

Profile summary of Dr. Jai Govind Singh

Employment background:

July 2016 – present: Associate Professor, AIT

Dec 2009 – June 2016: Assistant Professor, AIT

July 2009 – Oct 2009: Postdoctoral Research Fellow, University of Queensland, Brisbane

April 2008 – June 2009: Postdoctoral Research Associate, KTH Stockholm

Aug 2003 – Feb 2008: Doctoral Research Scholar, IIT Kanpur, India

Jun 2003 – July 2003: Research Fellow in ARRPEEC-III, SERD, AIT, Thailand.

March 2003 – July 2003: Sr. Project Associate in (ARRPEEC-III),” EED, IIT Kanpur, India

Teaching and Research focuses:

1. Smart Grid and Variable Renewable Energy Integration
2. Power Sector Modeling with EV, Demand Response and Energy Storage System
3. Microgrid Design, Control and Applications
4. Power System Restructuring and Economics
5. Design and Operations of Transmission and Distribution Systems
6. Electric and Hybrid Electric Vehicles
7. Energy Systems, Economics and Policy

Academic degrees:

1. Ph.D.: IIT Kanpur, India
2. M. Tech.: IIT Roorkee, India
3. B.E.: MNNIT Allahabad, India

Total research projects: 24

Major sponsors are World bank, RITE Japan, ERASMUS+, USAID, DST India, Bangchak Petroleum Thailand, IRENA, ADB, EBARA Japan, NSTDA, IEEE PES, ADEME, PEA, Abt Associates, Tetra Tech, etc.

Chair of Master/Doctoral research supervisions: 87

1. Master: **75** in AIT and **3** in KTH Stockholm
2. Doctoral: **9** in AIT Thailand

Training programs organized: 4

1. MP Power Distribution utility
2. Assam Power Distribution utility
3. Assam power GTD utilities
4. SAR100 program for 101 women

Member of research supervisions committee: 186

2. Master: **178**
3. Doctoral: **8**

No. of development projects: 4

1. Pump storage Micro-hydro system
2. 3 kW solar PV testing
3. Online electricity monitoring
4. 20 kW Microgrid in AIT

Member of Professional Body

1. Senior Member of IEEE
2. Fellow of The Institute of Engineers, India

Published Research Articles: 134

1. Peer Reviewed International Journals: **48**
2. Peer Reviewed International Conferences: **72**
3. Books: **3**
4. Book chapter: **5**
5. Monographs, reports, policy briefs: **5**
6. Workshop: **1**

Int. conferences organized:

1. Conference director: **1**
2. General Co-chair: **2**
3. Member of the technical organizing committee: **12**
4. Advisory board: **10+**

Research impacts:

1. **SCOPUS**: Total citations=1016, h-index=17, i10-index=31
2. **Google Scholar**: Total citations=1541, h-index=20, i10-index=36
3. **Researchgate**: Total citations=1360, h-index=20, Research Interest Score=1200

Invited as keynote/expert/examiners:

1. Keynote speeches: **20**
2. Expert/Talks: **38**
3. Lectures in utility's training programs: **30+**
4. External examiner of Doctoral Thesis: **32**

I. Biographical Data

A. Name of candidate: 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, Motilal Nehru National Institute of Technology, Allahabad, India

C. Positions held

Duration	Position	Affiliation
January 2020 – December 2022	Head of EECC Department	Department of Energy, Environment and Climate Change, SERD, AIT, Thailand.
January 2019 – December 2020	Chair of ‘Sustainable Energy Transition’ Academic Program	Department of Energy, Environment and Climate Change (EECC), SERD, AIT, Thailand.
January 2019 – December 2020	Director of RERIC	International Energy Journal, EECC Department
June 2017 – December 2018	Director of RERIC	International Conference on Green Energy for Sustainable Development, 24-26 October, Phuket, Thailand
July 2016 – present	Associate Professor	Department of Energy, Environment and Climate Change, SERD, AIT, Thailand.
December 2009 – June 2016	Assistant Professor	Department of Energy, Environment and Climate Change, SERD, AIT, Thailand.
November 2013 – December 2015	Coordinator of ‘Energy’ Academic Program	Department of Energy, Environment and Climate Change, SERD, AIT, Thailand.
November 2013 – December 2015	Coordinator of ‘Energy Business Management’ Academic Program	MBA in Energy Business, SERD/SOM, AIT, Thailand.
November 2013 – December 2015	Director of RERIC	Regional Energy Resources Information Centre (RERIC), AIT
July 2009 – October, 2009	Postdoctoral Research Fellow	University of Queensland, Brisbane, Australia.
April 2008 – June, 2009	Postdoctoral Research Associate	Electric Power System Division, Royal Institute of Technology-KTH, Sweden.

June 2003 – July 2003	Research Fellow	Asian Regional Research Program in Energy, Environment and Climate-III (ARRPEEC-III), Energy FoS, SERD, AIT, Thailand.
March 2003 – July 2003	Sr. Project Associate	ARRPEEC-III,” Department of electrical engineering, IIT Kanpur, India

D. Special honors and awards

- i) **Best Paper Award** for the paper entitled ‘Deep Learning-Based Approach for State-of-Health Estimation of Lithium-Ion Battery in the Electric Vehicles,’ authored by my master advisee Ms. Aagya Niraula and myself, and was presented at an ‘International Conference on Power, Instrumentation, Energy and Control (PIECON 2023)’ technically Co-sponsored by IEEE UP Section, and organized by Department of Electrical Engineering Aligarh Muslim University, Aligarh, India, 10 – 12th, February 2023.
- ii) **Best Paper Award** for the paper entitled ‘Wind Speed Forecasting using Hybrid Model of CNN and LSTM with Wavelets,’ authored by my master advisee Mr. Kaung Myat San; myself; doctoral advisee Mr. Krishna Prakash N., and was presented at a ‘2nd International Conference on Advances in Power, Signal, and Information Technology APSIT 2023, technically Co-sponsored by IEEE and organized by Department of Electrical & Electronics Engineering, Faculty of Engineering and Technology, ITER, Siksha ‘O’ Anusandhan Deemed to be University, Bhubaneswar, Odisha, India during 9 – 11th, June 2023.
- iii) Recipient of MHRD (Ministry of Human Resource Department, India) Fellowship for Doctoral study at IIT Kanpur, India.
- iv) Recipient of MHRD (Ministry of Human Resource Department, India) Fellowship for Master study at IIT Roorkee, India.
- v) Recipient of the Young Scientist Travel Financial Assistantship award from the Department of Science and Technology (DST), India.
- vi) I received the International Travel Support award to attend a conference from the Dean of Resources and Alumni Office, Indian Institute of Technology, Kanpur, India.
- vii) During my doctoral study, I received awards for free accommodation by the IEEE PES Student Support Committee to attend the IEEE conference in Florida, USA, in 2007.
- viii) Three times recipients of cash awards by IIT Kanpur on research articles published in international journals.
- ix) Recipient of class merit-cum-means scholarship in Undergraduate Study.

II. Pedagogy

A. Experience as a teacher

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

Year	Semester	Courses	Course category	Remarks
2023 (12 credits)	August	ED86.08: Design and Operation of Transmission and Distribution systems 3(2-3)	Elective	
		ED86.13: Power System Restructuring and Economics 3(3-0)	Elective	50% co-teaching
	Inter-sem	ED86.19: Electric and Hybrid Electric	Elective	

		Vehicles 2(2-0)		
	January	ED86.07: Microgrid Design, Control and Applications 3(2-3)	Elective	50% co-teaching
		ED86.11: Smart Grid and Variable Renewable Energy Integration 3(3-0)	Elective	
		ED86.09: Energy Systems, Economics and Policy 3(3-0)	Required	33% co-teaching
2022 (12 Credits)	January	ED86.07: Microgrid Design, Control and Applications 3(2-3)	Elective	50% co-teaching
		ED86.11: Smart Grid and Variable Renewable Energy Integration 3(3-0)	Elective	
		ED86.09: Energy Systems, Economics and Policy 3(3-0)	Required	33% co-teaching
	Inter-sem	ED86.19: Electric and Hybrid Electric Vehicles 2(2-0)	Elective	
	August	ED86.08: Design and Operation of Transmission and Distribution systems 3(2-3)	Elective	
		ED86.13: Power System Restructuring and Economics 3(3-0)	Elective	50% co-teaching
2021 (10 Credits)	January	ED86.07: Microgrid Design, Control and Applications 3(2-3)	Elective	New and 50% co-teaching
		ED86.11: Smart Grid and Variable Renewable Energy Integration 3(3-0)	Elective	Revised
		ED86.09: Energy Systems, Economics and Policy 3(3-0)	Required	New and 33% co-teaching
	Inter-sem	ED86.19: Electric and Hybrid Electric Vehicles 3(3-0)	Elective	
	August	ED86.13: Power System Restructuring and Economics 3(3-0)	Elective	50% co-teaching
2020 (12 Credits)	January	ED72.22: Power Sector Management under Deregulation 3(3,0)	Elective	50% co-teaching
		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	
	Inter-sem	ED72.9030: Electric and Hybrid Electric Vehicles 3(3,0)	Elective	
	August	ED86.08: Design and Operation of Transmission and Distribution systems 3(2-3)	Elective	Revised
		ED86.13: Power System Restructuring and Economics 3(3-0)	Elective	Revised and 50% co-teaching
2019 (12 credits)	January	ED72.22: Power Sector Management under Deregulation 3(3,0)	Elective	50% co-teaching
		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	
	Inter-sem	ED72.9030: Electric and Hybrid Electric Vehicles	Elective	New

	August	ED72.08: Power Distribution Systems 3(3,0)	Elective	
		ED72.07: Power System Design and Operations 3(2,3)	Elective	50% co-teaching
2018 (13 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	
2017 (13 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	
2016 (13+4 [†] 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	
2015 (12+4 [†] 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
2014 (11+4 [†] 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
2013 (14.5+3* 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 (12.5+3* 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 (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 (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

†Undergraduate (UG) Course

Post Graduate Taught Courses/Tutorials at other Institutions:

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

Undergraduate Taught Courses/Tutorials at other Institutions:

- i) Engineering Science: 1st-year undergraduate course (**IIT Roorkee**, as a tutor)
- ii) Engineering Science Optional: 2nd-year undergraduate course (**IIT Roorkee**, as a tutor)
- iii) Engineering Science: 1st-year undergraduate course (**IIT Kanpur**, as a tutor)
- iv) Engineering Science Optional: 2nd-year undergraduate lab (**IIT Kanpur**, as a tutor)
- v) Basic Power Electronics: 2nd-year undergraduate course (**IIT Kanpur**, as a tutor)

B. Pedagogical Development

1. Publications: textbooks, laboratory manuals, articles in journals oriented toward pedagogy. None
 - i) One book, entitled ‘Embedded System and GUI Development using MATLAB for Engineering Applications by Scrivener Publishing Under the Wiley-Scrivener imprint, 2024, is accepted.
2. Grants related to pedagogy and curriculum development.
 - ii) Curricula for master’s degree Program under the project ‘Mastering in Energy Supply for Isolated Areas (MESfIA)’ sponsored by ERASMUS+, 2019-2021.
 - iii) I was involved in developing two Master Courses for the National University of Laos (NUOL) in a curriculum development project sponsored by SIDA, 2011-2012.
3. Initiation of new courses, degree programs, and curricula (indicate the period delivered)
 - [1] Developed a new course with laboratory sessions on ‘*Microgrid Design, Control and Applications 3(2-3)*’ and co-teaching from January 2021.

- [2] Revamped and co-teaching the course on ‘*Power System Restructuring and Economics 3(3-0)*’ from August 2020.
 - [3] Revamped and taught the course on ‘*Design and Operation of Transmission and Distribution System 3(2-3)*’ from August 2020.
 - [4] As a Chair of the Energy Academic Program, led the team to develop a brand-new Postgraduate Program called ‘Sustainable Energy Transition’ for Master and Ph.D. degree students, which was approved by the Academic Senate and implemented in August 2020. This new program reflects all new developments in technological advancement for sustainable energy as well as catering to the emerging challenges in society and the environment. Therefore, all the courses are being upgraded to cater to the above.
 - [5] Offered a 3-credit new course on *Electric and Hybrid Electric Vehicles 3(3,0)* in Inter-semester 2019.
 - [6] A new one-credit course titled “ED72.9028: Renewable Energy Integration and DC Microgrid 1(1-0)” has been developed and offered in the inter-semester of 2016.
 - [7] Contributed to developing new UG curricula (BS208: Electrical Engineering and Electronics for Bio-Engineers 4 (3-1)) in August 2014.
 - [8] A new doctoral degree program titled “PhD in Energy Business” was developed in collaboration with SOM in 2014.
 - [9] A new Policy and Procedure has been developed in collaboration with SOM to enable “Professional Master” degree holders to be eligible to apply for regular AIT Master Degree from 2014 with an option to transfer credits gained in their Professional Master degree.
 - [10] A new Policy and Procedure has been developed in collaboration with SOM to enable “Professional Master” degree holders to be eligible to apply directly in Unified Master leading to Doctoral degree programs from 2014 with a transfer of credits gained in their Professional Master degree.
 - [11] One credit previously developed course *ED72.9019* was modified and extended in two credit courses titled “ED72.9026: Integration of Renewable Energy Sources in Power System 2(2,0)” and offered in the August semester 2013.
 - [12] Involved as a member and contributed to developing a new degree program called “MBA in Energy Business,” and the first batch started in August 2012
 - [13] Involved as a member and contributed to developing a new professional program called as “Professional Master in Energy Business Management,” and the first batch started in August 2012.
 - [14] A two-credit new interdisciplinary course titled “*ED72.9022: Smart Grid for Sustainable Development 2(2,0)*” has been developed and offered each inter-semester from 2011 onwards.
 - [15] A one-credit course titled “*ED72.9019: Integration of Renewable Energy Resources into Power System 1(1,0)*” was developed and offered in the Inter-semester of 2010.
4. Development and introduction of innovative pedagogical techniques.
- [1] I developed the new course ‘ED86.07: Microgrid Design, Control and its Applications’ and planned to offer it (50%) in January 2021.
 - [2] Revising the course on ‘ED86.11: Smart Grid and Variable Renewable Energy Integration’ and planned to offer in January 2021.
 - [3] Developing the new course ‘ED86.09: Energy Systems, Economics and Policy’ and planned to offer (33%) in January 2021.
 - [4] Revised and offered the course ‘ED86.08: Design and Operation of Transmission and Distribution Systems’ in August 2020.
 - [5] Revised and offered (50%) the course ‘ED86.13: Power System Restructuring and Economics’ in August 2020.

- [6] Course materials prepared for 3 credit new Electric and Hybrid Electric Vehicles 3(3,0) course.
 - [7] A one-credit revised new course material entitled “*ED72.9028: Renewable Energy Integration and DC Microgrid 1(1,0)*” was developed in 2016 for postgraduate students.
 - [8] Revised 8 courses in 2015 under a curriculum review process led by ADRC, AIT.
 - [9] Prepared course materials for new UG curricula (BS208: Electrical Engineering and Electronics for Bioengineers 4 (3-1)) in August 2014.
 - [10] A two-credit new course material entitled “*Integration of Renewable Energy Sources in Power System (ED72.9026)*” was developed and offered in 2013 for postgraduate students.
 - [11] A two-credit new course material entitled “*Smart Grid for Sustainable Development (ED72.9022)*” was developed in 2011 for postgraduate students and has since then been continuously offered in every inter-semester.
 - [12] A one-credit new course material entitled “*Integration of Renewable Energy Resources into Power System (ED72.9019)*” was developed in 2010 for postgraduate students.
 - [13] I have revised/updated half of the three-credit course entitled “*Power Sector Management under Deregulation (ED72.22)*” in 2011 and onwards.
5. Participation in workshops, short courses, etc., relating to the improvement of teaching.
- [1] **A Webinar on ‘The Future of Education — Digital, Immersive, and Seamless,’** organized by Jicara Media Pte. Ltd., 1st **September 2021.**
 - [2] **IEI Technical Webinar on Electric Vehicles: The Future of Energy & Mobility for Sustainable Development, 28 August 2021.**
 - [3] The seminar on ‘Blockchain 1-2-3, What Electrical Engineers Need to Know!’ was organized by IEEE Thai Chapter on 12th December in Centara Grand at Central Ladprao, Bangkok.
 - [4] Institute-wide workshops: ERASMUS + project proposals titled “**Practical Approach on Erasmus + Capacity Building in Higher Education**” organized by the President’s Office and the Sponsored and Contracted Projects Unit on 30th October 2018.
 - [5] 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.
 - [6] Wind Power Integration Seminar, 27th April 2009, KTH, Sweden.
 - [7] Short-term training course on “*Best Practices in Transmission and Distribution of Power,*” 27-29, November 2007, IIT Kanpur.
 - [8] Short-term QIP course on “*Power System Operation and Control*”, IIT Kanpur, August 2006.
 - [9] National Workshop on "Electric Power Quality" during Nov. 9-10, 2004.
 - [10] 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, co-chair and member.

