issues. *PEA Conference*, 19-20 December 2016, Thailand.
- ii) Happy Aprillia, Jai Govind Singh, Ontoseno Penangsang, Adi Soeprijanto (2016). Optimal Placement of Capacitor on Three Phase Radial Distribution System Using Direct Search Algorithm. *IEEE Region 10 Humanitarian Technology Conference (R10-HTC-2016)*, 21-23 December 2016, Agra, India.
- iii) Jai Govind Singh, S N Singh, S C Srivastava (2016). Congestion Management by using FACTS Controller in Power System. *IEEE Region 10 Humanitarian Technology Conference (R10-HTC-2016)*, 21-23 December 2016, Agra, India.
- iv) Pornchai Chaweewat, Jai Govind Singh, Weerakorn Ongsakul, Anurag K. Srivastava (2016). Economic and Environmental Impact Assessment with Network Reconfiguration in Microgrid by using Artificial Bee Colony. *International Conference and Utility Exhibition on Green Energy for Sustainable Development (ICUE)*, 14-16 September 2016, Bangkok, Thailand.
- v) S. M. G. Mostafa, Jai Govind Singh, H. Masrur, Md. Shahid Ullah (2016). A Prospective Model of Bangladesh Electricity Market. *International Conference on Innovations in Science, Engineering and Technology (ICISSET 2016)*, 28-29 October 2016, IIUC, Kumira, Chittagong, Bangladesh.
- vi) Tristan G. Magallones Jr., Jai Govind Singh and Watcharakorn Pinthurat (2016). Small Signal Stability and Transient Stability Analysis on the Philippine-Sabah Power Interconnection. *International Conference and Utility Exhibition on Green Energy for Sustainable Development (ICUE)*, 14-16 September 2016, Bangkok, Thailand.
- vii) Watcharakorn Pinthurat, Jai Govind Singh and Tristan G. Magallones Jr. (2016). Modeling and Performance Assessment of the Thai National Power Grid Considering Wind Farms Integration. *International Conference and Utility Exhibition on Green Energy for Sustainable Development (ICUE)*, 14-16 September 2016, Bangkok, Thailand.
- viii) Tristan G. Magallones Jr., **Jai Govind Singh** and Watcharakorn Pinthurat (2016). Power Flow and Small Signal Stability Analysis on the Interconnected Three Isolated Philippine Power Grid. *International*



- Conference on Recent Trends in Engineering and Material Sciences, Elsevier Perspective in Science*, 17-19 March, Jaipur, India.
- ix) Watcharakorn Pinthurat, **Jai Govind Singh** and Tristan G. Magallones Jr. (2016). Assessment of Fault Ride-Through Capability in Thailand Power Grid Interconnection. *International Conference on Recent Trends in Engineering and Material Sciences, Elsevier Perspective in Science*, 17-19 March, Jaipur, India.
  - x) Vivek Mohan, Nimal Madhu, Jai Govind Singh, Reshma Suresh M P, Arjun C Unni. (2016). Optimal prioritization of reactive power ancillary service utilizing electric vehicles in an autonomous microgrid. *International Conference on Recent Trends in Engineering and Material Sciences, Elsevier Perspective in Science*, 17-19 March, Jaipur, India.
  - xi) Nimal Madhu, Vivek Mohan, Jai Govind Singh, Reshma Suresh M P, Sreehari G Nair. (2016). Interval effects of different load models on microgrid optimization. *International Conference on Recent Trends in Engineering and Material Sciences, Elsevier Perspective in Science*, 17-19 March, Jaipur, India.
  - xii) Nimal Madhu M, Nikhil Sasidharan, **Jai Govind Singh** (2015). Droop Control Incorporated Power Flow Method for Distribution and Microgrid Systems. *IEEE PES Innovative Smart Grid Technologies in Asia 2015, Bangkok International Conference*.
  - xiii) Anongpun Man-Im, Weerakorn Ongsakul, **Jai Govind Singh**, Chanwit Boonchuay (2015). Multi-objective Optimal Power Flow Using Stochastic Weight Trade-off Chaotic NSPSO. *IEEE PES Innovative Smart Grid Technologies in Asia 2015, Bangkok International Conference*.
  - xiv) Vivek Mohan, Reshma Suresh M P, **Jai Govind Singh**, Weerakorn Ongsakul and Boddeti Kalyan Kumar (2015). Online Optimal Power Management Considering Electric Vehicles, Load Curtailment and Grid Trade in a Microgrid Energy Market. *IEEE PES Innovative Smart Grid Technologies in Asia 2015, Bangkok International Conference*.
  - xv) Sasidharan Sreedharan, Reza Ghorbani, Saeed Sepasi, Weerakorn Ongsakul and **Jai Govind Singh** (2015). Simultaneous Optimization of Renewable Power at Transmission and Distribution Grid. **International Conference on SMART GRID Technologies, August 6-8, 2015, Amrita School of Engineering, Coimbatore, India**.
  - xvi) Vivek Mohan, **Jai Govind Singh**, Weerakorn Ongsakul, Nikhil Sasidharan (2015). Stochastic Effects of Renewable Energy and Loads on Optimizing Microgrid Market Benefits. *International Conference on SMART GRID Technologies*, August 6-8, 2015, Amrita School of Engineering, Coimbatore, India.
  - xvii) Nikhil Sasidharan, Nimal Madhu M, **Jai govind Singh**, Weerakorn Ongaskul (2015). Real Time Active Power Ancillary Service using DC Community Grid with Electric vehicles and Demand Response. *International Conference on SMART GRID Technologies*, August 6-8, 2015, Amrita School of Engineering, Coimbatore, India.
  - xviii) Anand M.P, Weerakorn Ongsakul, **Jai Govind Singh**, Sajjad Golshannavaz (2015). Economic operational planning of a Smart distribution network considering demand response, Electric vehicles and Network reconfiguration. *PowerTech Eindhoven 2015 conference, 29 June - 2 July 2015, Netherlands*.
  - xix) Vivek Mohan, **Jai Govind Singh**, Weerakorn Ongsakul (2015). Online Benefit Optimization in a Liberalized/Free Microgrid Market Model. *IEEE*