Summary of student research supervision (e.g. Jan. 2010 - Dec. 2023)

STUDENTS	COMPLETED			IN-PROGRESS		
	Committee Chair	Committee Co-Chair	Committee Member	Committee Chair	Committee Co-Chair	Committee Member
Doctoral	6	3	8	8	1	6
Master's						
a. Thesis	56	4	126	4		2
b. Research Study /Internship	13		41			
Professional Master's	5		11			

Postdoctoral supervision:

- [1] Dr. Rupendra Kumar Pachauri, Assistant Professor, Electrical Cluster, School of Advanced Engineering, UPES, Dehradun, India, July 2022 to August 2023. (**Publications:** Published two international journals and another two international conferences)
- [2] Dr. Pradepta Kumar Sahoo, Associate Professor, Department of FMPE, College of Agricultural Engineering & Technology (CAET), Odisha University of Agriculture & Technology (OUAT), Govt. of Odisha, Bhubaneswar, November-December 2023. (**Publication:** One article prepared to submit to an international conference)

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

1. Title of dissertation
2. Resulting publications
3. Years to graduation

Summary of Doctoral student's thesis supervision

(Name, Nationalities, Status/Year of Completion, Dissertation title, publications)

In progress:

- [1] Mr. Ian Bartican Benitez (**Filipino**, pursuing): Coursework
- [2] Mrs. Jagriti Shankar (**Indian**, pursuing): Coursework
- [3] Mr. Jirapas Sangsue (**Thai**, pursuing): Cyber Security on EV Station in Thailand: A simulation cyber-attack on denial of service (DoS) and SQL injection (SQLi)
- [4] Mr. Krit Thampanichvong (**Thai**, pursuing): Carbon Neutral Multi-Mgs Decentralized Optimal Power Flow Considering P2P Trading and Demand Response
- [5] Mr. Wutthipum Kanchana (**Thai**, pursuing): Hidden Solar PV Installations Detection and Investigation of its Impact on Power System
- [6] Mr. N. Krishna Prakash (**Indian**, pursuing): Demand Side Management for Smart Homes (**Publication:** One paper in an international journal and another two in a conference)

- [7] Miss Panaya Sudta (**Thai**, Pursuing): Economic and Technical affectation of Prosumer Model and Disruptive Energy Technologies (**Publication**: One paper in an international journal and another one in a conference)
- [8] Ms. Raja Nivedha (**Indian**, Pursuing): Dynamic performance analysis of power system with low rotational inertia equipment (**Publication**: One paper in an international journal and another two in an international conference)
- [9] Mr. Trung Quang Nguyen (**Vietnamese**, Pursuing): Optimization of the renewable energy sources into the distribution expansion planning in terms of demand response

Completed:

- [10] Mr. Shubham Tiwari (**Indian**, December 2023): Cooperation-based Transactive Energy Management for Modelling and Analysis of Low Emission Multi-Vectored Networked Energy Hubs (**Publication**: two papers are published in an international journal and another two papers are revised and resubmitted in international journals) (**working as a postdoctoral research fellow at International Institute for Applied Systems Analysis (IIASA), Austria the Department of Agriculture, forestry, and Ecosystem Services (AFE)**)
- [11] Mr. Firuz Ahamed Nahid (**Bangladeshi**, Co-chair, December 2023): Data-driven Energy Management in Low-Carbon Microgrids: Leveraging Data Analytics and Customer Behavior Analysis (**Publication**: two papers are published in an international journal and another two papers are submitted in international journals) (**working as a postdoctoral research fellow at Asian Institute of Technology, Thailand**)
- [12] Mr. Pornchai Chaweewat (**Thai**, Pursuing, 2021): Electricity Price Forecasting in Smart Grid Using Machine Learning (**Publication**: Two papers are published in an international journal and another two papers in international conferences) (**working in a public company, i.e., Provincial Electricity Authority (PEA), Thailand**)
- [13] Ms. Anongpun Man-Im (**Thai**, Co-chair, 2019): Multi-objective OPF using Stochastic Weight Trade-off NSPSO (**Publication**: Two papers are published in international journals, one book chapter and another two papers in international conferences) (**working in a public company, i.e., Electricity Generating Authority of Thailand (EGAT)**)
- [14] Mr. Nimal Madhu M (**Indian**, 2016): Power Flow and ATC Estimation in Modern Power Systems (**Publication**: 5 articles in journal and 5 international conference papers are published) (**working as an Assistant Professor at National Institute of Technology Kochi, India**)
- [15] Mr. Nikhil Sasidharan (**Indian**, 2016): Renewable Powered Hybrid AC/DC Home Community Grid (**Publication**: 5 articles in a journal and 5 international conference articles are published and another journal article is revised and resubmitted submitted) (**working as an Assistant Professor in NIT Kochi, India**)
- [16] Mr. Vivek Mohan (**Indian**, 2016): Stochastic Optimal Energy, Reserve and Risk Management in Microgrid (**Publication**: 6 articles in journals and 7 papers in international conferences are published) (**working as an Assistant Professor in NIT Kochi, India**)
- [17] Mr. I Made Wartana (**Indonesian**, 2012): Optimal Placement of Multiple FACTS Devices for Maximizing Loadability by PSO (**Publication**: Published two journal and four conference articles) (**working as a Professor in Institut Teknologi Nasional (ITN) Malang, Indonesia**)
- [18] 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) (**working Engineering Department (Electrical), School of Engineering, University of Technology and Applied Sciences, Sultanate of Oman**)

Summary of Doctoral Research Supervisions as a Member of Program Committee:
(Name, Nationalities, Status/Year of Completion, Dissertation title)

In progress:

- [1] Ms. Sutinee Chao-Amonphat (**Thai**, pursuing): Developing sustainable pathways for climate mitigation and adaptation for transport and energy sectors in the context of an urbanized sub-region: A case study of the Extended Bangkok Metropolitan Region, Thailand
- [2] Mr. Anan Saenkhamai (**Thai**, pursuing): Superhydrophobic Self-Cleaning Coatings with Improved Electrical Properties for Porcelain Insulators
- [3] Ms. Nava Sai Divya Ryali (**Indian**, pursuing): Geospatial Modeling of Solar Energy Potential in Complex Urban Environment Using Lidar Data
- [4] Mr. Varakorn Kritsnakriengkrai (**Thai**, pursuing): Development of Solar Based Vapor Absorption Chiller System for Thailand
- [5] Ms. Maya P (**Indian**, pursuing): Block Chain Based Energy Management for Community of Smart Buildings
- [6] Ms. Sarnai Battulga (**Mongolian**, pursuing): Sustainable Energy Transition Pathways for Ulaanbaatar City, Mongolia: in the Context of Climate Mitigation Efforts

Completed:

- [7] Mr. Anki Bhatt (**Indian**, December 2022): Optimum Energy Management System for Carbon-Neutral Microgrid Integrating Second-Life Batteries and Crypto Mining Devices (**working in Graphic Era University, Dehradun, India**)
- [8] Mr. Vatee Laoharajanaphand (**Thai**, May 2022): Optimal Generation Scheduling of Co-Located Floating Solar Photovoltaic-Wind-Hydro with Virtual Energy Banking Services (**working in a public company, i.e., Electricity Generating Authority of Thailand (EGAT)**)
- [9] Mr. Sheraz Khan (**Pakistani**, TC/SET, December 2020): Modeling and Analysis of Delay Performance for Wireless Regional Area Networks in the Joint Scenario of Self-Coexistence and Incumbent Coexistence (**working as an Assistant Professor at the University of Engineering & Technology Mardan, Pakistan**)
- [10] Mr. Titipong Samakpong (**Thai**, May 2020): Optimal Power Flow Incorporating Wind and Solar Power Uncertainty Cost Using Particle Swarm Optimization with Mutation (**working Provincial Electricity Authority (PEA), Thailand**)
- [11] Mr. Sittichoke Pookpunt (**Thai**, 2017): Optimal Placement of Wind Turbine Using a Discrete Particle Swarm Optimization with Time-Varying Acceleration Coefficients (**working as an Assistant Professor at Naresuan University, Thailand**)
- [12] Mr. Minn Thu Aung (**Burmese**, WEM/SET, 2016): Assessment of Climate Change Impacts on Hydrology and Hydropower Generation in Belu Chaung Basin of Myanmar (**working as Hydrologist/Drainage Planning Assistant Adviser at Myanmar Koei International, Myanmar**)
- [13] Ms. Jirawadee Polprasert (**Thai**, 2016): Security Constrained Optimal Power Flow Using Self-Organizing Hierarchical Particle Swarm Optimization (**working as an Assistant Professor in Naresuan University, Thailand**)
- [14] Mr. Saksorn Chalermchaiarbha (**Thai**, 2012): Multi-Objective Economic Dispatch by Stochastic Weight Trade-Off Particle Swarm Optimization (**working as an Assistant Director of Distribution Service Strategic Plan at Metropolitan Electricity Authority, Thailand**)

C. Master's students. For each student who obtained the master's degree under your supervision, provide the following:

1. Title of dissertation
2. Resulting publications (if any)
3. Years to graduation

Summary of Master's students thesis supervision

Master Thesis Supervisions as Chairperson:

(Name, Nationality, Graduation Year, Thesis/Research/Project titles, publications)

In progress

- [1] Ms. Nafeisha Aishajiang (**Chinese**, Thesis, pursuing): Application of Renewable Energy in Building Heating in Urumqi City, Northwest China
- [2] Mr. Thant Synn Aung (**Burmese**, Thesis, pursuing): Techno-Economic Feasibility Analysis of Renewable Energy Integration for EV Charging Station in Yangon, Myanmar
- [3] Mr. Shubham Dhital (**Nepalese**, Thesis, pursuing): Impact of clean energy technologies and cross-border energy trading on CO₂ reduction from the power sector in the BIMSTEC region
- [4] Mr. Ittiporn Sornprasit (**Thai**, Thesis, pursuing): Improving the Hosting Capacity of DG in PEA's Distribution Networks

Completed

- [5] Mr. Mbuh Emmanuel Samndong (**Cameroon**, Research study, May 2023): Market Structure and Energy Security Performances of the Power Sector in Seven Southeast Asian Countries (**working in Mines and Geology Engineer at Ministry of Mines, Industry and Technological Devpt., Cameroon**)
- [6] Ms. Yogitha Miriyala (**Indian**, Thesis, May 2023): Assessment of Residential Load Profiles and Demand Response Potential for a Renewable-Based Microgrid: A Case Study of Auroville Township in India (**Publication**: one paper revised and resubmitted in an international journal, and one published in international conference) (**working as an intern in IIASA, Viena and RA in YC/AIT**)
- [7] Mr. Niphit Phothisourinh (**Thai**, Thesis, December 2022): Impacts of Clean Energy Technologies and Carbon Pricing on CO₂ Reduction Potential in Thailand's Power Sector with EV Demand (**Publication**: one paper published in an international journal and one in Scopus cited international conference) (**working in Metropolitan Electricity Authority of Thailand**)
- [8] Mr. Sittinan Muanchaona (**Thai**, Thesis, December 2022): Fault Detection and Isolation in Medium Voltage AC Network: A Case Study of Praekasa Microgrid in Thailand (**Publication**: one paper published in Scopus cited international conference and another submitted in International Journal of Emerging Electric Power Systems) (**working in Metropolitan Electricity Authority of Thailand**)
- [9] Ms. Setha Leapheng (**Cambodian**, Research study, December 2022): Assessment of Cambodia's Power Grid Code for Higher VRE Integration
- [10] Mr. Hoang Minh Loc (**Vietnamese**, Research study, May 2022): Assessment of High-Voltage Direct Current (HVDC) Transmission Technology Potential in Vietnam (**working in Power Petro Vietnam**)
- [11] Ms. Pwint Chit Thaw (**Burmese**, Research study, May 2022): Review of Power Grid Code for VRE Integration and the Way Forward for Myanmar (**working as Sales Engineer at Hitachi Energy, Thailand**)
- [12] Mr. Muhammad Huzaifa Butt (**Pakistani**, Thesis, May 2022): Analyzing the Electric Vehicle Acceptance, Transition Scenarios and its Impact on Electricity Demand and GHG

- Emissions in Pakistan (**Publication:** one paper published in an international Journal) (**working as Research Associate in SMART Center**)
- [13] Mr. Makara Greadmeta (**Thai**, Thesis, May 2022): AMI Data Analysis of Residential Customer's Electricity Consumption (**Publication:** one paper published in a conference) (**working in Provincial Electricity Authority of Thailand**)
- [14] Ms. Yin Min Khin (**Burmese**, Thesis, December 2021): Impacts of Conservation Voltage Reduction (CVR) And Demand Response (DR) Programs on AIT's Electricity Demand (**working in Siam University, Thailand**)
- [15] Ms. Nopparada Sutthichackr (**Thai**, Thesis, December 2021): Power Asset Management by Using Statistical Analysis and Long Short-Term Memory Networks for Oil-Immersed Transformer
- [16] Mr. Nuttakan Likitpolchaloon (**Thai**, Thesis, May 2021): Thailand Power Sector Modeling with Variable Renewable Energy Sources and Demand Response (**working in Metropolitan Electricity Authority of Thailand**)
- [17] Mr. Apichok Boutcomekong (**Thai**, Thesis, May 2021): Estimation of EV's Daily Load Profile in Bangkok and Thailand (**Publication:** one paper submitted in an International Journal)
- [18] Ms. Sadiksha Neupane Sharma (**Nepalese**, Thesis, May 2021): Optimal Charging Strategies for the Electric Vehicles in a Parking Lot Integrated with Energy Storage and Solar PV Systems (**working as a National Expert INTEGRATION environment & energy GmbH**)
- [19] Ms. Wanwisa Peanpitak (**Thai**, Thesis, May 2020): Potential and Financial Analysis of the Floating PV in Hydropower Dams of Thailand (**Publication:** One chapter in the book titled 'Recent Trends and Innovation in Solar Energy' is published by Springer Nature India Pvt. Ltd.) (**working in Electricity Generating Authority of Thailand**)
- [20] Mr. Kaung Myat San (**Burmese**, Thesis, May 2020): Development of Deep Learning Based Methods for Short-Term Wind Speed Forecasting for Meiktila in Myanmar (**Publication:** one paper published in an international conference and got **best paper award**)
- [21] Mr. Sathi Manikanteswara Reddy (**Indian**, Research study, May 2019): An Electric Vehicles Battery Swapping Service
- [22] Mr. Malisetty Revanth (**Indian**, Thesis, December 2019): Determination of Optimal Demand Response Incentive in Smart Grid (**working in Cognizant Technology Solutions**)
- [23] Mr. Ugyen Tempa (**Bhutanese**, Research study, December 2019): Assessment of Solar Energy Potential using GIS and Multi Criteria Decision Making-AHP Approach: A Case Study of Bumthang Valley (**Publication:** One article published in international conference) (**working in Bhutan Power Corporation**)
- [24] Mr. Sonam Tobgay (**Bhutanese**, Research study, December 2019): Power Flow Tracing and Loss Allocation Methods: A Case Study of Bhutan Power System (**working in Bhutan Power Corporation**)
- [25] Mr. Shubham Tiwari (**Indian**, Thesis, December 2019): A Decentralized Primary Frequency Response and Inertia Control of Energy Storage Units for Hybrid Renewable Energy Microgrid Systems (**Publication:** one book chapter published by John Wiley) (**working as post-doctorate in IIASA, Viena**)
- [26] Mr. Lim Pila (**Cambodian**, Thesis, December 2019): Optimal Protection Coordination by Modifying the Back-up Relay Characteristics in Active Distribution Systems (**working in Electricite du Cambodge, EDC, Cambodia**)
- [27] Mr. Manish Kumar (**Indian**, Thesis, December 2019): Transmission Congestion Management by Using Generation Shift Factors and Machine Learning Approach (**Publication:** One article submitted to in international conference) (**working in a startup company**)
- [28] Mr. Meas Nimol (**Cambodian**, Thesis, December 2019): Transmission Expansion Planning by Using Deterministic and Stochastic Approaches: A Case Study of Cambodian Transmission System (**working in Electricite du Cambodge, EDC, Cambodia**)

- [29] Mr. Prachya Laochoo (**Thai**, Research Study, June 2019): Impact and Mitigation Analysis of EV Charging System on Transformer Loading and Sizing of the Solar PV Rooftop System and Battery Storage in Commercial Buildings (**working in Provincial Electricity Authority Thailand**)
- [30] Mr. Srinivas Akasapu (**Indian**, Research study, May 2019): An Approach to Minimize the Range Anxiety of Electric Vehicles with Different State-of-Charge of the Battery
- [31] Mr. Pham Xuan Dien (**Vietnamese**, Thesis, May 2019): A Probabilistic Approach to Short-term Solar-Wind-Hydro-Thermal Coordination by using Cumulants and Modified Clustering-based Scenario Reduction Technique (**Publication**: Two papers submitted in international journal) (**working in Vietnam Electricity, EVN**)
- [32] Mr. Tanit Chanraksa (**Thai**, Thesis, May 2019): Benefits of Demand Response with Controllable Loads in Smart Grid: A Case Study of Pattaya City, Thailand (**Publication**: One paper published in an international conference) (**working in Provincial Electricity Authority Thailand**)
- [33] Mr. Tong Megnhour (**Cambodian**, Thesis, May 2019): A Multi-Objective Approach to Allocate Distributed Generations in Balanced and Unbalanced Distribution Networks by Using Ant Lion Optimizer (**Publication**: One paper submitted in international journal)
- [34] Ms. Aagya Niraula (**Nepalese**, Thesis, May 2019): Deep Learning-Based Approach for State-of-Health Estimation of Lithium-Ion Battery in Electric Vehicle (**Publication**: One paper published in an international conference and got the **best paper award**)
- [35] Md. Ariful Islam (**Bangladeshi**, Thesis, May 2019): Duck Curve Problem Solving Strategies with Neuro-Fuzzy Control Method by Using Solar PV, PEVs and Load Shifting (**working as faculty in Ahsanullah University of Science and Technology, Bangladesh**)
- [36] Mr. Pullagura Syam Sundar (**Indian**, Research study, May 2019): An Approach to Optimal DG Placement and Network Reconfiguration for Active Power Loss Minimization in a Distribution System using PSO and Tabu Search Algorithms (**working in AIT Thailand**)
- [37] Mr. Somalaraju Kalyan (**Indian**, Research study, December 2018): Enhancement of Power Generation from Electromagnetic Scavenging Tile
- [38] Mr. Kean Pagna (**Cambodian**, Research study, December 2018): Load Profile Management by Using Energy Storage and Solar PV in Power Distribution Systems (**working in Electricite du Cambodge, EDC, Cambodia**)
- [39] Mr. Swejan Rangishetti (**Indian**, Thesis, December 2018): Analysis of a Three Phase Electric Spring in Solar PV Connected Power Networks
- [40] Mr. Hruday Vemuri (**Indian**, Research study, May 2018): Smoothing the Load Profile by Using a Fuzzy Control Strategy of Plug-in Electric Vehicles (PEVs) in Smart Grids (**working as a Senior Electrical Engineer in Hyderabad, Telangana**)
- [41] Mr. Sukit Ingprasert (**Thai**, Thesis, May 2018): Frequency Stability Analysis of Virtual Power Plants in a Microgrid Using Load Droop Control Method
- [42] Ms. Rachawadee Puangsukra (**Thai**, Thesis, May 2018): Multi-Objective Optimization for Enhancing System Coordination Restoration by Placement of Fault Current Limiters on an Active Distribution System with System Reliability Considerations (**Publication**: One paper published in an international conference) (**working in Provincial Electricity Authority Thailand**)
- [43] Mr. Do Quang Viet (**Vietnamese**, Thesis, May 2018): Optimal Procurement of Energy and Ancillary Services in Smart Grid (**working in Vietnam Electricity, EVN**)
- [44] Mr. Srikanth Mukkamalla (**Indian**, Thesis, July 2017): Optional Scheduling of Customers' Demand by using Availability of Power and its Price in Smart Grid (**Publication**: One international conference article) (**Pursuing PhD in IIT Roorkee, India**)
- [45] Ms. Menaka Karki (**Nepalese**, Thesis, May 2017): An Approach to Enhance the Life of Transformer and the Battery of Gridable Vehicles in Active Distribution Systems (**Publication**: One international conference article) (**working as a faculty in Tribhuvan University, Nepal**)