- International Conference TAP Energy*, 24-26th June 2015, Amrita Vishwa Vidya Peetham, Amritapuri, Kerala, India.
- xx) Anand M.P., Weerakorn Ongsakul, **Jai Govind Singh** and Sudhesh K.M. (2015). Optimal Allocation and Sizing of Distributed Generators in Autonomous Microgrids based on LSF and PSO. *International Conference on Energy, Economics and Environment (1st UPCON-ICEEE2015)*, 27-28 March, 2015, Greater Noida, India.
  - xxi) Anand M.P., Weerakorn Ongsakul, **Jai Govind Singh Singh** and Sudhesh K.M. (2015). Impact of Economic Dispatch in a Smart Distribution Network considering Demand Response and Power Market. *International Conference on Energy, Economics and Environment (1st UPCON-ICEEE2015)*, 27-28 March, 2015, Greater Noida, India.
  - xxii) Nikhil Sasidharan and **J. G. Singh** and Sudhin P. K. (2015). Hybrid AC/DC Solar Powered Net Zero Energy Home. *2015 IEEE International Conference on Electrical, Computer and Communication Technologies (IEEE ICECCT 2015)*, SVS College of Engineering, Coimbatore, Tamil Nadu, India, 05 - 07th March 2015.
  - xxiii) Nachapol Wongwantanee, **Jai Govind Singh** and Bharat Singh Rajpurohit (2014). Generation Cost and Loss Power Minimization in Intentional Islanded Networks Based on BPSO. *6<sup>th</sup> IEEE Power India International Conference*, 5-7 December 2014, New Delhi, India.
  - xxiv) Grewal, G.S.; Rajpurohit, B.S.; **Singh, J.G.** (2014). Energy management in Steel rolling plant. *International Conference and Utility Exhibition on Green Energy for Sustainable Development (ICUE)*, 19-21 March 2014, Pattaya, Thailand.
  - xxv) Man-Im, A; Ongsakul, W.; **Singh, J.G.** Boonchuay, C. (2014). Multi-objective economic dispatch considering wind generation uncertainty using non-dominated sorting particle swarm optimization. *International Conference and Utility Exhibition on Green Energy for Sustainable Development (ICUE)*, 19-21 March 2014, Pattaya, Thailand.
  - xxvi) Tuladhar, S.R.; **Singh, J.G.**; Ongsakul, W. (2014). A multi-objective network reconfiguration of distribution network with solar and wind distributed generation using NSPSO. *International Conference and Utility Exhibition on Green Energy for Sustainable Development (ICUE)*, 19-21 March 2014, Pattaya, Thailand.
  - xxvii) Mohan, V.; Madhu, N.; Ongsakul, W.; **Singh, J.G.**, Reshma Suresh, M.P. (2014). Design of strategic information in the deregulated Indian power market: An agent-based approach. *International Conference and Utility Exhibition on Green Energy for Sustainable Development (ICUE)*, 19-21 March 2014, Pattaya, Thailand.
  - xxviii) Pisanupoj, S.; Ongsakul, W.; **Singh, J.G.** (2014). Potential of smart grid in Thailand: A development of WADE smart grid model. *International Conference and Utility Exhibition on Green Energy for Sustainable Development (ICUE)*, 19-21 March 2014, Pattaya, Thailand.
  - xxix) Chaweewat, P.; **Singh, J.G.**; Ongsakul, W.; Srivastava, A.K. (2014). Synchronization control and droop control of microgrid operation. *International Conference and Utility Exhibition on Green Energy for Sustainable Development (ICUE)*, 19-21 March 2014, Pattaya, Thailand.
  - xxx) I. M. Wartana, **J. G. Singh**, W. Ongsakul, and N. P. Agustini (2012). Optimal Placement of A Series FACTS Controller in Java-Bali 24-bus Indonesian System for Maximizing System Loadability by Evolutionary Optimization Technique. *Third International Conference on Intelligent System, Modelling and Simulation (ISMS2012)*, Kinabalu-Malaysia, 2012.