- [46] Mr. Md. Golam Mostafa (**Bangladeshi**, Thesis, May 2017): Probabilistic and Combinatorial Approaches for Power Loss Minimization in Distribution Systems (**Publication:** Two papers in international conferences) (**working as a faculty in International Islamic University Chittagong, Bangladesh**)
- [47] Mr. Pawarong Thepparat (**Thai**, Thesis, December 2017): Short-Run Electricity Generation Scheduling Considering Different Fossil and Renewable Supply Constraints (**working in public company, i.e. Electricity Generating Authority of Thailand (EGAT)**)
- [48] Mr. Mrutyunjaya Nanda (**Indian**, Thesis, December 2017): Modeling and Placement of an Electric Spring in a Distribution System (**working as Power System Engineer in ENGIE Impact Thailand**)
- [49] Mr. Watcharakorn Pinthurat (**Thai**, Thesis, May 2016): Modeling and Stability Analysis of Thailand Power Grid Interconnection (**Publication:** two papers in Scopus cited international conferences) (**pursuing PhD in UNSW Sydney, Australia**)
- [50] Mr. Tristan Guzman Magallones, Jr (**Filipino**, Thesis, May 2016): Modeling and Dynamic Performance Analysis of the Philippine-Sabah Power Grid Systems (**Publication:** two papers in Scopus cited international conferences) (**working as a faculty in Central Mindanao University, Philippines**)
- [51] Ms. Happy Aprillia (**Indonesian**, Thesis, 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) (**pursuing PhD in National Cheng Kung University, Taiwan**)
- [52] Mr. Pornchai Chaweewat (**Thai**, Thesis, May 2014): Operational and Economic Assessment of Microgrid: A Case Study of Mae Sariang, Thailand (**Publication:** Two papers are published in international conferences) (**working in Provincial Electricity Authority Thailand**)
- [53] Mr. Nachapol Wongwantanee (**Thai**, Thesis, 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) (**working in Provincial Electricity Authority Thailand**)
- [54] Mr. Subas Ratna Tuladhar (**Nepalese**, Thesis, 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 an international journal (**Publication:** one paper in an international journal (ISI IF 1.35) and another one paper in international conference) (**working as a Senior Electrical Engineer at Hydro-Consult Engineering Limited. Nepal**)
- [55] Ms. Somticha Panich (**Thai**, Thesis, May 2014): Impact of Plug-in Electric Vehicles on Voltage Imbalance in Distribution System (**Publication:** One paper published in an international conference and then same selected for publication in an international journal) (**working in Provincial Electricity Authority Thailand**)
- [56] Ms. Kongsiri Mongkholkaset (**Thai**, Thesis, May 2014): Flicker Problem Assessment of Different Wind Turbine Models in a Distribution System (**working in Provincial Electricity Authority Thailand**)
- [57] Ms. Pathatai Dharmasaroj (**Thai**, Thesis, May 2014): Impact of Solar PV Penetration on Harmonic and Flicker Problems and Their Mitigation in the Distribution System (**working in Provincial Electricity Authority Thailand**)
- [58] Ms. Thitiporn Chaipattanawan (**Thai**, Thesis, May 2014): Impact of Location and Penetration Level of Solar PV on Fault Current in a Distribution System (**working in Provincial Electricity Authority Thailand**)
- [59] Mr. Muhammad Shahzad Raee (**Pakistani**, Project, December 2013): A Comprehensive World Contemporary Disco's Approach for Reducing Technical and Non-Technical Losses in Electrical Power Distribution: A Case Study of MEPCO (**working in Multan Electric Power Company, Pakistan**)

- [60] Mr. Qaser Abbas (**Pakistani**, Project, December 2013): Improving the Performance of Electricity Distribution Feeder through Selecting Suitable Demand Side Management Activities: Making A Business Case (**working in Multan Electric Power Company, Pakistan**)
- [61] Mr. Muhammad Raza Zaffar (**Pakistani**, Project, December 2013): Line Losses Reduction through Bifurcation of Feeders: A Case Study of a Cost Benefit Ratio Analysis in MEPCO (**working in Multan Electric Power Company, Pakistan**)
- [62] Mr. Muhammad Saadat Siddique (**Pakistani**, Project, December 2013): Metering Losses in an Electricity Distribution System (**working in Multan Electric Power Company, Pakistan**)
- [63] Mr. Muhammad Waqas Zafar (**Pakistani**, Project, December 2013): An Approach for Suitable Maintenance Procedures to Improve the Technical and Financial Performance of Power Transformers (**working in Multan Electric Power Company, Pakistan**)
- [64] Mr. Pham Tuan Ngoc (**Vietnamese**, Thesis, May 2013): Vietnam Optimal Placement of Fault Current Limiters to Reduce Short Circuit Current Level in Vietnam's Power Transmission Network (**Publication**: one paper published in an international journal) (**working in Vietnam Electricity, EVN**)
- [65] Ms. Tipaporn Munkong (**Thai**, Thesis, May 2013): Impact of Distributed Generations on Small Signal Stability in Power Distribution Networks
- [66] Mr. Mujtaba Manavi (**Afghani**, Thesis, May 2013): Impact of Renewable Power Source Integration on Voltage Stability in Southern Power System Network of Afghanistan (**working as a faculty at Kandahar University, Afghanistan**)
- [67] Ms. Hathaikan Mee-Kham (**Thai**, Thesis, May 2013): A Multi-Objective Approach for Optimal Placement of DG to Enhance Power Distribution Network Performance using NSPSO (**working in Provincial Electricity Authority Thailand**)
- [68] Mr. Ta Nguyen Tan (**Vietnamese**, Thesis, May 2013): Vietnam Optimal Operation of Cascade Hydropower Plants: A Case Study of IALY Hydropower Company in the Central Region of Vietnam (**working in Vietnam Electricity, EVN**)
- [69] Mr. Nguyen Vinh Phuc (**Vietnamese**, Thesis, May 2012): Vietnam A Probabilistic Power Flow Analysis Using the Cumulant Method and Gram-Charlier Series Expansion (**working in Vietnam Electricity, EVN**)
- [70] Mr. Supan Thonprom (**Thai**, Co-chair, Thesis, December 2012): A Study on Measures Towards Green Building: A Case Study of the AIT Energy Building (**working in Provincial Electricity Authority Thailand**)
- [71] Mr. Natthaphatr Watthanasiriphuwadech (**Thai**, Thesis, December 2011): A PSO Based Probabilistic Load Flow Approach for Minimization of the Load Shedding by Optimal Capacitor Placement in the Power Distribution System (**working in Provincial Electricity Authority Thailand**)
- [72] Mr. Dinh Xuan Duc (**Vietnamese**, Thesis, May 2011): Vietnam Water Valuation in the Vietnamese Competitive Generation Market (**Publication**: one paper published in international conference) (**working in Vietnam Electricity, EVN**)
- [73] Mr. Tran Tien Hung (**Vietnamese**, Thesis, May 2011): Vietnam Electromagnetic Transient Simulation for the 500 kV Vinh Tan - Song May Transmission Line (**working in Vietnam Electricity, EVN**)
- [74] Ms. Pauranee Satphaisarnkit (**Thai**, Co-chair, Thesis, December 2010): Impacts of Distributed Generation on the Protective Devices in the PEA Distribution System (**working in Provincial Electricity Authority Thailand**)
- [75] Ms. Ratchaporn Vairuangsiripong (**Thai**, Co-chair, Thesis, December 2010): Impact of Distributed Generation in Steady State, Voltage and Transient Stability Analysis: A Case of Dansai System, Thailand (**working in Provincial Electricity Authority Thailand**)
- [76] Mr. Hassan Qazi Wazhat (**KTH Sweden, Pakistani**, Thesis, 2009): Development of Sensitivity Based Indices for Optimal Placement of UPFC to Minimize Load Curtailment

- Requirements (**Publication:** One paper in an international journal (Thomson Reuters IF= 1.084)) (**working as a Senior lead engineer - Renewable integration at EirGrid, Ireland**)
- [77] Mr. Priyanko Guha Thakurta (**KTH Sweden, Indian**, Thesis, 2009): An Approach for Optimal Placement of SVC to Minimize Load Curtailment (**Publication:** One paper in an international journal (Thomson Reuters IF= 1.084)) (**working as Postdoctoral Fellow in Energy Institute, UCD, Dublin, Ireland**)
- [78] Mr. Umair Mahmud Sheikh (**KTH Sweden, Pakistani**, Co-chair, Thesis, 2009): Analysis of Power System Stability by Using Optimally Located SVC and STATCOM (**working in Siemens, UK**)

Special Study Supervision as Committee Chair:

- [1] Mr. Jirapas Sangsue (**Thai**, May 2023): Cyber Security on EV Station in Thailand: A Simulation Cyber Attack on Denial of Service (DoS) and SQL Injection (SQLi)
- [2] Mr. Shubham Tiwari (**Indian**, December 2020): Optimal Planning of AC - DC Hybrid Transmission and Distributed Energy Resource System: Review and Prospects
- [3] Ms. Leapheng Setha (**Cambodian**, December 2020): Sizing and Placement of an AVR in Distribution System: Case Study of 35kv Network Connected between Vietnam Border to Rattanakiri Province
- [4] Mr. Pongsan Rattanaathiporn (**Thai**, May 2019): Study of Potential Microgrid Business Models for Power Utilities
- [5] Mr. Piyapong Prachuab (**Thai**, May 2019): Analysis for Dissolved Gas-in-oil of Power Transformer Using Artificial Neural Network Technique
- [6] Mr. Supnirun Suwannasorn (**Thai**, May 2019): Study of Voltage, Harmonics and Protection Issues in Variable Renewable Energy Integration and Control
- [7] Mr. Wasawat Sukrung (**Thai**, May 2019): Study of Different Communication Systems for AMR and AMI Application in MEA's Distribution Area
- [8] Ms. Raja Nivedha R (**Indian**, December 2017): Impact of Solar Photo Voltaics on Dynamic Performance of Power System
- [9] Mr. Pornchai Chaweewat (**Thai**, May 2017): Short Term Electricity Pricing Forecasting on Hybrid Model
- [10] Ms. Raja Nivedha R (**Indian**, December 2015): Dynamic Voltage Stability Enhancement by Using PSS and AVR Considering Renewable Energy Sources
- [11] Mr. Pawarong Thepparat (**Thai**, December 2014): Review of Power Plant Scheduling for Electricity Generation

Chair of Interns from other institutions:

- [1] Mr. Ghanendra Shrivastava (**Indian**, IIT Roorkee, 2017).
- [2] Mr. Praveen Prakash Singh (**Indian**, GLA Mathura, 2015).

Member list of Master Program Committee for Thesis/Research/Project:

In progress

- [1] Mr. Min Oo (**Burmese**, pursuing): Enhancing Virtual Power Plant Trading Efficiency with Consortium Blockchain Mechanism
- [2] Mr. Piseth Hem (**Cambodian**, pursuing): Electric Vehicle Charging Demand Forecasting Based on Parallel LSTM-CNN Approach
- [3] Mr. Natthakiat Netprapha (**Thai**, RSGIS, pursuing):
- [4] Mr. Pongpranod Ukaew (**Thai**, pursuing): Design and equilibrium analysis of the integrated market of carbon credit, renewable energy certificate and electricity in Eastern Economic Corridor
- [5] Mr. Patthanapun Boonthong (**Thai**, Thesis, pursuing): Economic Dispatch using Cost-based Droop Schemes in Island Microgrids Case Study: Mea Saring microgrid Project

- [6] Mr. Dhanush Reddy Yanna (**Indian**, RSGIS, Research study, pursuing): Mapping Solar Energy Potential for Delhi and NCR using Open-Source Data

Completed

- [7] Mr. Warrapol Thawilapwattana (**Thai**, Research study, December 2023): Analysis of Renewable Energy Certificates (RECs) in Selected Countries
- [8] Mr. Nuttakun Makearoon (**Thai**, Thesis, December 2023): Energy Management System in Samui Power Grid with Solar Floating PV And Battery Energy Storage Systems
- [9] Ms. Thitanan Prachuab (**Thai**, Research study, December 2023): Load Management in Distribution Network Using Battery Energy Storage System Under High Penetration of Electric Vehicles
- [10] Ms. Khin Mon Thet (**Burmese**, Thesis, May 2023): A Techno-Economic Feasibility Study of Low Carbon Mini Grid for Rural Electrification in Myanmar
- [11] Mr. Abdulrahman Clavero Manalundong (**Filipino**, Thesis, December 2023): Production and Evaluation of Sugarcane Leaf-based Pellets
- [12] Ms. Shruthi Sugunan (**Indian**, Thesis, May 2023): Analysis of Energy Consumption and Thermal Comfort in Buildings: A Case Study of AIT Library
- [13] Mr. Piyapong Prachuab (**Thai**, Thesis, December 2022): Economic Analysis of P2P Energy Trading Models in the Metropolitan Electricity Authority Area
- [14] Ms. Jaya Ghimire (**Nepalese**, Thesis, December 2022): Biomass-Based Hydrogen in Nepal: Opportunities and Challenges
- [15] Mr. Okkar Kyaw (**Burmese**, Research study, December 2022): Active Power Distribution Network Planning for SMART Cities
- [16] Mr. Muhammad Ali Baker (**Bangladeshis**, Research study, May 2022): Solar PV-Based Electric Vehicle Charging Stations in Bangladesh: A Study on its Status and Challenges
- [17] Mr. Md. Asaduz-Zaman (**Bangladeshis**, Thesis, May 2022): Microgrid Energy Management for Smart City Planning on Saint Martin's Island in Bangladesh
- [18] Ms. Anika Bushra (**Bangladeshis**, Thesis, May 2022): Feasibility Analysis and Modeling of a Renewable Hybrid Generation Power Plant Using 2nd Life Batteries
- [19] Mr. Sitakarn Na Nagara (**Thai**, Research study, May 2022): Village Power Demand Prediction with Deep Learning
- [20] Ms. Nan Naunt Naunt (**Burmese**, Thesis, May 2022): Addressing Barriers to Large-Scale Solar Photovoltaic Development in Myanmar
- [21] Mr. Khongpol Poka (**Thai**, Thesis, May 2022): One Day Ahead Hourly Solar Radiation Forecasting Technique
- [22] Ms. Kornpatchara Sangdokmai (**Thai**, Thesis, May 2022): Impacts of Artificial Intelligence (AI) on Building Energy Usage: Case Study of an Office Building in Thailand
- [23] Mr. Paing Moe Kyaw (**Burmese**, Thesis, December 2021): A Study of Solar PV-Based Electricity System for AIT
- [24] Mr. Nabin Babu Ojha (**Nepalese**, Thesis, May 2021): Power Trading in Micro-Grid Using Blockchain Technology in The Presence of Electric Vehicle
- [25] Mr. Hewa Yaddehige Pathum Dulanjana (**Sri Lankan**, Thesis, May 2021): Development of Solar Based Hybrid Fish Drying System
- [26] Mr. Mohammad Atikul Islam (**Bangladeshi**, Thesis, May 2021): Development of Air Pollution Emission Inventory for Dhaka Metropolitan Region (DMR), Bangladesh
- [27] Mr. Wisuwat Klabwisas (**Thai**, Thesis, May 2021): Analysis of Hosting Capacity in Smart Distribution Network with Solar PV And EV Penetrations
- [28] Ms. Samina Alam (**Bangladeshi**, Thesis, May 2021): Municipal Solid Waste to Energy: A Case Study of Chittagong, Bangladesh
- [29] Ms. Chutirat Ruangchutiphophan (**Thai**, Thesis, May 2021): Life Cycle Assessment (LCA) of PEA 115 kV Overhead Transmission Lines: A Case Study of the Buriram-Satuk Substation Route

- [30] Mr. Natdanai Srisaengon (**Thai**, Thesis, May 2021): Renewable Energy and Battery Storage-Based Optimal Electricity Generation for Tao Island, Thailand
- [31] Mr. Paisan Ongcharoen (**Thai**, Thesis, May 2021): P2P Energy Trading Under Unbalanced Low-Voltage Distribution Network Constraints
- [32] Ms. Thitima Wanthong (**Thai**, Thesis, May 2021): A Two-Layer Interactive Power Trading for 115kv Day-Ahead Power Pool in Eastern Economic Corridor Area
- [33] Mr. Abbireddy Siva Rama Chandra Reddy (**Indian**, Thesis, May 2021): A Study on Ethanol Production from Sugarcane Bagasse
- [34] Mr. Avishek Rai Baruah (**Indian**, Thesis, December 2020): Improving Energy Efficiency in a Healthcare Facility
- [35] Mr. Hassan Fazliani (**Iranian**, Research study, December 2020): Water Desalination Operated by Renewable Energy: A Case from Iran
- [36] Mr. Kittin Doungnate (**Thai**, Research study, May 2020): Energy Consumption of an Academic Institution and A Household: A Preliminary Study
- [37] Mr. Raghu Charan Mamilla (**Indian**, Research study, May 2020): Cold Densification of Rice Husk with Water Hyacinth
- [38] Mr. Vivek Sharma Poudel (**Nepalese**, Thesis, May 2020): Fabrication of Photo-Thermoelectric Energy Generator Using Gold Nanoparticle-Decorated Zinc Oxide Nanorods
- [39] Mr. Pochanont Karuumpho (**Thai**, Thesis, May 2020): A Study of Grid-Connected Rooftop Solar PV in Thailand
- [40] Ms. Thitaporn Tubpong (**Thai**, Thesis, May 2020): Machine Learning Based Asset Management for Power Transformer Maintenance
- [41] Mr. Woravich Rojthavol (**Thai**, Thesis, May 2020): Proposed Market Design of Retail Electricity Markets Incorporating SPP Distribution Systems in Thailand
- [42] Mr. Satyanarayana Murthy Yedla (**Indian**, Thesis, May 2020): Power Quality Enhancement in a Microgrid with Solar PV and Battery Energy Storage System
- [43] Mr. Kaung Si Thu (**Burmese**, Thesis, May 2020): Blockchain and AI Based Power Trading in Prosumer Consortium Model: The Case of AIT Community
- [44] Mr. Niel Madhav Patamsetti (**Indian**, Thesis, December 2019): Strategic cost optimization via presume interactions in microgrid
- [45] Mr. Pushpa Lal Acharya (**Bhutanese**, Research Study, December 2019): Evaluation of Social, Economic and Environmental Impacts of Rural Electrification in Bhutan
- [46] Mr. Sreeram Gopal Taninki (**Indian**, Thesis, December 2019): Carbon Capture Potential of Micro Algae Cultivation System with Flue Gas from Coal Fired Thermal Power Plant in Andhra Pradesh.
- [47] Mr. Sonam Pelden Tshwang (**Bhutanese**, Research Study, December 2019): Improving Energy Efficiency in Bhutan Power Corporation Head Office Building, Thimphu, Bhutan
- [48] Mr. Phuntsho Norbu (**Bhutanese**, Research Study, December 2019): Capacitor Placement Study for Minimizing Power Losses on Transmission System of Bhutan
- [49] Mr. Matham Kiran Kumar (**Indian**, Thesis, December 2019): Peak Demand Shaving at the End-Users by using Decentralized Solar-PV Battery Energy Storage Systems
- [50] Mr. Myo Min Htwe (**Burmese**, Thesis, December 2019): Optimal Scheduling of Battery Energy Storage Systems of Residential Solar PV System for Reverse Power Flow Mitigation and Peak Load Shaving
- [51] Mr. Bhargab Jyoti Bharali (**Indian**, Thesis, December 2019): Valorization of the Producer Gas by Removing Nitrogen Gas in Air Gasification
- [52] Mr. Nadimpalli Prudhvi Raju (**Indian**, Research Study, May 2019): A Study of Algae as a Source of Jet Fuel
- [53] Mr. Firuz Ahamed Nahid (**Bangladeshi**, Thesis, May 2019): Very Short-Term Wind Speed Forecasting Using Convolutional Long Short-Term Memory Neural Network
- [54] Ms. Tenzin Choden (**Bhutanese**, Thesis, May 2019): Barriers and Opportunities in Cross-border Electricity Trading for Bhutan