- xxxii) Maya B, Sasidharan Sreedharan, **J G Singh** (2012). An Integrated Approach for the Voltage Stability Enhancement of Large Wind Integrated Power Systems. *IEEE PES International Conference, Epsicon* 2012, India.
- xxxiii) Sasidharan Sreedharan, Weerakorn Ongsakul, **Jai Govind Singh**, I Made Wartana and Kittavit Buayai (2011). PSO Based Tuning of FACTS Controllers for Maximizing the Wind Energy Penetration in Power Systems. *IEEE-PES, ISGT International Conference*, Kollam, Kerala India, 2011.
- xxxiiii) Sasidharan Sreedharan, Weerakorn Ongsakul, **J G Singh** and I Made Wartana (2011). Development of PSO based Control algorithms for maximum wind penetration. *IEEE PES General Meeting*, Detroit, Michigan, USA, 26–29 July, 2011.
- xxxv) D. X. Duc, **Jai Govind Singh**, Weerakorn Ongsakul (2011). Water Valuation in Vietnamese Electricity Generation Market. *International Conference and Utility Exhibition 2011 on Power and Energy Systems: Issues and Prospects for Asia (ICUE 2011)*, 28-30 September, 2011, Pattaya, Thailand.
- xxxvi) I Made Wartana, **Jai Govind Singh**, Weerakorn Ongsakul, Kittavit Buayai, and Sasidharan Sreedharan (2011). Optimal Placement of UPFC for Maximizing System Loadability and Minimize Active Power Losses by NSGA-II. *International Conference and Utility Exhibition 2011 on Power and Energy Systems: Issues and Prospects for Asia (ICUE 2011)*, 28-30 September, 2011, Pattaya, Thailand.
- xxxvii) J. G. Singh, S. N. Singh, S. C. Srivastava, and Lennart Söder (2010). Power System Security Enhancement by Optimal Placement of UPFC. *The Fourth IASTED Asian Conference on Power and Energy Systems, AsiaPES 2010*.
- xxxviii) J. G. Singh, S. N. Singh, S. C. Srivastava (2007). Reactive Power Spot Price Based Optimal SVC Placement Considering Opportunity Cost. *International Conference on Power System 2007, CPRI, Bangalore, India*, 12-14 December 2007.
- xxxix) J. G. Singh, S. N. Singh, S. C. Srivastava (2007). Enhancement of Power System Security through Optimal Placement of TCSC and UPFC. *IEEE PES General Meeting*, Florida, USA, 24-28 Jun 2007.
- xl) J. G. Singh, S. N. Singh, S. C. Srivastava (2006). Placement of FACTS Controllers for Enhancement of Power System Loadability. *PES, 2006 IEEE Power India Conference*, New Delhi, April 10-12, pp. 89-96.
- xli) J. G. Singh, S. N. Singh, S. C. Srivastava (2006). Optimal Placement of TCPAR for Enhancement of Power System Loadability. *National conference on Technical Challenge in Power Systems*, KNIT Sultanpur, India, 24-25 March 2006, pp. 207-211.
- xlii) J. G. Singh, S. N. Singh, S. C. Srivastava (2006). Optimal Placement of TCSC for Enhancement of Power System Loadability. *National conference on Modern Aspects of FACTS and its application*, MMMEC Gorakhpur, India, 17-18 February 2006, pp. 89-96.
- xliii) O. P. Dwivedi, **J. G. Singh** and S. N. Singh (2004). Simulation and Analysis of Multi-converter Unified Power Flow Controller Using SIMULINK. *National Power System Conference*, IIT, Madras, India, 27-30 December, 2004, pp. 1048-1054.
- xliiii) O. P. Dwivedi, **J. G. Singh** and S. N. Singh (2004). Power Flow Control Using Multi-Converter FACTS Controller. *International Conference on Power System*, IE, Tribhuvan University, Nepal and IIT Mumbai, India Kathmandu, Nepal, 3-5 November, 2004, pp. 711-718.
- xliv) J. G. Singh, S. N. Singh (2003). Optimal Power Flow Control Using Generalized Unified Power Flow Controller. *National conference on*