- [55] Mr. Itthipol Udomkitpaibool (**Thai**, Thesis, May 2019): Distributed and Autonomous Microgrid System Using Aged Lithium-ion Battery Energy Storage System
- [56] Ms. Alisha Shrestha (**Nepalese**, Thesis, May 2019): Simulation for Maximum Hydropower Generation under Climate Change Scenarios for Kulekhani Hydropower Plant, Nepal
- [57] Mr. Kolluru Venkata Surya Vinay Krishna (**Indian**, Research Study, December 2018): A Study on Energy Use in an Educational Institution Using RETScreen
- [58] Mr. Peparthy Murali (**Indian**, Research study, December 2018): A Study of Pyrolysis of Rice Residues in Andhra Pradesh, India
- [59] Mr. Pantakan Tangeuab (**Thai**, Thesis, December 2018): Optimal and Stochastic Aggregation of Electric Vehicles in Smart Distribution System Considering Dynamic TOU Pricing
- [60] Mr. Shaik Madar Saheb (**Indian**, Research study, December 2018): Estimation of Process and Energy CO₂ Emissions of Indian Cement Industry
- [61] Mr. Vankayala Venkata Sandeep (**Indian**, Thesis, December 2018): Analysis of Opportunities for Waste to Energy in Cassava Sago Industry
- [62] Mr. Se Samnang (**Cambodian**, Research study, December 2018): Impacts of Distributed Generation on the Protection System of Distribution Network
- [63] Mr. Ragi Sai Kiran Reddy (**Indian**, Thesis, December 2018): Energy and Environmental Implications of a Passenger Transport in Hyderabad, India
- [64] Mr. Patipop Amornpanthang (**Thai**, Thesis, December 2018): Implications of the Large Scale Introduction of Electric Vehicles (EVs) on Energy and the Environment in Thailand
- [65] Mr. Natakornpong Veerachayapornkul (**Thai**, Research study, December 2018): Technical and Economic Analysis of Household Solar Rooftop Photovoltaic System in Six Regions of Thailand Using RETScreen Program
- [66] Mr. Balla Gowtham Chandra (**Indian**, Research Study, December 2018): Assessment of Cold Densified Pellets Derived from Rice Residues as Cooking Fuel
- [67] Mr. Kondamuri V. V. Satyanarayana Swamy (**Indian**, Research Study, December 2018): Biogas Digestate as a Cooking Fuel
- [68] Mr. Indana Venkata Appala Mani Kumar (**Indian**, Research Study, December 2018): Municipal Solid Waste to Energy Opportunities in Kakinada City, India
- [69] Mr. Sharang Dev Sharma (**Indian**, ICT, Thesis, May 2018): Evaluation of Solar Energy Potential and Site Suitability for PV Farms by Using Multi Criteria Decision Support System
- [70] Mr. Hazrat Mohammad Wahdaty (**Afghani**, ICT, Thesis, May 2018): ICT based Land suitability modeling for urban development using Remote sensing and GIS: a case study of Kabul city, Afghanistan
- [71] Ms. Jyotsna (**Indian**, Research Study, May 2018): Success Determinants for Off-Grid Rural Electrification Program
- [72] Ms. Raagalipi Kattunga (**Indian**, Research Study, May 2018): Hybrid Electricity Generation Systems: A Case Study of Mandaipalle Village, Telangana, India
- [73] Mr. Naveen Venkatesh Vinod Pampana (**Indian**, Research Study, May 2018): A Study on Biogas Production from Food Waste in Hosur, India
- [74] Mr. Nilay Kumar Sarker (**Indian**, Thesis, May 2018): Design and Evaluation of a Microalgae Cultivation System
- [75] Mr. Phuriphat Samphanthasit (**Thai**, Thesis, May 2018): Harmonic Analysis of High Penetration of Solar Rooftop Systems in an Unbalanced EV Loading Distribution Network
- [76] Mr. Tanawat Laopai boon (**Thai**, Thesis, May 2018): Short-term Solar Forecasting Using Deep Long Short-Term Memory Recurrent Network Program
- [77] Mr. Bhavin Pradhan (**Nepalese**, Thesis, May 2018): Implications of Electric Mobility for Kathmandu Valley on Energy Demand, Greenhouse Gas Emissions and Analysis of Barriers
- [78] Mr. Pradya Panyainkaew (**Thai**, Thesis, May 2018): Irregular Power Consumption Identification by Using Support Vector Machine and Neural Network Classification
- [79] Mr. Phy Kyaw (**Burmese**, Research study, December 2017): Dew Point Evaporative Cooling System

- [80] Mr. Nedunuri Venkata Rajesh (**Indian**, Research Study, December 2017): Coconut Residues to Energy and Value-Added Materials in Andhra Pradesh, India
- [81] Mr. Gatti Chaitanya Mourya (**Indian**, Thesis, July 2017): Biodiesel Production from *Jatropha* in Kakinada, India
- [82] Mr. Naga Srikanth Midde (**Indian**, Research study, December 2017): Status and Potential of Biogas from Selected Waste Sources in Andhra Pradesh, India
- [83] Mr. Ganji Manoj Kumar (**Indian**, Thesis, May 2017): CO₂ Capture and Storage in Saline Aquifers in Andhra Pradesh, India
- [84] Mr. Wahidullah Kharotai (**Afghani**, Research study, May 2017): Barriers and Opportunities for Off-grid Solar Home System in Afghanistan Based on Stakeholders Perception: A SWOT-AHP Analysis
- [85] Mr. Piriya Paokorkeatikul (**Burmese**, Research study, December 2017): A Study on the Geothermal Energy Utilization in Thailand
- [86] Mr. Raunak Thapa (**Nepalese**, Research study, December 2017): Policy Effectiveness and Upscaling Challenges: The Case of Renewable Energy Subsidy Policy in Nepal
- [87] Mr. Hasan Masrur (**Bangladeshi**, Research study, May 2017): A Techno-Economic Feasibility Study of a Microgrid on the Coastal Area of Bangladesh: St. Martin's Island
- [88] Mr. Pratik Karki (**Nepalese**, Thesis, December 2017): Barriers and Opportunities in Cross-border Electricity Trading for Nepal: A SWOT-AHP Analysis
- [89] Mr. Nguyen Phuoc (**Vietnamese**, Thesis, December 2017): Optimal Day-Ahead Generation Scheduling with Independent Slack Bus Loss Sensitivity in Vietnam's Wholesale Electricity Market
- [90] Mr. Soeun Sophanith (**Cambodian**, Thesis, December 2017): Active Power Loss Reduction and Voltage Profile Enhancement in a Radial Distribution System
- [91] Ms. Rana Shreeya (**Nepalese**, Thesis, May 2017): The Cost of Electricity Not Served: An Analysis for the industrial Sector in Nepal
- [92] Mr. Sitav Bhadra (**Indian**, Thesis, May 2017): Microalgae Based Biodiesel Production Using Coal Thermal Flue Gas and Wastewater in West Bengal: A Techno- Financial Analysis
- [93] Mr. Danupol Wetchasirikul (**Thai**, Thesis, May 2017): Wind Speed Forecasting Using Deep Learning Algorithm
- [94] Ms. Pallavi Das (**Indian**, Thesis, May 2016): Cost and Reliability Analysis for Off-Grid PV Electrification Options
- [95] Mr. Nutthapong Sivapraphagorn (**Thai**, Research study, 2016): A Study on the Reduction of Electricity Consumption and Cost in Some Buildings at AIT
- [96] Ms. Syeda Ismoth Iqbal (**Bangladeshi**, Research study, December 2016): Analysis of Challenges and Opportunities for Green Energy Banking in Bangladesh
- [97] Mr. Amrit Paudel (**Nepalese**, Thesis, May 2016): Optimal Scheduling of Active Distribution Network Considering DG Placement, Network Reconfiguration and Electric Vehicles
- [98] Mr. Wannakorn Supingklad (**Thai**, Thesis, May 2016): Optimal Power Dispatch Considering Dispatchable Solar and Wind Generation Using Particle Swarm Optimization
- [99] Mr. Abhishek Pathak (**Indian**, Thesis, May 2016): Maximizing Energy Generation from Photovoltaic Arrays Through Shading Analysis from Restricted Urban Roof Areas
- [100] Mr. Sachin Muralee Krishna (**Indian**, Thesis, May 2016): Economic and Performance Evaluation of Optimal Diesel-Biodiesel-Ethanol Blends (Publication: One international journal)
- [101] Mr. Masingha Kavinda Randima Wijayawardena (**Sri Lankan**, Research study, May 2018): Analysis of a Hybrid Renewable Microgrid System for Nainativu Island, Sri Lanka
- [102] Mr. Wais (**Afghani**, May 2016): Energy Consumption from Transport Sector: A Case of Kandahar City
- [103] Mr. Natthawut Weerarak (**Thai**, Thesis, December 2015): Energy Consumption and CO₂ Emission of Hotel Building in Thailand

- [104] Mr. Anand M.P. (**Indian**, Thesis, 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)
- [105] Mr. Mohammad Nazrul Islam (**Bangladeshi**, Thesis, May 2015): Online Voltage Stability Assessment Using Local Phasor Measurements
- [106] Mr. Amam Hossain Bagdadee (**Bangladeshi**, Thesis, May 2015): Power Quality Improvement of Different Load Models in a Micro-Grid System
- [107] Ms. Wichayaphorn Phoosap (**Thai**, Thesis, May 2014): Performance of Parabolic Trough Solar Collector
- [108] Mr. Thanongsak Kaewsaiuathong (**Thai**, Thesis, May 2014): Application of Wattmon for System Design and Performance Improvement of PV Systems
- [109] Mr. Vinalong Phonekeo (**Laotian**, Thesis, May 2014): Electric Vehicle as a Transportation Option for Vientiane: Impact on Transport Energy Demand, GHG Emission and Implications for Electricity Planning
- [110] Ms. Orawan Phochai (**Thai**, Thesis, 2014): Voltage Control Strategies for Grid-Connected Solar PV Systems
- [111] Mr. Rung Punyachai (**Thai**, Thesis, 2014): Impact of High Solar Rooftop PV Penetration on Voltage Profile in a Distribution System
- [112] Mr. Jukkrapun Prasomthong (**Thai**, Thesis, 2014): Optimal Placement of Vehicle-to-Grid Charging Station in Distribution System Using Particle Swarm Optimization with Time Varying Acceleration Coefficients
- [113] Ms. Chanokwan Veerasathian (**Thai**, Thesis, 2014): Voltage Stability Assessment of DFIG Wind Turbine in Different Control Modes
- [114] Ms. Anchuleeporn Chersin (**Thai**, Thesis, 2014): Improvement of Uncertain Power Generation of Rooftop Solar PV Using Battery Storage Energy Management Strategy
- [115] Ms. Panipak Thipthiangthae (**Thai**, Research study, 2014): Estimating Greenhouse Gas Emission in the Corporate Sector: The Case of AIT, Thailand
- [116] Mr. Ekawut Chayakul (**Thai**, Research study, 2014): A Study on Street Lighting in the AIT Campus
- [117] Mr. Asim Ejaz (**Pakistani**, Project, December 2013): Use of an Enterprise GIS for an Electric Distribution Utility Company: Laying the Grounds for Achieving Smart Grid
- [118] Mr. Muhammad Ramzan (**Pakistani**, Project, December 2013): Impacts of Wind Energy on Coal Based Power Generation Planning of Pakistan
- [119] Mr. Syed Hasan Bilal Gilani (**Pakistani**, Project, December 2013): Proposed Billing and Monitoring System for MEPCO and its Financial Evaluation
- [120] Mr. Kamran Zahoor (**Pakistani**, Project, December 2013): Effects of Quality Training and Motivation on Teamwork Improvement and Task Efficiency at MEPCO
- [121] Mr. Muhammad Rizwan Fiaz (**Pakistani**, Project, December 2013): Cost and Benefit Analysis for Installing a Biogas Plant in the Rural Village of Warburton in Pakistan
- [122] Mr. Muhammad Abu Bakr Khan Sherwani (**Pakistani**, Project, December 2013): Estimation of Residential Customer Outage Costs in LESCO
- [123] Mr. Kamran Naveed (**Pakistani**, Project, December 2013): Motivation: An Analytical Study on Sources of Motivation for Officers of DISCOs
- [124] Mr. Abdul Ghaffar (**Pakistani**, Project, December 2013): Recruitment Practices and Change Management in MEPCO
- [125] Ms. Rabeel Manzoor (**Pakistani**, Project, December 2013): Software Requirements and Choice of Technology for Automated Billing Systems
- [126] Mr. Amjad Hussain Nagra (**Pakistani**, Project, December 2013): Measuring Job Satisfaction in the Power Distribution Sector of Pakistan
- [127] Mr. Muhammad Hasnain Shakil (**Pakistani**, Project, December 2013): Mitigation of Overbilling Syndrome and Poor Management System in MEPCO and Its Financial Benefits

- [128] Mr. Le Hoang Nam (**Vietnamese**, Thesis, 2013): Hydro-Thermal Coordination using Pseudo-Gradient Based Particle Swarm Optimization Method Considering Wind Power Uncertainty: A Case of Vietnam
- [129] Mr. Pok Palpibal (**Thai**, Thesis, 2013): Multi-Objective Power Distribution System Planning Considering PEVs Using NSPSO
- [130] Mr. Piyachai Sritunya (**Thai**, Thesis, 2013): Multi-objective Service Restoration in Distribution System with DG Using NSPSO
- [131] Mr. Muhammad Ahad Rahman Miah (**Bangladeshi**, Thesis, 2013): Sustainable Extraction and Usage of Coal in Jamalganj Coal Field, Bangladesh
- [132] Mr. Wichien Tunyasrivorakul (**Thai**, Thesis, 2013): Time Series and Panel Data Analysis of Crude Oil Consumption for Indonesia, Malaysia and Thailand
- [133] Ms. Perada Limloetmongkol (**Thai**, Thesis, 2013): Panel Cointegration and Causality Analysis on CO₂ Emissions in Selected ASEAN Countries
- [134] Ms. Prow Choompradit (**Thai**, Thesis, 2012): Estimating Short and Long Run Time-of-Use Tariff Elasticities for PEA's Customer Demand
- [135] Mr. Bhawat Traipattanakul (**Thai**, Thesis, 2012): Technical and Policy Options for Wind Energy Development in Thailand
- [136] Mr. Thanaset Petchwattananon (**Thai**, Thesis, 2012): Impacts of Plug-in Hybrid Electric Vehicles on Power Sector Development in Thailand
- [137] Mr. Taskin Jamal (**Bangladeshi**, Thesis, 2012): An Approach Towards Smart Distribution Network in Dhaka, Bangladesh by Rooftop Solar PV Using GIS
- [138] Mr. Sutisil Khedkaw (**Thai**, Thesis, 2012): Robust Combined-Objective Particle Swarm Optimization for Planning Transition to Plug-in Hybrid Electric Vehicle
- [139] Mr. Passapong Saneaphunt (**Thai**, Thesis, 2012): An Empirical Analysis on CO₂ Emissions from the Electricity Sector and Income Based on the Environmental Kuznets Curve
- [140] Ms. Thanyaporn Harnboonyanon (**Thai**, Thesis, 2012): Impacts of Electric Vehicle Charging on Distribution Transformers
- [141] Ms. Pradsamon Rodchuea (**Thai**, Thesis, 2012): Impacts of AMI Deployment in Thailand: Generation Expansion Model
- [142] Mr. Tran Truong Han (**Vietnamese**, Thesis, 2012): Technical and Financial Impact Assessment of a Wind Farm: A Case Study of a Phong Project, Vietnam
- [143] Mr. Jakkrapun Tessiri (**Thai**, Thesis, 2012): A Study on Small Scale Applications of Biogas
- [144] 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
- [145] Ms. Chonlapat Leewarinpanich (**Thai**, Thesis, 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
- [146] Mr. Tharakorn Chanlapa (**Thai**, Thesis, 2011/12): An Assessment of Micro Hydropower for Rural Electrification: A Case Study of Maesa Basin, Thailand
- [147] Ms. Pun Phullsub (**Thai**, Thesis, 2011/12): Electricity Consumption during Flooding in Thailand: Case Study in Bangkok, Nonthaburi and Samut Prakan
- [148] Mr. Peerakit Theerasopon (**Thai**, Thesis, 2011/12): GHG Mitigation Potential of Clean Coal Technologies and Carbon Capture and Sequestration in Thailand
- [149] Ms. Klairung Kositthanasaran (**Thai**, Thesis, 2011/12): Financial Risk Analysis of Biomass Power Plant: A Case study of Sungoen Rice Husk Power Plant in Nakhonratchasima
- [150] Mr. Warodom Khamphanchai (**Thai**, Thesis, 2011): A Multi-Agent based Power System Restoration Approach in Distributed Smart Grid
- [151] Mr. Watchara Jaroenpan (**Thai**, Thesis, 2011): Multi-Areas Economic Dispatch by Particle Swarm Optimization with Time-Varying Acceleration Coefficients
- [152] Mr. Pasapong Gamonwet (**Thai**, Thesis, 2011): Electricity Retail Price in Competitive Market using the Risk Adjusted Capital asset pricing model (CAPM): A Case of Thailand

- [153] Ms. Pensupa Sattawatananon (**Thai**, Thesis, 2011): Risk Analysis in Financial Evaluation of Electricity Transmission System Extension Project: A Case Study of Samui Island, Thailand
- [154] Mr. Hoang Thanh Hai (**Vietnamese**, Thesis, 2011): Feeder Automation Planning for Hanoi Power Distribution System
- [155] Mr. Kritsnai Jantawongsri (**Thai**, Thesis, 2011): Optimal DG Placement in Island Microgrid System by PSO with Time-Varying Acceleration Coefficients
- [156] Mr. Phoukhong Sinyasone (**Laotian**, Thesis, 2011): Optimal Capacitor Placement for Voltage Improvement and Loss Reduction in Power Distribution Networks in Lao PDR
- [157] Ms. Vipasinee Kesornpikul (**Thai**, Thesis, 2011): Comparison of Harmonic Behavior of Compact Fluorescent Lamp in Thailand
- [158] Mr. Paveen Suwannawat (**Thai**, Thesis, 2011): Optimal Scheduling of Combined Heat and Power Units in a Household Islanding Microgrid System
- [159] Mr. Chakkapong Somsri (**Thai**, Thesis, 2011): Optimal Distribution Substation Placement, Size and Installation Period by Improved-Binary Particle Swarm Optimization
- [161] Ms. Su Yin Min (**Burmese**, Research study, 2010): Optimal TCSC Placement for Minimization of Transmission Losses
- [162] Mr. Bhakbhum Kaewkamthong (**Thai**, Research study, 2010): Fault Identification and Locating on PEA Distribution System
- [163] Mr. Phan The Hieu (**Vietnamese**, Thesis, 2010): Distribution Expansion Planning: A Case of Travinh City, Vietnam
- [164] Mr. Thad Aosombatkun (**Thai**, Thesis, 2010): An Analysis of Electricity Demand and Pollutant Emissions Using Cointegration and ARIMA Modeling: A Case Study of Thailand
- [165] Ms. Wikanda Pensupa (**Thai**, Thesis, 2010): Assessment of Clean Development Mechanism (CDM) Projects for Net GHGs Mitigation in Thailand
- [166] Mr. Paradorn Sriprasat (**Thai**, Thesis, 2010): Distribution System Planning Considering Grid Connected Rooftop PV Systems: A Case of Chiang Mai City, Thailand
- [167] Mr. Sitthigorn Promthaworn (**Thai**, Thesis, 2010): Reliability Improvement by the Microgrid System: A Case of Mae Hong Son, Thailand
- [168] Mr. Bancha Rangsakorn (**Thai**, Thesis, 2010): Multi-Objective Distributed Generation Optimal Placement in Distribution System using Nondominated Sorting Particle Swarm Optimization
- [169] Mr. Yusak Tanoto (**Indonesian**, Thesis, 2010): Long Term Peak Load Forecasting Using Artificial Neural Networks: The Case of Java-Madura-Bali Interconnection, Indonesia
- [170] Mr. Nuttawich Khamsawasd (**Thai**, Thesis, 2010): Optimal Bidding Strategy in LMP-Based Electricity Market Considering Demand Elasticity by Particle Swarm Optimization with Time-Varying Acceleration Coefficients
- [171] Mr. Apinat Saksinchai (**Thai**, Thesis, 2010): Multi-objective Bidding Strategy for Generation Company using Non-Dominated Sorting Particle Swarm Optimization
- [172] Ms. Cherry Myo Lwin (**Burmese**, 2010): Greenhouse Gas Mitigation by Hydropower Trading from Myanmar to Thailand
- [173] Ms. Seema Thakur (**Nepalese**, Thesis, 2010): Optimal Generation Scheduling of Cascaded Hydro-Thermal and Wind Power Generation by Particle Swarm Optimization
- [174] Ms. Yada Rungreang (**Thai**, Thesis, 2010): Financial Transmission Right Bidding Strategy in Competitive Power Market Using Particle Swarm Optimization
- [175] Mr. Nitipong Thipwiang (**Thai**, Thesis, 2010): Wind Power Bidding Strategy in Short-Term Power Market Based on Particle Swarm Optimization
- [176] Mr. Mom Kirivathanak (**Thai**, Thesis, 2010): Optimal DG Placement in a Nodal Price Based Electricity Market: The Case of Cambodia
- [177] Mr. Dinesh Rangana Gurusinghe (**Sri Lankan**, Thesis, 2010): Saddle Node Bifurcation and Voltage Stability Analysis by Particle Swarm Optimization
- [178] Ms. Arisa Sumthong (**Thai**, Thesis, 2010): Long-term Co2 Emission Reductions Target and Scenario for the Industrial Sector of Thailand

- [179] Mr. Agapol Pukprayura (**Thai**, Thesis, 2010): Optimal Under-Voltage Load Shedding for Northeastern EGAT System
- [180] Mr. Purna Bdr Rai (**Bhutanese**, Thesis, 2010): Total Transfer Capability Enhancement using FACTS Devices: A Case Study of Bhutan Power System
- [181] Mr. Arshad Mahmood (**Pakistani**, Research study, 2010): Energy Consumption and Economic Growth in Pakistan: A Causality Analysis
- [182] Mr. Ngo Dang Chien (**Vietnamese**, Thesis, 2010): Integrated Resources Planning Considering Demand Side Management: A Case Study of Vietnam
- [183] Mr. Natthakich Assanee (**Thai**, Research study, 2010): The Transition to a Hydrogen Economy in Thailand
- [184] Ms. Tran Thi Kieu Ngoc (**Vietnamese**, Research study, 2010): Analysis of a Micro Combined Heat Power as a Clean Development Mechanism Project in Residential Area, Hanoi, Vietnam

Member of Special Study Committee:

- [1] Mr. Avrojoyti Barua (**Indian**, July 2023): Exploring Energy System Modeling for Decarbonization: A comparative analysis of Methods for Thailand's Power Sector
- [2] Ms. Shruthi Sugunan (**Indian**, May 2023): Study on Digital Technology for Demand Side Management in Building Sector
- [3] Ms. Yogitha Miriyala (**Indian**, August 2022): A Review of Estimating Demand Response Potential in the Residential Sector
- [4] Ms. Chanatta Chaipakdee (**Thai**, May 2019): An AMI system designed for implementing in MEA areas
- [5] Mr. Sittinan Muanchaona (**Thai**, May 2019): Technical Issues Concerning in Microgrid Technology
- [6] Ms. Phusanisa Jaichaiyaphum (**Thai**, May 2019): Solar PV Forecasting in MEA'S Area
- [7] Mr. Puminut Rugthong (**Thai**, May 2019): A Study on Ethanol Production from Sugarcane Bagasse

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

Book proposals accepted by publishers in 2023:

- [1] **Jai Govind Singh**, Rupendra Kumar Pachauri, Sasidharan Sreedharan (2024). *Advanced Forecasting Methods for Renewable Power Generation, Demand, and Electricity Price* by **Wiley**, 2024.
- [2] **Jai Govind Singh**, Rupendra Kumar Pachauri, Vinod Kumar Yadav, Priyanka Sharma (2024), *Embedded System and GUI Development using MATLAB for Engineering Applications* by **Scrivener Publishing Under the Wiley-Scrivener imprint**, 2024.
- [3] Shubham Tiwari, **Jai Govind Singh**, Sivaraman P, Sanjeevikumar Padmanaban, Sharmeela C, Rupendra Kumar Pachauri (2024). *Energy Management Strategies for Multi-Vectored Energy Hubs to Achieve Low Carbon Societies* by **Wiley-IEEE Press**, 2024.

Monographs:

- [4] 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.
- [5] 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.
- [6] 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. **Book Chapters**

- [1] Tiwari, S., Nimal Madhu, M., Ongsakul, W., Singh, **Jai Govind Singh** (2021). *Modeling and Analysis of an Islanded Hybrid Microgrid for Remote Off-Grid Communities*. Residential Microgrids and Rural Electrifications, Pages 215 – 232, 6 December 2021. [SCOPUS citations: 1](#)
- [2] Wanwisa Peanpitak and **Jai Govind Singh** (2020). *Potential and Financial Analysis of the Floating PV in Hydropower Dams of Thailand*. Springer book on ‘Fundamentals and Innovations in Solar Energy,’ **Springer Singapore**. DOI: 10.1007/978-981-33-6456-1
- [3] Shubham Tiwari, **Jai Govind Singh**, Weerakorn Ongsakul (2020). *A Numerical Approach for Estimating Emulated Inertia with Decentralized Frequency Control of Energy Storage Units for Hybrid Renewable Energy Microgrid System*. A book on ‘Microgrid Technologies’ published by **John Wiley & Sons, Inc., and Scrivener Publishing LLC**.
- [4] Madhu M., N., Singh, J. G., Mohan, V., & Ongsakul, W. (2021). *Transmission Risk Optimization in Interconnected Systems: Risk-Adjusted Available Transfer Capability*. Vasant, P., Weber, G., & Punurai, W. (Ed.), Research Advancements in Smart Technology, Optimization, and Renewable Energy (pp. 183-199). IGI Global. <http://doi:10.4018/978-1-7998-3970-5.ch010>.
- [5] Anongpun Man-Im, Weerakorn Ongsakul, **Jai Govind Singh** (2018). *Multi-objective Optimal Power Flow of Wind-Thermal Considering Cosr and Emission by Stochastic Weight Trade-off Chaotic Mutation Based NSPSO*. Springer Book on “Unconventional Modeling, Simulation and Optimization of Geo Science and Petroleum Engineering”.
3. Refereed journal articles: international, regional, national. For each article, indicate the publisher of the journal and the number of SCOPUS citations.

3.A Summary of journal articles published.

Refereed Journals	International	Refereed Journals	Regional	Refereed Journals	National
	48				

In Progress					
Refereed Journals	International	Refereed Journals	Regional	Refereed Journals	National
	12				

3.B Articles in Refereed **International Journals**

- [1] Panaya Sudta, **Jai Govind Singh** (2024). An Approach to Prosumer Modeling and Financial Assessment with Load Clustering Algorithm in an Active Power Distribution Network. **Sustainable Energy, Grids and Networks**, Volume 38, June 2024, 101249. (Clarivate Analytics IF= 5.4 and Q1 ranked)
- [2] Firuz Ahamed Nahid, Weerakorn Ongsakul, Nimal Madhu M, **Jai Govind Singh**, Joyashree Roy (2023). Mode Decomposition-based Short-term Multi-step Hybrid Solar Forecasting Model for Microgrid Applications. **Electrical Engineering, Springer**. (Clarivate Analytics IF= 1.8 and Q2 ranked)
- [3] Niphit Phothisourinh and **Jai Govind Singh** (2023). Assessment of the carbon emission reduction potential in Thailand's power sector with high penetration of variable renewable energy sources and electric vehicles in the year 2030. **Clean Energy, Oxford Academic**. (Clarivate Analytics IF= 2.3 and Q2 ranked)
- [4] Kumar, S., Sireesha, B., **Singh, J.G.**, Abdul Salam, P. (2023). Low-head Pico-hydro Plant using the Pump as Turbine (PaT) and Permanent Magnet Synchronous Generator (PMSG) for Isolated Loads: Experimental Studies. **International Energy Journal**, 2023, 23(3), pp. 131–140. (Clarivate Analytics IF= 0.7 and Q3 ranked)
- [5] Chaweewat, P., **Singh, J.G.** (2023). LMP Sensitivity Calculation with Load Uncertainty by Using Combined Heuristic and Brute-force Technique. **Journal of Electrical Engineering and Technology**, 2023. (Clarivate Analytics IF= 1.9 and Q2 ranked)
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6. Papers in Workshops

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.

7. Abstracts None

8. Development Project Reports

i) 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 the EBARA Foundation in November 2012.

ii) L. Ashok Kumar, S. Karthikeyan, **Jai Govind Singh**, I Made Wartana (2022). Design and Development of Smart Grid Test Bed for Experimental Verification of Synchrophasor-based Algorithms for Wide Area Monitoring, Protection and Control (WAMPAC) for Power Grids with Large Penetration of Renewable Energy Resources. It was submitted to ASEAN - India Science & Technology Development Fund and the Department of Science & Technology, Government of India, New Delhi, INDIA.

9. 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.

10. Articles in newspapers, magazines, mass media publications, consultancy reports, synopsis

i) A 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>.

ii) Chongqing's Mountainous Green Energy Experience Draws International Experts in the local news of Chongqing, China, 2023: <https://app.ichongqing.info/mixmedia/a/202312/20/WS65829b57e4b075523e30a47d.html>

11. Keynote Addresses

[1] Invited as a keynote speaker at **6th International Conference on Intelligent Communication, Control, and Devices** organized by Electrical Cluster, School of Engineering, University of Petroleum & Energy Studies, Dehradun, India, 30 -31st May 2024.

[2] A keynote speech on '**Multi-vectored Energy Hub**' in 'The International Conference on Power Electronics & IoT Applications in Renewable Energy and its Control (PARC 2024)', 23-24 February 2024, Department of Electrical Engineering, GLA University, Mathura, India.

[3] A keynote speech on '**Energy Technology Transfer Practices in Asia**,' delivered in an 'International Forum on Regional Cooperation for Sustainable Development of Green Mountains' on 17th December 2023, Chongqing, China.

[4] A keynote speech on '**Modelling and Analysis of Low Emission Multi-Vectored Networked Energy Hubs**,' delivered in a 1st International Conference on Advancement in Energy, Organized by Department of Mechanical Engineering

- Motilal Nehru National Institute of Technology Allahabad, 18-20th December 2023, Prayag Raj - 211004, Uttar Pradesh, INDIA.
- [5] A keynote speech on '**Smart Grid and ICT for Green Energy Integration,**' delivered at the *2023 International Conference on IoT, Communication and Automation Technology (ICICAT)*, Gorakhpur, Organized by Budha Institute of Technology Gorakhpur in collaboration with Madan Mohan Malaviya University of Technology, Gorakhpur, UP, India, 23-24th June 2023.
 - [6] A keynote speech on '**Thailand Power Development considering VRE Integration**' in 'International Conference on Power Electronics & IoT Applications in Renewable Energy and its Control (PARC 2022)', 21-22 January 2022, Department of Electrical Engineering, GLA University, Mathura, India.
 - [7] A keynote speech on '**Estimation of EV's electricity load profile in Bangkok and Thailand**' in 'International Conference on Recent Developments in Control, Automation & Power Engineering (RDCAPE-2021)', 7-8th October 2021, organized by Amity University, Noida, India.
 - [8] A keynote speech on '**Generation and Integration of Renewable Energy**' in an '*International Conference on Recent Trends in Signals, Systems and Information*' 27-28th May 2021, Nehru college of Engineering & Research Centre Thiruvilwamala, Thrissur (Dt), Pampady, Kerala, India.
 - [9] A keynote speech on '**Smart Grid and Variable Renewable Energy Integration**' in '*3rd International Conference on Smart Grids, Structures and Materials 2021,*' 19-20th April- 2021, Department of EEE, KLEF Deemed to be University, Guntur, Andhra Pradesh India.
 - [10] A keynote speech on '**Optimal Speed Determination of Electric Vehicles at Different SOC Level**' at 'The International Conference on Power Electronics & IoT Applications in Renewable Energy and its Control (PARC 2020)', 28-29 February 2020, Department of Electrical Engineering, GLA University, Mathura, India.
 - [11] A keynote speech on '**An Approach to Minimize the Range Anxiety of Electric Vehicles at Different SoC Levels of the Battery**' at 'The International Conference on Smart Energy Systems and Electric Vehicles (ICSESEV-2020)', 8-10 February 2020, Department of Electrical and Electronics Engineering, Siddhartha Academy of General and Technical Education, Vijayawada, India.
 - [12] A keynote speech on '**Smart Grid for Green Energy and Transport Sectors**' in an International Conference on "**Sustainable Development**" ICSD – 2019, February 14-15, 2019, at STES', Sinhgad College of Engineering, Vadgaon (Bk), Pune.
 - [13] A keynote speech on '**Electric Vehicles and Renewable Integration in Smart Grid**' in '**International Conference on Artificial Intelligence, Smart Grid and Smart City Applications,**' 4-5, January 2019, PSG College of Technology, Coimbatore, India.
 - [14] A keynote speech on '**Electric Vehicles and Future Prospective**' in '**1st International Conference on Mechanical Innovative and Emerging Trends (MIET)**', Department of Mechanical Engineering, MIET, Meerut, India, 4-5, December 2018.
 - [15] A keynote speech on '**Smart Grid and ICT**' at 'International Conference on Emerging Trends in Computing & Communication Technology,' organized by the Department of Computer Science & Engineering, Graphic Era Hill University, Dehradun, India, 17-18th November 2017.
 - [16] A keynote speech on 'Economic and Environmental Assessment 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, 22nd October 2016.
 - [17] A 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, 23rd April 2016.

- [18] A **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.
- [19] A **keynote speech** on ‘Smart Grid for Low Carbon Society’ in International Conference on Energy, Economics and Environment, 27-28th March 2015, Noida, India.
- [20] A **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.

12. Invited Lectures

- [1] I delivered lectures below on different topics in the WePOWER SAR100 program from July to December 2023. **Delivered Topics:**
 - i) Smart grid technologies for RE integration
 - ii) Asset management practices for power systems
 - iii) Life cycle assessment & optimization techniques
 - iv) Reliability Centred Maintenance (RCM) approach
 - v) Case studies of Maintenance and Optimization of Integrated Power Systems
 - vi) Emerging trends and technologies in power markets & trading
 - vii) An Example of Energy Bidding Strategies in Power Markets
 - viii) Market Design and Pricing Mechanism for RE and DERs
 - ix) Examples of Derivative/Hedging Instruments in the Power Market
 - x) Resource adequacy and capacity markets
 - xi) Investment signals and market incentives for new generation and transmission
- [2] An **expert talk** entitled ‘Benefits of Vehicle-to-Grid Integration’ was organized by the Dept of Electrical Engineering, MNNIT Allahabad, India, 10th August 2023.
- [3] An **expert talk** entitled ‘Challenges and Potential in Vehicle-to-Grid Integration’ in a workshop on the ‘Future of Sustainability: Electric Vehicles and Smart Grid’ organized by the Department of Electrical and Electronics Engineering and Centre for Electric Mobility (CEM), SRM Institute of Science and Technology, Kattankulathur, Chengalpattu, Chennai, TN, India, 27-29th July 2023.
- [4] An **expert talk** entitled ‘Smart Grid and Energy Management System’ in a ‘Virtual International Higher-End Workshop’ on “Electric Vehicle Intelligent Technologies (EVIT-23)” organized by the Department of Energy and Power Electronics in the School of Electrical Engineering, Vellore Institute of Technology, Vellore, India, 8-12th July 2023.
- [5] An **expert talk** entitled ‘Vehicle-to-Grid Integration’ in a “ATAL FDP (Faculty Development Program) on Energy Storage Systems for Sustainable Development” organized by the Department of Electrical Engineering, Guru Nanak Institute of Technology, Kolkata and Technically co-sponsored by IEEE Industry Applications Society, Kolkata Chapter, 11 -15th July 2023.
- [6] An **expert talk** entitled ‘Renewable Energy Integration by using AI/ML’ was organized by the Dept of International Relations and Academic Collaborations, GLA University, India, 5th July 2023.

- [7] An **expert talk** entitled ‘India Government Scheme: Overview and Guidelines’ as part of a Foundation course for the Power Professionals of the CPSU’s and organized by the National Power Training Institute (NPTI), India, 3rd July 2023.
- [8] An **expert talk** entitled ‘**The Real Challenges: Renewable and Solar Energy**’ as part of a Foundation course for the Power Professionals of the CPSU’s and organized by the National Power Training Institute (NPTI), India, 3rd July 2023.
- [9] An **expert talk** entitled ‘Application of AI and ML in Integration of Renewable Energy Sources’ as part of the Faculty Development Program (FDP) on ‘**Artificial Intelligence and Machine Learning using MATLAB for Renewable Energy Applications: 2.0**’, and organized by UPES, Dehradun, India, and the Asian Institute of Technology (AIT) Bangkok, 15 – 19th May 2023.
- [10] An **expert talk** entitled ‘**Solar Power Forecasting by using Machine Learning**’ as part of the Faculty Development Program (FDP) on ‘**Artificial Intelligence and Machine Learning using MATLAB for Renewable Energy Applications: 2.0**’, and organized by UPES, Dehradun, India, and the Asian Institute of Technology (AIT) Bangkok, 28th Nov. to 2nd December 2023.
- [11] An **expert talk** entitled ‘Energy Management Challenges for Alternative Eco-Friendly System (EMCAEFS)’ in an “ATAL FDP (Faculty Development Program)” organized by MMMUT, Gorakhpur, India, 23rd January to 3rd February 2023.
- [12] An **expert talk** entitled ‘Electric Vehicles: Challenges and Future’ was organized by the Department of Electrical Engineering at Graphic Era, deemed to be University, Dehradun, India, 4th October 2022.
- [13] An **expert talk** entitled ‘Rational and Tools for short-term Wind Speed Forecasting by Using Artificial Intelligence’ in an “ATAL FDP (Faculty Development Program) on Modern Trends in Manufacturing Processes and Control Techniques in Renewable Energy System” organized by the Department of Mechanical Engineering in cooperation with Electrical Engineering department, NIT Delhi, India, 16-21 November 2021.
- [14] An **expert talk** entitled ‘Artificial Intelligence in the Renewable Power Generation’ in a “ATAL FDP (Faculty Development Program) on Energy Engineering” organized by the University of Lucknow, India, 18-22 October 2021.
- [15] An **expert talk** entitled ‘Climate Change and Future of Transport Sector’ in a “ATAL FDP (Faculty Development Program) on Energy Engineering” organized by the Department of Electrical Engineering, Mizoram University, India, 23-27 August 2021.
- [16] An **expert talk** entitled ‘Variable Renewable Energy Integration Challenges and Smart Grid Solutions’ in a Webinar organized by Pashchimanchal Campus, Tribhuvan University, Nepal, 4th April 2021.
- [17] An **expert talk** entitled ‘Future Challenges and Directions for Variable Renewable Energy Integration’ in a “FDP (Faculty Development Program) on Emerging Trends in Electromechanical System and Renewable Energy” organized by the Department of Mechanical Engineering in cooperation with the Electrical Engineering Department, National Institute of Technology Delhi, India, 10-14, March 2021.
- [18] An **expert talk** entitled ‘Introduction to Smart Grid’ in an AICTE-sponsored Short Term Training Program (STTP) on “Smart Computing Technologies and Applications” hosted by MES College of Engineering, Kuttippuram, Kerala, India, 14-19th December 2020.
- [19] An **expert talk** entitled ‘Smart Grid for Variable Renewable Energy Integration’ in an ATAL-FDP (Faculty Development Program) on “Renewable Energy Sources: Challenges, Opportunities and Applications” organized by the Department of Electrical Engineering National Institute of Technology Agartala, Tripura, India, 23-27 November 2020.
- [20] An **expert talk** entitled ‘Generation and Transmission Investment Practices in Open Market’ in a Short-Term Training Program on ‘**Recent Trends and Challenges in**