*Modern Aspects of FACTS and its application*, Coimbatore, India, 29 & 30 August 2003, pp. 89-96.

4. Papers in Workshops:
  - i) J. G. Singh and S. N. Singh. Enhancing Power Systems' Security Using FACTS Controllers, *National Seminar on Voltage Stability (SVC'06)*, at Arulmigu Kalasalingam College of Engineering, Tamil Nadu, October 13-14, 2006.
5. Development Project Reports  
S. Kumar, P. Abdul Salam, C.O.P. Marpaung, J.G. Singh and B. Sireesha: AIT-EHMF Collaborative Project Report on *Micro-Hydro Generation System*. It was submitted to EBARA foundation in November 2012.
6. Non-refereed Publications
  - i) Smart Grid: A Vision of Future Energy by Jai Govind Singh and Weerakorn Ongsakul, Technology Magazine, AIT Consulting, 2014.
  - ii) Hybrid AC/DC Net Zero Electric Energy Status Solar Home by Nikhil Sasidharan and Jai Govind Singh, Chulachomklao Royal Military Academy (CRMA), 2014, pp. 128-129.
  - iii) An eight minutes interview on 'Distributed Power Grids: A Future Energy Systems of Asia' at link <http://energy.ait.asia/news-a-events/38-news/341--dr-jai-govind-singhinterview-at-asian-utility-week>.
7. Invited Lectures and Keynote Addresses
  - i) Invited for **keynote address** on 'Economic and Environmental Assesemtn of Microgrid: A Case study of Mai Sarieng, Thailand' in 'International Conference on Control Computing Communication and Materials (ICCCCM-2016),' organized by United College of Engineering & Research, Allahabad, UP, India, 22<sup>nd</sup> October 2016.
  - ii) Delivered an invited **keynote address** on 'Scope and Challenges of Smart Grid in Renewable Energy Integration' in 'International Conference on Smart Grid Technology (INCETS'16)', organized by College of Engineering Trikaripur, Kasaragod, Kerala, India, 23<sup>rd</sup> April 2016.
  - iii) Delivered an invited **keynote address** on 'Distributed Power Grids: A Future Energy Systems of Asia' at International Conference on SMART GRID Technologies, August 6-8, 2015, Amrita School of Engineering, Coimbatore, India.
  - iv) Delivered an **expert talk** on 'Distributed Power Grids: A Future Energy Systems' at Asian Utility Week 2015, 9-10 June, Bangkok, Thailand.
  - v) Delivered an invited **keynote speech** on 'Smart Grid for Low Carbon Society' in International Conference on Energy, Economics and Environment, 27-28th March, 2015, Noida, India.
  - vi) Delivered an invited **keynote speech** on 'Homegrids to the Smart Grid: A Sustainable Energy Expressway for Green Future' in 'International Conference on Recent Developments in Control, Automation & Power Engineering (RDCAPE-2015)', 12-13th March, 2015, Noida, India.
  - vii) Delivered a talk on '**ICT for Smart Grid**' in ICUE2014 Pre-conference Training Workshop on Smart Grid and Renewable Energy, 18th March 2014.
  - viii) I have been invited to deliver several lectures on various power system topics in different trainings program organized by AIT Extension.

- ix) An electricity seminar on “An Electrical Infrastructure for Sustainable Development in THAILAND”, FRENCH-THAI ELECTRICITY FORUM, 2012, organized by The Trade Commission of French Embassy, Thailand.
- x) Sequential M. Tech. Program of Uttar Pradesh Technical University, Lucknow, UP, India, on “Economic operation and control of power systems”.

8. Total number of citations to the faculty member’s published work, as shown by SCOPUS.

| Scopus    |         |           | Google scholar |         |           | Researchgate |         |       |
|-----------|---------|-----------|----------------|---------|-----------|--------------|---------|-------|
| Citations | h-index | i10-index | Citations      | h-index | i10-index | Citations    | h-index | Reads |
| 160       | 7       | 4         | 333            | 9       | 8         | 261          | 8       | 2,579 |

(Scopus link: <http://www.scopus.com/authid/detail.url?authorId=37462123800&origin=cto>)

(Google scholar link: <http://scholar.google.co.th/citations?user=yeX22UYAAAAJ&hl=en>)

(Researchgate link: [https://www.researchgate.net/profile/Jai\\_Govind\\_Singh](https://www.researchgate.net/profile/Jai_Govind_Singh))

#### B. Research in progress

List of research grants and sponsored projects. For each grant and project specify the project duration, overhead and faculty time income to the institute.

For each grant and project specify the project duration, overhead and faculty time income to the institute.

| Sl. no. | Project Title   | Duration                    | Sponsor   | Budget (in THB)<br>(THB 1=1.87 INR on April 11, 2017) | Role  |
|---------|---|-----------------------------|---|---|-------|
| 1       | USAID Clean Power Asia Program  | Oct/2016 to Sept/2021       | USAID   | 13.67 Million   | PI    |
| 2       | A Project for Sunny Bangchak to Improve the Efficiency of Solar Photovoltaic System | 29 Feb – 30 June 2016       | Bangchak Solar Energy Company Limited (Sunny Bangchak)  | 130,625 THB   | Co-PI |
| 3       | Smart Solar Home Demonstration Project  | Sept 1, 2014 – Aug 30, 2015 | Industrial Technology Assistance Program (iTap), National Science and Technology Development Agency | 3kW solar panel equipment 500,000                     | Co-PI |

|    |  |                               |  |           |       |
|----|--|-------------------------------|--|-----------|-------|
|    |  |                               | (NSTDA)  |           |       |
| 4  | Service Providing for Local Arrangement and Meeting Support Services to IEEE PES ISGT 2015 | Sept 1, 2014 – May 31, 2016   | IEEE PES Thailand Chapter                      | 799,817   | Co-PI |
| 5  | ICUE 2016 Cogeneration, Small Power Plants and District                                    | Feb 1, 2016 to June 30, 2017  | Registration revenues, sponsorships and grants | 1,670,000 | Co-PI |
| 6  | Renewable Powered micro-/mini-grid generation  | December 2012 – December 2014 | IRENA, Abu Dhabi                               | 241,939   | PI    |
| 7  | Capacity development of the Assam power utilities  | October 2012 – December 2013  | South Energy Department ADB                    | 294,900   | PI    |
| 8  | Gender inclusive Capacity development  | July 2012 - February 2013     | South Energy Department ADB                    | 244,285   | PI    |
| 9  | Energy Publications project  | January 2014 - December       | Subscription, registration etc.                | 4,185,824 | Co-PI |
| 10 | AIT GCI Support Electrical Energy  | March 2014 – December 2014    | ADEME/ France                                  | 100,000   | PI    |
| 11 | International Conference (ICUE 2104)   | January 2013 – December 2014  | Registration revenues, sponsorships and grants | 2,210,999 | Co-PI |
| 12 | PEA-AIT Scholarship 2011   | 2011-2015                     | PEA, Thailand                                  | 3,548,533 | Co-PI |
| 13 | Micro-Hydro Solar PV Hybrid System   | February 2010 - April 2012    | EBARA, Japan                                   | 1,786,222 | Co-PI |

## V. Service/Outreach

### A. Professional Service

1. Leadership in policy and program development in professional organizations.

Member of *Institution of Electrical and Electronics Engineers (IEEE) Power and Energy System*

2. Participation in organizational responses to policy, practice, or structural issues, which affect the field.

- i) Member of Organizing Committee of ‘4<sup>th</sup> IEEE Uttar Pradesh Section International Conference on Electrical, Computer & Electronics’ 26-28 October, 2017 at GLA University Mathura, India.
- ii) ADB through its energy for All Initiative is invited to the Bali Clean Energy Forum on 11-12 February 2016 and related Global Knowledge Partnership Group Workout meeting on 13 February 2016 to be held in Nusa Dua, Bali, Indonesia.
- iii) ADB invited and I attended ‘Global Knowledge Partnership Group Workout for Center of Excellence on Clean Energy Indonesia and Beyond’ in Jakarta during 16-18 December 2015.
- iv) I have attended AIT Retreat meeting held during May 16-18, 2015.
- v) I have been invited from Murdoch University, South St, Murdoch, Western AUSTRALIA (January 2014) to provide feedback and suggestion to assist in the development of the curriculum frameworks, to provide advice in how best to offer the programs/degrees developed, as well as in related reports and academic papers/publications.
- vi) I have been invited to participate and deliver an electricity seminar on “An Electrical Infrastructure for Sustainable Development in THAILAND”, FRENCH-THAI ELECTRICITY FORUM, 2012, organized by The Trade Commission of French Embassy, Thailand.
- vii) I have been invited to participate in a panel discussion on Renewable Energy activities of International Renewable Energy Agency (IRENA), Abu Dhabi, UAE in a workshop of ‘Indo-ASEAN cooperation in Renewable Energy’ organized by India in New Delhi from 5-6<sup>th</sup> November 2012. Moreover, this workshop’s outcomes were presented to ASEAN–India Ministerial Meeting on Renewable Energy on 7<sup>th</sup> November for cooperation on renewable energy.
- viii) I have delivered several talks to personnel of power utilities of India, Pakistan, Bangladesh, and African countries.