- Power Market with Smart Grid Technology**' at EEE Department, V R Siddhartha Engineering College, Vijayawada, India, 5th November 2020.
- [21] An **expert talk** entitled 'Financial and Physical Power Trading Mechanism in Open Market' in a Short-Term Training Program on '**Recent Trends and Challenges in Power Market with Smart Grid Technology**' at EEE Department, V R Siddhartha Engineering College, Vijayawada, India, 2nd November 2020.
- [22] An **expert talk** entitled 'Power System Restructuring Process & Economics' in a Short-Term Training Program (under Faculty Development Program) on **Recent Trends in Power Systems (RTPS-2020)** at Department of Electrical Engineering, GLA University Mathura, India, 13th October 2020.
- [23] A **UG lecture** on 'Recent Trends in Electromagnetic Field and Energy to Industrial Applications' was organized by the School of Electrical Engineering, Dept. of Energy & Power Electronics, VIT, Vellore, Tamil Nadu, India, on 28th January 2020.
- [24] Full **training course lectures** on "**Smart Grid Commercial, Technical and Market Drivers**" in a training program organized by AIT Extension for personnel from **Power Utilities of Bangladesh**, 17-28 January 2020.
- [25] A **seminar** on 'Electric Vehicles and its Performance Improvement', organized by Electrical and Electronics Engineering, K.L. University, Vaddeswaram, Vijayawada, India, 11th January 2020.
- [26] An **expert talk** on 'Impacts of Electric Vehicles on Power Grid Infrastructure', in a short-term course on '**Power Converters for e-Mobility**' organized by the Department of Electrical & Electronics Engineering, PSG College of Technology, Coimbatore, 6-10 January 2020.
- [27] A **UG lecture** on 'Electric and Magnetic Field Concepts used in Electric Vehicles', organized by the School of Electrical Engineering, Dept. of Energy & Power Electronics, VIT, Vellore, Tamil Nadu, India, 1st March 2019.
- [28] A **lecture** on 'Smart Grid and Renewable Energy Integration' was organized by the School of Electrical Engineering, Dept. of Energy & Power Electronics, VIT, Vellore, Tamil Nadu, India, 18th July 2018.
- [29] An **expert talk** on 'Load Management in Smart Grid' in 'Malaviya Research Conclave 2018 (MRC-2018)', organized by the MMMUT Gorakhpur, UP, India, 6–8 July 2018.
- [30] An **expert talk** on 'Research Methodology: A Case of AIT's Practice' in 'Malaviya Research Conclave 2017 (MRC-2018)', organized by the MMMUT Gorakhpur, UP, India, 6–8 July 2018.
- [31] An **expert talk** on 'Scope and Challenges of Smart Grid in Renewable Energy Integration' in 'Malaviya Research Conclave 2017 (MRC-2017)', organized by MMMUT Gorakhpur, UP, India, during 9–11 July 2017.
- [32] Two and a half days of invited lectures on '**Smart Grid**' in a training program organized by AITE for personnel from Bangladesh Power Utility from 13th to 15th November 2017.
- [33] One day lectures on '**Gas Insulated Substations, Substation Automation and SCADA**' in a training program organized by AITE for personnel from **Power Grid Company of Bangladesh Ltd. (PGCB)** 21st September 2017.
- [34] An **expert talk** on 'Distributed Power Grids: A Future Energy Systems' at Asian Utility Week 2015, 9-10 June, Bangkok, Thailand.
- [35] An **expert talk** on '**ICT for Smart Grid**' in ICUE2014 Pre-Conference Training Workshop on Smart Grid and Renewable Energy, 18th March 2014.
- [36] I have been invited to deliver several lectures on various topics related to power systems in different training programs organized by AIT Extension.
- [37] 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.
- [38] Sequential M. Tech. Program of Uttar Pradesh Technical University, Lucknow, UP, India, on "Economic operation and control of power systems".

13. H-index and the total number of citations to the faculty member's published work, as shown by SCOPUS.

SCOPUS			Researchgate			Google Scholar		
Citations	h-index	i10-index	Citations	h-index	Research Interest Score	Citations	h-index	i10-index
1016	17	33	1363	20	1045	1552	20	39

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

(Researchgate link: https://www.researchgate.net/profile/Jai_Govind_Singh)

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

B. Research in progress

1. Brief descriptions of current projects

i) Machine Learning and AI Applications

Apply machine learning and artificial intelligence techniques to optimize the operation and control of smart grids. This includes forecasting renewable energy generation, predicting power demand, and optimizing energy storage systems.

ii) Grid Modernization and Smart Infrastructure

Investigate the implementation of smart infrastructure, such as advanced sensors, communication networks, and control systems, to modernize existing power grids. Explore the benefits of a more interconnected and intelligent power infrastructure.

iii) Community Microgrid and Decentralized Energy Systems

Study the feasibility and benefits of community-based microgrids and decentralized energy systems. Analyze localized power generation and distribution systems' socio-economic impact, energy independence, and sustainability.

iv) Resource Forecasting and Management

Develop advanced forecasting techniques for renewable energy resources like solar and wind. Additionally, focus on efficiently managing these resources to optimize grid performance and reduce reliance on traditional power sources.

v) Demand Response and Customer Engagement

Investigate strategies for effective demand response programs and ways to engage consumers in actively managing their energy consumption. This includes exploring the role of smart meters, home automation, and real-time feedback systems.

vi) Electric and Hybrid Electric Vehicles

Electrification of the transport sector in terms of different EV technologies, sizing of the battery energy storage, hybridization of various energy storage technologies, impacts of EV on grid operation and management.

1. Brief descriptions of plans for future projects

i) Modeling and Assessment of Decarbonization Goals of Power Sector

Explore and optimize the integration of advanced energy storage technologies (such as advanced batteries, pumped hydro storage, and thermal energy storage) to enhance grid stability and reliability in the presence of variable renewable energy sources.

ii) Resilience and Reliability Enhancement

Focus on improving the resilience and reliability of power systems, especially in the face of extreme weather events and natural disasters. Develop methodologies for quick system restoration and adaptive control strategies.

iii) Policy and Regulatory Framework

Investigate the impact of different policy and regulatory frameworks on deploying and integrating renewable energy sources: Analyse incentives, subsidies, and market mechanisms to promote a transition to sustainable energy systems.

C. Research grants and sponsored projects

1. List of proposals submitted.

Sl. no.	Project title	Submission date	Sponsor	Amount	Status	Role
1	DAAD's in-country/region-programme	January 2023	DAAD	5-year Scholarship program	Unsuccessful	Proposal prepared on behalf of SE program
2	Technical Training Series for 100 Women Professionals in the South Asian Region Energy Sector (WePOWER SAR100)	May 2023	Palladium Group, funded by the Australian Department of Foreign Affairs and Trade (DFAT)	US\$400,000	Successful	Co-PI
3	Study on multiple use cases of battery energy storage system (BESS)	22 nd March 2023	RTE/USAID	US\$41,171	Unsuccessful	PI
4	Enhancing Farmers's resilience to climate change for improved energy and food Security in Thailand	21 st Feb 2023	IKI	15 million Euro	Unsuccessful	PI
5	Promoting Energy Security and Transition Project	9 th December 2022	ADB	Approx. US\$400,000 (29 Man-months)	Unsuccessful	PI
6	GPSC Power Transmission System between Thailand and Singapore	October 2022	Global Power Synergy Public Company Limited	US\$ 21,122	Unsuccessful	PI

			(GPSC)			
7	Proposal for 1-Year Master in Sustainable Energy Transition (15 students per year for 4 years)	April 2022	PTTEP International Limited (Yangon Branch)	US\$900,000	Accepted and on hold	PI
8	Enhancing Thailand's Energy Planning through Integrated Resource Planning	11 th March 2022	USAID and Australia Mekong Safeguards Program	US\$75,435	Unsuccessful	PI
9	Training on the Creation and Operations of a Power Exchange	March 2021	USEA /USAID	US\$24,850	Unsuccessful	PI
10	A Greening Urban Mobility Business Model (GREENMOBILISE)	15 th September 2020	UK PACT Programmes	£497,716.00	Unsuccessful	PI
11	RFP 2019/C/041 - Provision of Project Preparation Services through GCF Project Preparation Facility (PPF)	28 th January 2020	Green Climate Fund	-	Unsuccessful	Co-PI
12	Adult Learning Methods for Training, Distance Learning Approaches (in collaboration with TetraTech)	July 2019	USAID	US\$ 125,000	Successful	PI
13	Energy/transport Data Audit for Electrification of the Transport Sector	25 th November 2018	Global Green Growth Institute	US\$25,000 (approx.)	Unsuccessful	PI
14	Battery's State of Health (SoH) Estimation and Sizing of EV with on Board Generator	November, 2017	Banchak Petroleum	1,600,000 TB	Unsuccessful	PI
15	Design and Development of Smart Grid Test Bed for Experimental Verification of Synchrophasor-based Algorithms for Wide Area Monitoring, Protection and Control (WAMPAC) for Power Grids with Large Penetration of Renewable Energy Resources	May, 2017	DST, India	INR 87, 01,700	Successful	PI from the Thailand side
16	Banchak Initiative and Innovation Center at AIT	March, 2017	Banchak Petroleum	THB 50,000,000	Successful	Co-PI
17	Consultancy Services for Training Service Coordination for implementing the training program for capacity	3 rd October 2016	ADB	-	Unsuccessful	Expert

	building of BREB/PBSs					
18	Capacity Building to Bangladesh Power Sector	9 th March 2016	European Investment Bank (EIB)	EUR 3.15 Million (AIT Extension was the main partner)	Unsuccessful	Expert
19	USAID Clean Power Asia Program	4 th March 2016	USAID	US\$202,091 (Winrock partner)	Unsuccessful	PI
				US\$466,948 (ABT partner)	Successful	PI
20	Upscaling the diffusion of renewable energy technologies in ASEAN	18 th May	TRF	THB 6 Million	Unsuccessful	Co-PI
21	Curriculum Development for 'Bachelor in Renewable Energy' for Kandahar University Faculty of Engineering	22 October 2015	USAID	US\$747,884	Unsuccessful due to Vetting Form requirement	PI
22	Bidding Documents Preparation and Bid's Evaluation under Smart Grid in Pattaya City, Chonburi Province	January 2015	PEA	-	Unsuccessful	Co-PI
23	Water Resources and Energy Planning in the Context of Climate Change in Myanmar (Burma)	January 2014	USAID	\$329,950	Unsuccessful	Co-PI
24	EOI of CDKN-DIRF	September 2014	CDKN	-	Unsuccessful	Co-PI

2. List of research grants and sponsored projects. For each grant and project, specify the project title, duration, sponsor, overhead, faculty time recovery to the institute, role, percentage of contribution.

Details of the projects

Sl. No.	Project/grant details
1	<p>Project title: SAR100</p> <p>Objective: To train the 100 mid-career women in the energy industry from 7 countries, viz., Bangladesh, Nepal, India, Bhutan, Pakistan, Sri Lanka and Maldives. My role is to identify and invite different experts/speakers (including myself) from around the world and coordinate them to deliver talks on different power and energy topics, which are divided into a total 10 Modules (each Module has 15 hours of lecture and 7 hours of practicum sessions) spread from July 2023 to March 2024. This SAR100 program is sponsored by the World Bank and led by the Australian government, Palladium, etc.</p> <p>Duration: July 2023 – December 2023</p> <p>Sponsor: The world bank and Palladium-led consortium</p>

	<p>Budget: 2,116,900 THB Researchers involved: Jai Govind Singh (PI), Prof. P Abdul Salam (Co-I) Expected output: All 101 women are being trained to take the lead in their respective organizations and create impacts on their professionalism, including gender and society.</p>
2	<p>Project title: International Conference (ICUE 2022) Objective: Organize a biannual ICUE conference Duration: 2021 –2023 Sponsor: Registration revenues, sponsorships and grants Budget: 1,99,987 THB Researchers involved: Dr. J G Singh (organizing member) and all EECC faculty. Expected Outputs: This ICUE conference is a venue to exchange research ideas, experiences, and technical, social, financial, economic and policy issues covering energy, environment and climate change (EECC). Expected Impacts: Here, EECC professionals, policy makers, researchers, members of the academe, engineers, etc., will have a platform to showcase research findings, technological innovations, transformative emerging technologies, and even to discuss burning global, regional and national issues in EECC for development, policies and program. Publications from the project: Conference proceedings in IEEE Xplore</p>
3	<p>Project title: EDIT-AIT Objective: The goal is also to develop a service-oriented bottom-up demand model to help provide inputs to climate policy analysis. Duration: December 2020 – June 2022 Sponsor: The Research Institute of Innovative Technology for the Earth (RITE), Japan Budget: 2,116,900 THB Researchers involved: Indrajit Pal (PI), Jai Govind Singh (Co-PI), Joyee S. Chatterjee (Co-PI), Joyashree Roy (PI) Expected output: The project's main objective is to create a research community focusing on end-use, demand-side perspectives that further dialogue and cross-fertilization of research and policy analysis through data, concepts and methodologies.</p>
4	<p>Project title: Energy Publications project (2021) Objective: To manage the RERIC journal's activities Duration: January 2021 – December 2025 Sponsor: Subscription, registration, etc. Budget: 6,400,000 THB Researchers involved: Dr. J G Singh (Co-PI), Dr. P Abdul Salam (Co-PI), Dr. Shobhakar Dhakal (Co-PI), Dr. Weerakorn Ongsakul (Co-PI), Prof. S Kumar (Co-PI) Expected Outputs: Accepting paper submissions, peer review processing and final publication of selected papers Expected Impacts: This journal publishes 12-20 peer-reviewed articles each year. Publications from the project: N/A</p>
5	<p>Project title: USAID Southeast Asia EDGE Hub Objective: To help Tetra Tech deliver technical support services to USAID missions in Southeast Asia, AIT shall provide technical assistance regarding adult learning, training, capacity building, and other learning opportunities. These shall be online/distance or classroom-based courses pertinent to Asia EDGE's four key areas. Duration: 2020-2023 Sponsor: TetraTech / USAID Budget: US\$ 1,28,270 Researchers involved: Dr. J G Singh (PI), Dr. P Abdul Salam (Co-PI), Prof. Shobhakar Dhakal (Co-PI)</p>

	<p>Expected Outputs: Provide demand-driven training, executive training, capacity building related to rural and off-grid electrification, energy storage, smart grid technologies, regional energy market, and stability analysis of grid integration. Support and facilitate technical workshops and sub-regional collaboration events or other services upon the request of Tetra Tech.</p> <p>Expected Impacts: USAID will support the Asia EDGE initiative to accelerate the growth of the region's energy markets in four key areas: 1) Utility Modernization, 2) Increased Deployment of Advanced Energy Systems, 3) Transparent, Best Value Procurement, and 4) Regional Energy Trade and Integration</p> <p>Publications from the project: N/A</p>
6	<p>Project title: International Conference (ICUE 2020)</p> <p>Objective: Organize a biannual ICUE conference</p> <p>Duration: 2019 –2021</p> <p>Sponsor: Registration revenues, sponsorships and grants</p> <p>Budget: 2,075,560 THB</p> <p>Researchers involved: Dr. J G Singh (Organizing member) and all SE Program Faculty.</p> <p>Expected Outputs: This ICUE conference is a venue to exchange research ideas, experiences, and technical, social, financial, economic and policy issues covering energy, environment and climate change (EECC).</p> <p>Expected Impacts: Here, EECC professionals, policymakers, researchers, members of the academe, engineers, etc., will have a platform to showcase research findings, technological innovations, transformative emerging technologies, and even to discuss burning global, regional and national issues in EECC for development, policies and program.</p> <p>Publications from the project: Conference proceedings in IEEE Xplore</p>
7	<p>Project title: Mastering Energy Supply Focusing on Isolated Areas</p> <p>Objective: The project aims to provide high-quality postgraduate education on energy supply systems for engineers and graduates from science departments, aiming to have activities or to be employed in projects in countries with many isolated areas and insular systems.</p> <p>Duration: 2019-2021</p> <p>Sponsor: ERASMUS+</p> <p>Budget: 3,404,263 THB</p> <p>Researchers involved: Dr. J G Singh (Co-PI), Prof. Shobhakar Dhakal (PI), Prof. S Kumar (Co-PI)</p> <p>Expected Outputs: Master's Degree program with a focus on Energy Supply in Isolated Areas</p> <p>Expected Impacts: The more skilled the technicians and engineers are, the lower the danger of prolonged power shortage is. Finally, it will decrease the energy cost on islands and will also improve the economic activity in the isolated areas.</p> <p>Publications from the project: N/A</p>
8	<p>Project title: Design and Development of Smart Grid Test Bed for Experimental Verification of Synchrophasor-based Algorithms for Wide Area Monitoring, Protection and Control (WAMPAC) for Power Grids with Large Penetration of Renewable Energy Resources</p> <p>Objective: 1) To intensify interaction and scientific cooperation between Indian and ASEAN scientists/institutions; 2) To connect existing but separately funded research projects in India and ASEAN MS; and 3) To enhance academic training and development of young scholars</p> <p>Duration: 2018-2021</p> <p>Sponsor: Department of Science and Technology (DST), India</p> <p>Budget: 23,94,000 INR</p>