3. Organization of training courses, conferences, seminars, and workshops.

- i) Organized a training program on ‘**Pre-Conference Training Workshop on Smart Grid and Renewable Energy**’ on 18<sup>th</sup> March, 2014, Pattaya, Thailand.
- ii) Organized a training program on ‘**Capacity Development Program on New Trends in Power Transmission Planning, Operation and Maintenance in Assam, India**’ during 3 - 7<sup>th</sup> December, 2012, AIT, Bangkok, Thailand sponsored by Energy Division, South Asia Department, ADB.
- iii) Organized a training program on ‘**New Trends in Power Distribution Planning and Loss Reduction Strategies for Rural Areas of Assam**’ during 26 - 30<sup>th</sup> November, 2012, AIT, Bangkok, Thailand sponsored by Energy Division, South Asia Department, ADB.
- iv) Organized a training program on ‘**Power Distribution Planning and Loss Reduction Strategies for Rural Areas of Madhya Pradesh, India**’ during 20 - 24<sup>th</sup> August, 2012, AIT, Bangkok, Thailand sponsored by Energy Division, South Asia Department, ADB.
- v) Member of the technical organizing committee of the “International Conference and Utility Exhibition on: Green Energy for Sustainable Development (ICUE 2014)”, 19-21 March, 2014, Pattaya, Thailand.
- vi) Member of the technical organizing committee of the “2<sup>nd</sup> AIT-PEA International Conference and Utility Exhibition on Power and Energy Systems: Issues and Prospects for Asia (ICUE 2011)”, 28-30 September 2011, Pattaya city, Thailand.
- vii) Member of the technical organizing committee of the “International Conference on Sustainable Energy Development: Issues and Strategy”, 2-4 June 2010, Chiang Mai, Thailand.

4. Editing or serving on advisory boards of journals
- i) Reviewer of several international journals, e.g.
    - a) Institute of Electrical and Electronic Engineers (IEEE)
    - b) Institution of Engineering and Technology (IET)
    - c) Electric Power Component and Systems (EPCS)
    - d) Electric Power System Research (Elsevier)
    - e) Springer
    - f) Inderscience
5. Government or international organization panels, expert witness, reports to government or international agencies
- i) I have been invited and attended as an expert of Focus Group on ‘Developing the full analytic potential from your Smart Grid program to accelerate innovation and operational excellence’ lead by **SAS Software (Thailand)** in Asian Utility Week 2015, 9-10 June, Bangkok.
  - ii) A peer reviewed study report on ‘Rural electrification using renewable-powered micro/mini grid system: A scenario of Thailand’ and prepared by Jai Govind Singh and, P. Abdul Salam was submitted to **IRENA, Abu Dhabi** in 2014.
  - iii) A peer reviewed study report on ‘Micro-grids in rural areas: Case Study of Indonesia’ and prepared by Maxensius Tri Sambodo, Jai Govind Singh and, P. Abdul Salam was submitted to **IRENA, Abu Dhabi** in 2014.
  - iv) A peer reviewed study report on ‘Expanding Energy Access through Renewable Energy based Mini/Micro Grids Lessons from India’ and prepared by Rohit Kansal, Jai Govind Singh and, P. Abdul Salam was submitted to **IRENA, Abu Dhabi** in 2014.
  - v) A peer reviewed study report on ‘Renewable-powered micro/mini-grid systems: Philippine Experience’ and prepared by Rene Barruela, Jai Govind Singh and, P. Abdul Salam was submitted to **IRENA, Abu Dhabi** in 2014.
  - vi) I was involved in a panel discussion on **Renewable Energy activities of International Renewable Energy Agency (IRENA), Abu Dhabi, UAE** in a workshop of ‘Indo-ASEAN cooperation in Renewable Energy’ organized by India in New Delhi from 5-6<sup>th</sup> November 2012. Moreover, this workshop’s outcomes were presented to ASEAN–India Ministerial Meeting on Renewable Energy on 7<sup>th</sup> November for cooperation on renewable energy.
  - vii) Participated in a Field trip organized by ‘International Renewable Energy Agency, Abu Dhabi’ in India during November, 2012. The objective of field trip was to study the ‘renewable-powered micro/mini grid system’ for rural electrification and formulate issues papers for the developing countries.
6. Participation in development projects
- i) I am involved in a project “3 kW solar PV installation and testing” at AIT in partnership of NSTDA and IHEM Thailand.
  - ii) I worked in implementation of online electrical energy footprint monitoring in in Energy buildings under project ‘AIT GCI SUPPORT ELECTRICAL ENERGY’.
  - iii) I was involved in a project “Micro Hydro and PV Hybrid Generation System” implementation at AIT in partnership of EBARA foundation, Japan.