	<p>Researchers involved: Dr. J G Singh (PI from AIT Thailand), Dr. L. Ashok Kumar (PI from PSG College of Technology, Coimbatore, India), Dr. I Made Wartana (PI from ITN Malang, Indonesia)</p> <p>Expected Outputs: As deliverables from this project, algorithms for three components will be developed and verified for Power Grids with large penetration of Distributed Renewable Energy Sources.</p> <p>Expected Impacts: Mutual collaborations, publications, conference activities, etc.</p> <p>Publications from the project: N/A</p>
9	<p>Project title: Bangchak Initiative and Innovation Center at AIT</p> <p>Objective: To inculcate entrepreneurship and the creation of enterprises on knowledge-based innovation specially focused on Green technology.</p> <p>Duration: 25th July 2017 to 24th July 2022</p> <p>Sponsor: Bangchak Petroleum Company, Thailand</p> <p>Budget: 50,000,000 THB</p> <p>Researchers involved: Dr. J G Singh (Co-PI), Prof. Weerakorn Ongsakul (PI), Dr. P Abdul Salam (Co-PI), Prof. Rajendra P Shrestha (Co-PI), Prof. Thammarat Koottatep (Co-PI), Prof. Anil Kumar Anal (Co-PI)</p> <p>Expected Outputs: A center that brings together resources among AIT's programs and centers for the development of:</p> <ul style="list-style-type: none"> • Prototype of green technologies working prototype of Environmental remediation, waste/water treatment, Energy conservation, sustainable energy generation technologies, etc. • Proof of concept of green technology, devices and system Certification of the green technology equipment, consultancy for green technologies, etc. • Integration of AIT's capabilities by using AIT's existing resources towards a sustainable living campus. • Innovative technological solutions to capacity building and community development. • Innovative ideas which will improve the quality of life of common people. <p>Expected Impacts: Capacity building through Incubator programs (technology/marketing/packaging/finance, ideas etc.). Visibility of AIT's innovative hub to all stakeholders.</p> <p>Publications from the project: N/A</p>
10	<p>Project title: Analysis of Grid Codes and Regulations to Support Transmission Stability and Reliability, Regional Power Trade and VRE Integration in Southeast Asia</p> <p>Objective: The primary objective of USAID Clean Power Asia is to work with Lower Mekong (LM) countries and other Association of Southeast Asian Nations (ASEAN) developing member states to encourage power sector investments in environmentally friendly, clean energy sources, specifically focusing on scaling up investment in grid-connected renewable power.</p> <p>Duration: 1st Feb – December 2021</p> <p>Sponsor: Abt Associates under USAID Clean Power Asia program</p> <p>Budget: US\$ 18, 705</p> <p>Researchers involved: Dr. J G Singh (PI), Dr. Sasidharan Sreedharan (MES, India)</p> <p>Expected Outputs: Two reports on grid codes for harmonization</p> <p>Expected Impacts: To promote interconnections and power trade in the Lower Mekong and in Southeast Asia.</p> <p>Publications from the project: N/A</p>
11	<p>Project title: International Conference (ICUE 2018)</p> <p>Objective: Organize a biannual ICUE conference</p> <p>Duration: October 2018 – March 2019</p> <p>Sponsor: Registration revenues, sponsorships and grants</p> <p>Budget: 1,909,080 THB</p>

	<p>Researchers involved: Dr. J G Singh (Director) and all SE Program Faculty as organizing members.</p> <p>Expected Outputs: This ICUE conference is a venue to exchange research ideas and experiences and technical, social, financial, economic, and policy issues covering greening energy utilization.</p> <p>Expected Impacts: Here, energy professionals, policymakers, researchers, members of the academe, engineers, members of the energy supply sector, etc., will have a platform to showcase research findings, technological innovations, transformative emerging technologies, and even to discuss burning global, regional and national issues in energy utilization for development and environment policies and program.</p> <p>Publications from the project: Conference proceedings in IEEE Xplore</p>
12	<p>Project title: Energy Publications project (2018)</p> <p>Objective: To manage the RERIC journal's activities</p> <p>Duration: January 2018 – December 2020</p> <p>Sponsor: Subscription, registration etc.</p> <p>Budget: 1,914,400 THB</p> <p>Researchers involved: Dr. J G Singh (Co-PI), Dr. P Abdul Salam (Co-PI), Dr. Shobhakar Dhakal (Co-PI), Dr. Weerakorn Ongsakul (Co-PI), Prof. S Kumar (Co-PI)</p> <p>Expected Outputs: Accepting paper submissions, peer review processing and final publication of selected papers</p> <p>Expected Impacts: Each year 12-20 peer reviewed articles are published in this journal.</p> <p>Publications from the project: N/A</p>
13	<p>Project title: A Project for Sunny Bangchak to Improve the Efficiency of Solar Photovoltaic System</p> <p>Objective: To identify the proper cooling system for solar PV system installed in Bangchak's solar farm</p> <p>Duration: 29 Feb – 30 June 2016</p> <p>Sponsor: Bangchak Solar Energy Company Limited (Sunny Bangchak)</p> <p>Budget: 130,625 THB</p> <p>Researchers involved: Dr. J G Singh (Co-PI), Prof. Weerakorn Ongsakul (PI)</p> <p>Expected Outputs: A suitable cooling system for solar PV panels.</p> <p>Expected Impacts: This cooling system will improve the panel's energy efficiency</p> <p>Publications from the project: N/A</p>
14	<p>Project title: Smart Solar Home Demonstration Project</p> <p>Objective: To install and test the various parameters of solar PV panel</p> <p>Duration: Sept 1, 2014 – Aug 30, 2015</p> <p>Sponsor: Industrial Technology Assistance Program (iTap), National Science and Technology Development Agency (NSTDA), Thailand</p> <p>Budget: 3kW solar panel equipment equivalent 500,000 THB</p> <p>Researchers involved: Dr. J G Singh (Co-PI), Prof. Weerakorn Ongsakul (PI)</p> <p>Expected Outputs: 3 kW solar PV installation and testing the performance parameters for its suitability in Thailand</p> <p>Expected Impacts: It's performance was acceptable and generated power injected into the grid</p> <p>Publications from the project: N/A</p>
15	<p>Project title: Service Providing for Local Arrangement and Meeting Support Services to IEEE PES ISGT 2015</p> <p>Objective: To assist the Organizing committee in handling the paper submissions, their review process and communication with authors</p> <p>Duration: Sept 1, 2014 – May 31, 2016</p> <p>Sponsor: IEEE PES Thailand Chapter</p> <p>Budget: 799, 817 THB</p> <p>Researchers involved: Dr. J G Singh (Co-PI), Prof. Weerakorn Ongsakul (PI)</p>

	<p>Expected Outputs: All submitted papers were peer reviewed and ensured the quality</p> <p>Expected Impacts: It helped us better understand the IEEE conference organization and paper review processing</p>
16	<p>Project title: ICUE 2016 Cogeneration, Small Power Plants and District</p> <p>Objective: Organize a biannual ICUE conference</p> <p>Duration: Feb 1, 2016 to June 30, 2017</p> <p>Sponsor: Registration revenues, sponsorships and grants</p> <p>Budget: 1,670,000 THB</p> <p>Researchers involved: Dr. J G Singh (Co-PI) along with all SE Program Faculty.</p> <p>Expected Outputs: This ICUE conference is a venue to exchange research ideas and experiences and discuss technical, social, financial, economic, and policy issues covering small power plants and districts.</p> <p>Expected Impacts: Here, energy professionals, policymakers, researchers, members of the academe, engineers, members of the energy supply sector, etc., will have a platform to showcase research findings, technological innovations, transformative emerging technologies, and even to discuss burning global, regional and national issues in small power plants and districts for development and environment policies and program.</p> <p>Publications from the project: Conference proceedings in IEEE Xplore</p>
17	<p>Project title: Renewable Powered micro-/mini-grid generation</p> <p>Objective: To prepare 4 peer reviewed issues papers on success/failure factors for micro/mini-grid generations in Thailand, Philippines, Indonesia, and India</p> <p>Duration: December 2012 – December 2014</p> <p>Sponsor: IRENA, Abu Dhabi</p> <p>Budget: 241,939 THB</p> <p>Researchers involved: Dr. J G Singh (PI), Dr. P Abdul Salam (Co-PI)</p> <p>Expected Outputs: 4 different peer reviewed issues papers</p> <p>Expected Impacts: Help to understand that various factors responsible for either the success or failure of different micro/mini-grid systems in these four countries</p> <p>Publications from the project: 4 different issues papers were prepared and submitted to IRENA for their perusal</p>
18	<p>Project title: Capacity Development of the Assam Power Utilities</p> <p>Objective: The objective of this program was to provide exposure to technology, operations and maintenance, and overall management aspects of transmission and distribution loss reduction in a middle-income Asian country.</p> <p>Duration: October 2012 – December 2013</p> <p>Sponsor: South Energy Department ADB</p> <p>Budget: 294,900 THB</p> <p>Researchers involved: Dr. J G Singh (PI)</p> <p>Expected Outputs: This was a technical assistance capacity development program that aims to assist the Assam State Electricity Board (ASEB), the Assam Power Generation Corporation Limited (APGCL), the Assam Electricity Grid Corporation Limited (AEGCL), and the Assam Power Distribution Company Limited (APDCL) in (i) introducing new business processes, (ii) strengthening their human resources and financial management capabilities, and (iii) mainstreaming rural electrification. This program was conducted in terms of classroom discussion in the morning session, followed by site visits in the afternoon session for selected senior staff from the above-mentioned power utilities.</p> <p>Expected Impacts: 36 personnel trained from the above utilities</p>
19	<p>Project title: Gender inclusive Capacity Development</p> <p>Objective: This was a training program for power distribution planning and operations engineers from one of the three electricity distribution utilities in the state of Madhya Pradesh, India. Participants, including engineers and the senior officers from the utility,</p>

	<p>have knowledge and info about power loss reduction to enhance the utility's performance.</p> <p>Duration: July 2012 - February 2013</p> <p>Sponsor: South Energy Department ADB</p> <p>Budget: 244,285 THB</p> <p>Researchers involved: Dr. J G Singh (PI)</p> <p>Expected Outputs: They have learned all about increasing the performances of the power distribution utility in terms of loss reduction, metering, billing, revenue collection and enhancing the reliability index of the services by adopting proper approaches as well as available technologies.</p> <p>Expected Impacts: Eight (8) graduate (or equivalent) electrical engineers with experience in power distribution planning & operations and, three (3) senior officers from the utility industry were trained on the above subject matter.</p>
20	<p>Project title: Energy Publications project</p> <p>Objective: To manage the RERIC journal's activities</p> <p>Duration: January 2013 – December 2017</p> <p>Sponsor: Subscription, registration etc.</p> <p>Budget: 4,185,824 THB</p> <p>Researchers involved: Dr. J G Singh (Co-PI), Dr. P Abdul Salam (Co-PI), Dr. Shobhakar Dhakal (Co-PI), Dr. Weerakorn Ongsakul (Co-PI), Prof. S Kumar (Co-PI)</p> <p>Expected Outputs: Accepting paper submissions, peer review processing and final publication of selected papers</p> <p>Expected Impacts: Each year 12-20 peer reviewed articles are published in this journal.</p> <p>Publications from the project: N/A</p>
21	<p>Project title: AIT GCI Support Electrical Energy</p> <p>Objective: To conduct the electrical energy mapping of the Energy Building</p> <p>Duration: March 2014 – December 2014</p> <p>Sponsor: ADEME/ France</p> <p>Budget: 100, 000 THB</p> <p>Researchers involved: Dr. J G Singh (PI)</p> <p>Expected Outputs: To display the real-time Power and Energy consumption details.</p> <p>Expected Impacts: To create awareness among the members of the Energy Department regarding the waste of energy. And to identify the options for converting an Energy building into a Zero-Energy Building.</p> <p>Publications from the project: N/A</p>
22	<p>Project title: ICUE 2014</p> <p>Objective: Organize a biannual ICUE conference</p> <p>Duration: January 2013 – December 2014</p> <p>Sponsor: Registration revenues, sponsorships and grants</p> <p>Budget: 2,210,999 THB</p> <p>Researchers involved: Dr. J G Singh (Co-PI) along with all SE Program Faculty.</p> <p>Expected Outputs: This ICUE conference is a venue to exchange research ideas and experiences and technical, social, financial, economic, and policy issues covering energy and power utilizations.</p> <p>Expected Impacts: Here, energy professionals, policymakers, researchers, members of the academe, engineers, members of the energy supply sector, etc., will have a platform to showcase research findings, technological innovations, transformative emerging technologies, and even to discuss burning global, regional and national issues in energy and power utilizations for development and environment policies and program.</p> <p>Publications from the project: Conference proceedings in IEEE Xplore</p>
23	<p>Project title: PEA-AIT Scholarship 2011</p> <p>Objective: To recruit students from PEA under this collaboration</p> <p>Duration: 2011 - 2015</p>

	<p>Sponsor: Provincial Electricity Authority (PEA), Thailand Budget: 3,548,533 THB Researchers involved: Dr. J G Singh (Co-PI), Dr. Weerakorn Ongsakul (PI), Dr. P Abdul Salam (Co-PI), Prof. S Kumar (Co-PI), Dr. Charles O.P. Marpaung (Co-PI) Expected Outputs: To impart required skills to PEA staff and prepare them to meet future needs Expected Impacts: 40 Master and doctoral graduates Publications from the project: N/A</p>
24	<p>Project title: Micro-Hydro Solar PV Hybrid System Objective: The project aimed to design, develop and install a variable speed micro-hydro generating system using a mixed flow type Pump as Turbine (Model EBARA 200SZ) with modified impeller vanes coupled with permanent magnet synchronous generator and to evaluate its performance at a very low heads from 2m to 4.8m. Duration: February 2010 - April 2012 Sponsor: EBARA, Japan Budget: 1,786,222 THB Researchers involved: Dr. J G Singh (Co-PI), Prof. S Kumar (PI), Dr. P Abdul Salam (Co-PI), Dr. Charles O.P. Marpaung (Co-PI) Expected Outputs: The generated power was regulated by a power conditioner and electrical load controller for efficient supply directly to isolated loads. Expected Impacts: The attractiveness of this research is its approach toward demonstrating new technology by the installation of a micro hydro system for power generation and its evaluation at very lower heads using PAT Publications from the project: Development report</p>

V. Service/Outreach

A. Professional Service

1. Leadership in policy and program development in professional organizations.
 - i) Senior Member of *IEEE (Institution of Electrical and Electronics Engineers)*
 - ii) Fellow of **The Institute of Engineers, India**
2. Participation in organizational responses to policy, practice, or structural issues, which affect the field.
 - [1] Member of Technical Program Committee of '2024 IEEE Powercon', organized by IEEE PES Nepal Chapter, 4-6 November 2024, Kathmandu, Nepal.
 - [2] General Chair of 'The International Conference on Energy Transition and Innovation in Green Technology (ICETIGT 2024)', jointly organized by the Department of Electrical Engineering, Madan Mohan Malaviya University of Technology Gorakhpur, INDIA and the Department of Energy, Environment and Climate Change, Asian Institute of Technology (AIT) Klong Luang, Pathum Thani, 12120, THAILAND, 3-4th May 2024.
 - [3] Member of Advisory Committee of '3rd International Conference on Electrical Power and Energy Systems, ICEPES-2024, 21st -22nd June 2024, organized by the Department of Electrical Engineering, MANIT Bhopal, and National Power Training Institute Faridabad, India.
 - [4] Member of Advisory Committee of '3rd International Conference on Smart Grids, Structures and Materials 2021,' 9-10th April 2021, organized by Department of EEE, KLEF Deemed to be University, Guntur, Andhra Pradesh India.

- [5] Track Chair of 'International Conference on Control, Automation, Power and Signal Processing (CAPS-2021)' during 10-12 December 2021 at PDPM IITDM Jabalpur (An Institute of National Importance), India.
- [6] Panelist Member of International Conference on "Recent Challenges and Opportunity in Engineering" during March 13-14, 2021, at EED, College of Technology & Engineering, Maharana Pratap University of Agriculture & Technology Udaipur-313001(Rajasthan), India.
- [7] Member of Advisory Board of 'The International Conference on Electrical and Electronics Engineering (ICEEE 2020),' 14-15 February 2020 at MMMUT Gorakhpur (UP), India.
- [8] Member of Technical Program Committee of 'International Conference on Power Electronics & IoT Applications in Renewable Energy and its Control (PARC 2020),' 28-29 February 2020 at GLA University, Mathura, India.
- [9] Member of Technical/Advisory Program Committee of '4th International Conference on Information Systems & Computer Networks,' 21-22 November 2019 at GLA University, Mathura, India.
- [10] General co-chair of "5th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering UPCON 2018" is jointly organized by Madan Mohan Malaviya University of Technology (MMMUT), Gorakhpur (UP) India & University of Ryukyus, Okinawa, Japan from 2-4 November 2018 in MMMUT, Gorakhpur (UP) India.
- [11] Member of the International Advisory Committee of 'The International Conference on Artificial Intelligence, Smart Grid and Smart City Applications,' 3-5 January 2019 at PSG College of Technology, Coimbatore, Tamil Nadu, India
- [12] Member of Organizing Committee of '4th IEEE Uttar Pradesh Section International Conference on Electrical, Computer & Electronics' 26-28 October 2017 at GLA University Mathura, India.
- [13] ADB, through its Energy for All Initiative, is invited to the Bali Clean Energy Forum on 11-12 February 2016 and the related Global Knowledge Partnership Group Workout meeting on 13 February 2016 to be held in Nusa Dua, Bali, Indonesia.
- [14] ADB invited me to attend the 'Global Knowledge Partnership Group Workout for Center of Excellence on Clean Energy Indonesia and Beyond' in Jakarta from 16-18 December 2015.
- [15] I attended the AIT Retreat meeting held May 16-18, 2015.
- [16] I have been invited by Murdoch University, South St, Murdoch, Western AUSTRALIA (January 2014) to provide feedback and suggestions to assist in the development of the curriculum frameworks, to provide advice on how best to offer the programs/degrees developed, as well as in related reports and academic papers/publications.
- [17] 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 the French Embassy, Thailand.
- [18] I have been invited to participate in a panel discussion on Renewable Energy activities of the International Renewable Energy Agency (IRENA), Abu Dhabi, UAE, in a workshop on 'Indo-ASEAN cooperation in Renewable Energy' organized by India in New Delhi from 5-6th November 2012. Moreover, the outcomes of this workshop were presented to the ASEAN-India Ministerial Meeting on Renewable Energy on 7th November for cooperation on renewable energy.

- [19] I have delivered several talks to personnel of power utilities in India, Pakistan, Bangladesh, and African countries.
3. Organization of significant external training courses, workshops, seminars, conferences, and academic events.
- [1] **Academic Lead of WePOWER SAR100** South Asia Regional Infrastructure Connectivity (SARIC) Large System Program. This SAR100 program is training 101 mid-career women energy professionals from 7 countries. My role is to identify and invite different experts/speakers (including myself) from around the world and coordinate them to deliver talks on different power and energy topics, which are divided into a total 10 Modules (each Module has 15 hours of lecture and 7 hours of practicum sessions) spread from July 2023 to March 2024. This SAR100 program is sponsored by the World Bank and led by the Australian government, Palladium, etc.
 - [2] Member of the technical organizing committee of the “International Conference and Utility Exhibition on Energy Transition and Net-Zero Climate Future (**ICUE 2024**)”, 21-23 October 2024, Pattaya City, Thailand.
 - [3] Member of the technical organizing committee of the “International Conference and Utility Exhibition on Energy, Environment and Climate Change (**ICUE 2022**)”, 26-28 October 2022, Pattaya City, Thailand.
 - [4] Member of the Organizing Committee of “**MESFIA International Conference (ICUE 2021)**”, 31st August -1st September 2021, AIT, Thailand.
 - [5] Coordinated and delivered a talk in a **Webinar on ‘Ensuring Quality and Reliability of Electricity with Best Practices in Distribution Network’** on 14th July 2020, AIT Extension, Thailand. Around 100 participants from around the globe attended, but most were from Bangladesh Power Utilities.
 - [6] Member of the technical organizing committee of the “International Conference and Utility Exhibition on Energy, Environment and Climate Change (ICUE 2020)”, 20-22 October 2020, AIT, Thailand.
 - [7] Director of the “**International Conference and Utility Exhibition on Green Energy for Sustainable Development (ICUE 2018)**”, 24-26 October 2018, Phuket, Thailand.
 - [8] Organized a training program on ‘**Pre-Conference Training Workshop on Smart Grid and Renewable Energy**’ on 18th March 2014, Pattaya, Thailand.
 - [9] Organized a training program on ‘**Capacity Development Program on New Trends in Power Transmission Planning, Operation and Maintenance in Assam, India**’ from 3 - 7th December 2012, AIT, Bangkok, Thailand, sponsored by Energy Division, South Asia Department, ADB.
 - [10] Organized a training program on ‘**New Trends in Power Distribution Planning and Loss Reduction Strategies for Rural Areas of Assam**’ from 26 - 30th November 2012, AIT, Bangkok, Thailand, sponsored by Energy Division, South Asia Department, ADB.
 - [11] Organized a training program on ‘**Power Distribution Planning and Loss Reduction Strategies for Rural Areas of Madhya Pradesh, India**’ from 20 - 24th August 2012, AIT, Bangkok, Thailand, sponsored by Energy Division, South Asia Department, ADB.
 - [12] 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.
 - [13] Member of the technical organizing committee of the “2nd 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.