**B. Significant Institute Committee Service** (Indicate the period of service)

1. Field-of-Study/Program

- i) Member and Coordinator of the selection committee for the Energy FoS administrative secretary recruitment (December 2013-March 2014).
- ii) Member and Coordinator of the selection committee for the Energy FoS administrative secretary recruitment (March 2014-July 2014).



- iii)** Member and Coordinator of the selection committee for the Energy FoS administrative lab technician recruitment (2014).
- iv)** Member of the selection committee for the PEA scholarship recipients (2010-2012).
- v)** Member of the selection committee for the Energy FoS faculty recruitment (2011).
- vi)** Member of the selection committee for the Energy FoS Laboratory supervisor (2010).

## 2. School

- i)** SERD Faculty representative in the recruitment committee for the technician in SERD office (November 2016-December 2016).
- ii)** Member, Task Force for Development of Master Program on Energy and Environment, 2015.
- iii)** Member of the selection committee for the AARM FoS administrative secretary recruitment (November 2014-January 2015).
- iv)** Member, School Academic Matter Committee (SAMC), 2014-2015.
- v)** Member of the joint program development on Energy Business Management (EBM) with SOM, 2012.
- vi)** Member of SERD Under Graduate Task Force (UG Task Force) in 2010.

## 3. Institute

- i)** Member, Under Graduate Program and Review Committee (UGPRC) (November 2016 – present)
- ii)** Member, Doctoral Program and Review Committee (DPRC) (September 2012 – December 2014)
- iii)** Member of Standing Committee on Management of Assets and Facilities (SCOMAF) constituted by AIT President with ToR to review current AIT-Sodexo scope and propose, implement and monitor new structure to manage AIT assets and facilities from July 2014.
- iv)** Member of Bid Evaluation Committee on Technical Maintenance Outsourcing Project constituted by AIT President with ToR to analyze and recommend suitable bid for technical maintenance, April 2014.
- v)** Member of Bid evaluation committee for ARUC approved project, viz., “Main Distribution Board at Substation No.14”, 2013.
- vi)** Member of Task Force constituted by VPA for proposing revised/new electricity tariff for AIT residents, 2013.
- vii)** Member of Bid evaluation committee for ARUC approved project, viz., “Main Distribution Board at Substation No.14”, 2013.
- viii)** Member of Bid evaluation committee for ARUC approved project, viz., “Distribution Board at SV3 Area”, 2013.
- ix)** Member of selection committee of Energy faculty recruitment, 2011.
- x)** Member of Research Infrastructure Task Force committee during 2011.

## C. Administrative Service (Indicate the period of service)

### 1. Field-of-Study/Program

- i)** Coordinator of Energy FoS from November, 2013 to December 2015.
- ii)** Coordinator of MBA in Energy Business program from November, 2013 to December 2015.
- iii)** Director of Regional Energy Resources Information Centre, AIT from November, 2013 to December 2015.
- iv)** Acting FoS coordinator several times for short periods.

## **D. Community Service**

### **1. Serving on program committees**

- ii)** Member, International Advisory Committee of International Conference on Computing, Communication and Security, December 4-5, 2015, Pamplemousses, Mauritius.
- iii)** Member, Advisory Committee of International Conference on Creativity & Innovations in Technology Development, 1-2nd April, 2015.
- iv)** Member, Advisory Committee of International Conference on Energy, Economics and Environment, 27-28th March, 2015.
- v)** Member, International Program Committee for 2nd International Conference on Green Energy and Technology (ICGET) 5~6 September, 2014, Dhaka, Bangladesh.
- vi)** Member of SERD Under Graduate Task Force during 2010 (UG Task Force).
- vii)** Member of India Task Force.
- viii)** Member of Research Infrastructure Task Force committee during 2011.

### **2. Serving as external examiner**

- i)** PhD thesis entitled 'Series Compensation of Self Excited Induction Generator for Distributed Power Generation' from Maulana Azad National Institute of Technology, Bhopal, MP, India, 2016.
- ii)** PhD thesis entitled 'Linear Current Controlled Maximum Power Point Tracking using DSP Controller' from Maulana Azad National Institute of Technology, Bhopal, MP, India, 2015.
- iii)** PhD thesis entitled 'PV & MSW as Distributed Generation Resources: Modeling, Analysis & Benefit Quantification' from National Institute of Technology Surathkal, Mangalore, Karnataka, India, 2013.
- iv)** PhD thesis entitled 'Development of Improved Islanding Detection Schemes in Distributed Generation Environment' from MANIT, Bhopal, India, 2012.
- v)** PhD thesis entitled 'Productivity and Efficiency Analysis of Electricity Generating Companies in Emerging Indian Scenario' from MANIT, Bhopal, India, 2012.

## **VI. Ability to Cooperate**

AIT attaches great significance to the ability to co-operate. This includes the capacity to work jointly with colleagues and superiors.

### **1. Joint research activity.**

- i)** I have been involved and coordinated jointly one project with energy colleagues as well as some from different nationality, e.g., Philippine, India, and Indonesia.
- ii)** I have facilitated one AIT student to work in IIT Mandi India for three month in 2014 and jointly involved in research and published two conference papers.
- iii)** I have been working jointly to develop several research project proposals with colleagues from other Field of Studies in SERD as well as School of Engineering and Technology.
- iv)** I am also working on some research work in collaboration of colleagues from different institutions like Royal Institute of Technology-KTH, Stockholm, Sweden, Katholieke Universiteit Leuven, Belgium and University College Dublin, Ireland, IIT Mandi and Kanpur.
- v)** I have been also involved in joint research with IIT Kanpur.
- vi)** I am also involved in joint research with Vidya Academy of Science & Technology Thrissur, Kerala, India.

- vii) I was involved in development and implementation of a micro hydro and PV hybrid system in AIT with energy as well as WEM colleagues.
- viii) I have been involved as a committee member as well as co-chair to several master and PhD students inside field and outside school, e.g., WEM, TC.

## 2. Joint pedagogical activity.

- i) I am co-teaching with energy colleague a course on “ED72.07: Power System Design and Operation” from 2014 August semester.
- ii) I coordinated with many universities from USA and Europe to host many of Energy FoS students for their three month internships.
- iii) I was involved to develop curriculum with School of Management for ‘MBA in Energy Business’ which started from August 2012.
- iv) I was involved to develop curriculum with School of Management for ‘Professional Masters in Energy Business Management’ which started from August 2012.
- v) I am co-teaching with energy colleague a course on “ED72.22: Power Sector Management under Deregulation” continuously in each of January semester from 2011 and onwards.
- vi) I have been serving as a committee member as well as co-chair to several master and PhD students in Energy FoS and other school.
- vii) Two PhD students have been graduated in December, 2011 and 2012 of which I served as a co-chair to first and chairperson to second one.
- viii) I have been invited with other experts to deliver several lectures on different topics in various training programs organized for power utilities of different countries by AIT Extension.
- ix) Developed curriculum of two courses for National University of Laos (NUOL) sponsored by SIDA and given as follow.
  - a) Transmission, Interconnection and Distribution 3(3,0)
  - b) Power System Design, Operation and Control 3(2,3)

## 3. Interaction with the public and private sectors.

- i) I am working with ADB in areas of clean energy systems for Indonesia.
- ii) I along with other Energy colleague submitted a research project proposal to Bangchak Petroleum, Thailand in December 2015.
- iii) I completed one research project in 2014, which involved three researchers from different countries and sponsored by IRENA, Abu Dhabi.
- iv) Three international training programs on power loss reduction and new trends in transmission system coordinated with ADB.
- v) I was involved in a project “Micro Hydro and PV Hybrid System” implementation which is in partnership of AIT (Energy FoS) and EBARA foundation, Japan.
- vi) I was involved in collaboration with PEA for two international conferences which already held in June, 2010 and second one was held in September, 2011.
- vii) I initiated liaising with IEEE for getting international access/indexing of our conference proceedings and got the *IEEE Co-Technical Sponsorship* for three successfully organized ICUE2014, ICUE2011 and ESD2010 conference proceedings which have been published on IEEE Xplorer.

Date: 24<sup>th</sup> May 2017