- [14] 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:

As a member, in the current structure, of the RERIC (Regional Energy Resources Information Center) publishing house, which has been publishing the **International Energy Journal (IEJ)** since 1979 and has a SCOPUS index and Clarivate Impact Factor 0.7, I have continuously tried to improve the quality and quantity of it. Also, as a director of RERIC from 2104-2015, I decided to make it open access, which helped to receive wider access and impacts. Recently, I have arranged a special issue for it on the Energy Transition theme.

5. Government or international organization panels, expert witnesses, reports to government or international agencies

- [1] Invited as a panelist to talk on '**Towards Sustainable Energy Transition in BIMSTEC Countries**' on 9th December 2022 in Bangkok. The broad topic was 'Roundtable on BIMSTEC Post-Summit Progress and Way Ahead' and was **organized by UNESCAP-USAID-ITD** (International Institute for International Trade, Thailand) from 8-9th December 2022.
- [2] A report on 'Desk Study on Technical Gaps of Country-Specific Grid Codes and Regulations and Recommendations for a Common ASEAN Wide-Grid Code' is submitted and published by the **U.S. Agency for International Development Regional Development Mission for Asia**, June 2021.
- [3] 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' led by **SAS Software (Thailand)** in Asian Utility Week 2015, 9-10 June, Bangkok.
- [4] 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.
- [5] 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.
- [6] 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.
- [7] 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.
- [8] I was involved in a panel discussion on **Renewable Energy activities of the International Renewable Energy Agency (IRENA), Abu Dhabi, UAE**, in an 'Indo-ASEAN cooperation in Renewable Energy' workshop organized by India in New Delhi from 5-6th November 2012. Moreover, the outcomes of this workshop were presented to the ASEAN-India Ministerial Meeting on Renewable Energy on 7th November for cooperation on renewable energy.
- [9] I participated in a field trip organized by 'The International Renewable Energy Agency in Abu Dhabi, India, in November 2012. The objective of the field trip was to study the 'renewable-powered micro/mini grid system' for rural electrification and formulate issues papers for developing countries.

6. Participation in development projects

- [1] Involved in a project “20 kW Microgrid with solar PV, wind, battery storage installation, including 15 kW Diesel Generator and testing” at AIT sponsored by ERASMAS+.
- [2] Involved in a project, “3 kW solar PV installation and testing,” at AIT in partnership with NSTDA and IHEM Thailand.
- [3] I worked on the implementation of online electrical energy footprint monitoring in energy buildings under the project ‘AIT GCI SUPPORT ELECTRICAL ENERGY.’
- [4] I was involved in a project called “Micro Hydro and PV Hybrid Generation System” implementation at AIT in partnership with EBARA Foundation, Japan.

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

1. Department/Program

- [1] Chair of recruitment panel for Program Officer in RERIC/SE/EECC (2021).
- [2] Chair of recruitment panel for Program Officer in CCSD/EECC (2021).
- [3] Member of recruitment panel for Lab Technician in Energy (August 2019).
- [4] Member of recruitment panel for Program Officer in EECC (2019).
- [5] Member of recruitment panel for Lab Technician in Energy (December 2018).
- [6] Member of promotional committee (November – December 2018).
- [7] Member of recruitment panel for Lab Supervisor in EEM (November 2017).
- [8] Member of recruitment panel for Program Officer in CCSD (May – June 2017).
- [9] Member and Coordinator of the selection committee for the Energy FoS administrative secretary recruitment (December 2013-March 2014).
- [10] Member and Coordinator of the selection committee for the Energy FoS administrative secretary recruitment (March 2014-July 2014).
- [11] Member and Coordinator of the selection committee for the Energy FoS administrative lab technician recruitment (2014).
- [12] Member of the selection committee for the PEA scholarship recipients (2010-2012).
- [13] Member of the selection committee for the Energy FoS faculty recruitment (2011).
- [14] Member of the selection committee for the Energy FoS Laboratory supervisor (2010).

2. School

- [1] Peer teaching reviewer of Prof. Weerakorn Ongsakul on 31st March 2020.
- [2] Co-chair of Task Force on Vietnamese Scholarship Program 89 from September 2022.
- [3] SERD Faculty representative in the recruitment committee for the technician in the SERD office (November 2016-December 2016).
- [4] Member, Task Force for Development of Master Program on Energy and Environment, 2015.
- [5] Member of the selection committee for the AARM FoS administrative secretary recruitment (November 2014-January 2015).
- [6] Member, School Academic Matter Committee (SAMC), 2014-2015.
- [7] Member of the joint program development on Energy Business Management (EBM) with SOM, 2012.
- [8] Member of SERD Undergraduate Task Force (UG Task Force) in 2010.

3. Institute

- [1] Member of Academic Development Review Committee (ADRC) (August 2023 – July 2025)
- [2] Member of KPI Review Task Force from October 2021 to December 2022.
- [3] Member, Task Force for Development of One Year Master Program from October 2020.
- [4] Member of Faculty Evaluation Panel (FEP) (September 2020 – August 2022)
- [5] Member of Academic Development Review Committee (ADRC) (August 2019 – July 2021)
- [6] Chair of AIT Library Committee (November 2018 – October 2020).
- [7] Member of AIT Library Committee (July 2018 – June 2020).
- [8] Member, Undergraduate Program and Review Committee (UGPRC) (November 2016 – 2019)
- [9] Member, Doctoral Program and Review Committee (DPRC) (September 2012 – December 2014)
- [10] 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.
- [11] Member of Bid Evaluation Committee on Technical Maintenance Outsourcing Project constituted by AIT President with ToR to analyze and recommend suitable bids for technical maintenance, April 2014.
- [12] Member of Bid evaluation committee for ARUC approved project, viz., “Main Distribution Board at Substation No.14”, 2013.
- [13] Member of Task Force constituted by VPA for proposing revised/new electricity tariff for AIT residents, 2013.
- [14] Member of Bid evaluation committee for ARUC approved project, viz., “Main Distribution Board at Substation No.14”, 2013.
- [15] Member of Bid evaluation committee for ARUC approved the project, viz., “Distribution Board at SV3 Area”, 2013.
- [16] Member of the selection committee of Energy faculty recruitment, 2011.
- [17] Member of the Research Infrastructure Task Force committee in 2011.

C. Administrative Service (Indicate the period of service)

1. Academic Program

- i) Program Chair of Sustainable Energy Transition (January 2019 – December 2020)
- ii) Director of Regional Energy Resources Information Centre (RERIC), AIT (January 2019 – December 2020)
- iii) Coordinator of Energy Program (November 2013 – December 2015)
- iv) Coordinator of Energy Business Management (November 2013 – December 2015)
- v) Director of Regional Energy Resources Information Centre (RERIC), AIT (November 2013 – December 2015)

2. Department

- i) Head of the Department of Energy, Environment and Climate Change, AIT (January 2021 – December 2022)

3. School: None

4. Institutes: None

D. Community Service

1. Serving on program committees

- [1] Advisory committee member of the 2nd **International Conference on Sustainable Technology and Advanced Computing in Electrical Engineering (ICSTACE)**, Organized by the Department of Electrical Engineering, Sardar Vallabhbhai National Institute of Technology, Surat, Gujarat, India 19th and 20th January 2023 (Offline/hybrid mode).
- [2] Member of Technical Committee of the 5th **International Conference on Electrical Engineering and Green Energy (CEEGE 2022)**, Berlin, Germany from June 8-11, 2022.
- [3] Advisory committee member of the **International Conference on Sustainable Technology and Advanced Computing in Electrical Engineering (ICSTACE)**, Organized by the Department of Electrical Engineering, Sardar Vallabhbhai National Institute of Technology, Surat, Gujarat, India 11th and 12th November 2021 (Offline/hybrid mode).
- [4] Technical committee of the **IEEE ISGT Asia 2021, Brisbane**, Australia, from 5-8 December 2021.
- [5] Track chair of the IEEE-sponsored international conference CAPS-2021, 10-12 December 2021 at **PDPM IITDM Jabalpur**, India.
- [6] Member, International Advisory Board of International Conference on "Recent Challenges and Opportunity in Engineering" organized by **College of Technology and Engineering, Udaipur, Rajasthan**, India, March 13-14, 2021.
- [7] General co-chair (10th Feb to 4th November 2018), 5th **IEEE** Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (**UPCON-2018**), jointly organized by the MMMUT Gorakhpur India and University of Ryukyus Okinawa, Japan, during 2–4 November 2018 in MMMUT Gorakhpur India.
- [8] Member, International Advisory Committee of International Conference on Computing, Communication and Security, December 4-5, 2015, Pamplemousses, Mauritius.
- [9] Member, Advisory Committee of International Conference on Creativity & Innovations in Technology Development, 1-2nd April 2015.
- [10] Member, Advisory Committee of International Conference on Energy, Economics and Environment, 27-28th March 2015.
- [11] Member, International Program Committee for 2nd International Conference on Green Energy and Technology (ICGET) 5~6 September 2014, Dhaka, Bangladesh.
- [12] Member of SERD Under Graduate Task Force during 2010 (UG Task Force).
- [13] Member of India Task Force.
- [14] Member of the Research Infrastructure Task Force committee in 2011.

2. Refereeing of journal articles, books, grant proposals, etc.

- a) Institute of Electrical and Electronic Engineers (IEEE)
- b) Institution of Engineering and Technology (IET)
- c) Electric Power Component and Systems (EPCS)
- d) Taylor and Francis
- e) Wiley
- f) Elsevier
- g) Springer
- h) Inderscience

3. Serving as an external examiner of doctoral dissertations (32)

- [1] A dissertation on ‘An Intelligent Controller for Power Flow Management in a Smart Microgrid System with Power Quality Enhancement’ from the Department of Electrical and Electronics Engineering **Amrita Vishwa Vidyapeetham** (Amritapuri Campus, Kollam, Kerala), 2024.
- [2] A dissertation on ‘Green Hydrogen Generation through Water Splitting using PV-TEG with Heat Dissipators’ from the School of Electrical Engineering, **Vellore Institute of Technology, Vellore**, Tamil Nadu, India, 2024.
- [3] A dissertation on ‘Investigations on optimal sizing of Battery Energy Storage Systems in Microgrids for economic operation’ from the Department of Electrical Engineering, **NIT Warangal**, 2023.
- [4] A dissertation on ‘Operation and control of the microgrid with multiple distributed energy resources’ from the Department of Electrical and Electronics Engineering, **NITK, Surathkal, India**, 2023.
- [5] A dissertation on ‘Optimal Design of Radial Distribution Power System with Distributed Generation, FACTS Devices and Electric Vehicle Charging Station’ from the Department of Electrical Engineering, **Madan Mohan Malaviya University of Technology, Gorakhpur, Uttar Pradesh, India**, 2023.
- [6] A dissertation on ‘MPPT Performance Analysis with an Adaptive Duty Cycle-Controlled Appropriate Converter for a Solar PV System’ from the Department of Electrical Engineering, **GLA University, Mathura, India**, December 2023.
- [7] A MPhil. Thesis on ‘Exploring energy policy scenarios for the Northern Territory (of Australia) to transition to a low carbon economy by 2050’ from the **Murdoc University, Western Australia**, 2022.
- [8] A dissertation on ‘Design and Analysis of Controllers for MMC Based HVDC Transmission’ from the Department of Electrical Engineering, **Indian Institute of Technology Kanpur**, India, 2022.
- [9] A dissertation on ‘Optimization of Energy Management System and Control of Hybrid Vehicle’ from the Department of Electrical Engineering, Institute of Engineering & Technology, **GLA University**, Mathura, India, 2022.
- [10] A dissertation on ‘Solar Power Forecasting and Incentive Schemes for Voltage Control and Residential Demand Response’ from the Department of Electrical Engineering, **Indian Institute of Technology Kanpur**, India, 2022.
- [11] A dissertation on ‘Investigation on Doubly Fed Induction Generator Wind Energy Conversion System’ from Department of Electrical Engineering **IET**, Lucknow (U.P.), India, 2022.
- [12] A dissertation on ‘Coordinated Multistage Distribution System Planning Incorporating Investment Cost & Operational Cost, Reliability and Demand Response’ from the Department of Electrical Engineering, Institute of Engineering & Technology, **GLA University**, Mathura, India, 2022.
- [13] A dissertation on ‘Design and Analysis of Improved Frequency Regulation for Restructured Power System Including Distributed Generation and Electric Vehicles’, Department of Electrical Engineering, **National Institute of Technology**, Patna, India, 2022.
- [14] A dissertation on ‘Investigations on Synchrophasor assisted Power System State Estimation’, Department of Electrical Engineering, **National Institute of Technology Warangal**, India, February 2022.
- [15] A dissertation entitled ‘Multiobjective Optimization Approach in Hybrid Distributed Generation System’ from **Dr. APJ Abdul Kalam University, UP, India**, 2021.
- [16] A dissertation on ‘Synchrophasor-Assisted Voltage Stability Monitoring and Control and Transient Stability Assessment of Power Systems’, Department of

- Electrical Engineering, **Indian Institute of Technology Kanpur**, India, February 2021.
- [17] A dissertation on ‘Optimal DG Allocation and Network Reconfiguration in Distribution Systems with Uncertainty Using Improved Affine Arithmetic’, Department of Electrical Engineering, **Indian Institute of Technology Madras**, India, January 2021.
- [18] A dissertation on ‘Performance Investigation on Six-Phase Induction Motor Drive’, **Sardar Vallabhbhai National Institute of Technology**, Surat, Gujrat, India, 2020.
- [19] A dissertation on ‘Forecasting of Wind and Solar Power Generations for Enhancing Their Penetrations in Smart Grid’, **Delhi Technological University (DTU)**, New Delhi, India, 2020.
- [20] A dissertation on ‘Parameter Estimation and Forecasting Methods for Emerging Power Grids Using Data-Adaptive Techniques’ from Amrita School of Engineering, **Amrita Vishwa Vidyapeetham, Coimbatore, Tamil Nadu, India**, 2019.
- [21] A dissertation on ‘An Innovative Planning Approach to Improve PV Integration into Remote Electricity Networks’ from **Murdoch University, Australia**, 2018/2019.
- [22] A dissertation on ‘Soft Computing Techniques for the Prediction of Global Solar Radiation,’ School of Engineering and Technology, **Karunya Institute of Technology and Sciences**, Karunya Nagar, Coimbatore, Tamil Nadu, India, 2018.
- [23] A dissertation on ‘Measured Signal Based Identification of Inter-Area Oscillations for Generator Coherency and Controlled Islanding in Power Systems’ from **Indian Institute of Technology Madras, India**, 2018.
- [24] A dissertation entitled ‘Optimized Microgrid Demand Response Management in Smart Grid Paradigm’ from **Sardar Vallabhbhai National Institute of Technology, Surat, Gujrat, India**, 2017.
- [25] A dissertation on ‘Optimal Power Flow Using Artificial Intelligence Techniques Incorporating FACTS Devices’ from **Dr. APJ Abdul Kalam University, UP, India**, 2017.
- [26] A dissertation entitled ‘An Exploratory Analysis of Planning and Operation for Power Distribution System’ from **Sikkim Manipal University, India**, 2017.
- [27] A dissertation entitled ‘Series Compensation of Self Excited Induction Generator for Distributed Power Generation’ from **Maulana Azad National Institute of Technology, Bhopal, MP, India**, 2016.
- [28] A dissertation entitled ‘Linear Current Controlled Maximum Power Point Tracking using DSP Controller’ from **Maulana Azad National Institute of Technology, Bhopal, MP, India**, 2015.
- [29] A dissertation entitled ‘PV & MSW as Distributed Generation Resources: Modeling, Analysis & Benefit Quantification’ from **National Institute of Technology Surathkal, Mangalore, Karnataka, India**, 2013.
- [30] Ms. Smita Srivastava’s PhD thesis entitled ‘Development of Improved Islanding Detection Schemes in Distributed Generation Environment’ from **MANIT, Bhopal, India**, 2012.
- [31] A dissertation entitled ‘Optimization of Asynchronous Machine Performance Using Fuzzy Voltage Controller’ from **MANIT, Bhopal, India**, 2012.
- [32] A dissertation entitled ‘Productivity and Efficiency Analysis of Electricity Generating Companies in Emerging Indian Scenario’ from **MANIT, Bhopal, India**, 2012.

E. Social Impact

1. Honours/awards/recognition by public, regional, and multi-lateral organizations and government entities
 - [1] **Best Paper Award** for the paper entitled ‘**Deep Learning-Based Approach for State-of-Health Estimation of Lithium-Ion Battery in the Electric Vehicles,**’ authored by my master advisee Ms. Aagya Niraula and myself, and was presented at an ‘International Conference on Power, Instrumentation, Energy and Control (PIECON 2023)’ technically Co-sponsored by IEEE UP Section, and organized by Department of Electrical Engineering Aligarh Muslim University, Aligarh, India, 10 – 12th, February 2023.
 - [2] **Best Paper Award** for the paper entitled ‘**Wind Speed Forecasting using Hybrid Model of CNN and LSTM with Wavelets,**’ authored by my master advisee Mr. Kaung Myat San; myself; doctoral advisee Mr. Krishna Prakash N., and was presented at a ‘2nd International Conference on Advances in Power, Signal, and Information Technology APSIT 2023, technically Co-sponsored by IEEE and organized by Department of Electrical & Electronics Engineering, Faculty of Engineering and Technology, ITER, Siksha ‘O’ Anusandhan Deemed to be University, Bhubaneswar, Odisha, India during 9 – 11th, June 2023.
2. News in mass media (newspaper, TV, major websites, etc)
 - [1] A 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>.
 - [2] Chongqing's Mountainous Green Energy Experience Draws International Experts in the local news of Chongqing, China, 2023: <https://app.ichongqing.info/mixmedia/a/202312/20/WS65829b57e4b075523e30a47d.html>
3. Changes in the code of practice resulted from the faculty’s research findings: None.
4. Visible/recognizable impact/change in the society by the faculty’s activities
 - [1] I am taking the academic lead in organizing a training program, in coordination with YC, for 101 mid-career women from 7 South Asian countries in the energy industry from July 2023 to March 2024.
 - [2] I organized three training programs for power utilities to improve the electricity supply system.
 - [3] I used to assist in designing/refining the curriculum for AIT Extension, which organizes various training programs for the Asian region.
5. Keynote/invited speaker at reputable Conferences/Symposia/Workshops/Seminars
 - [1] A keynote speech on ‘**Energy Technology Transfer Practices in Asia,**’ delivered in an ‘International Forum on Regional Cooperation for Sustainable Development of Green Mountains’ on 17th December 2023, Chongqing, China.
 - [2] A keynote speech on ‘**Modelling and Analysis of Low Emission Multi-Vectored Networked Energy Hubs,**’ delivered in a 1st International Conference on Advancement in Energy, Organized by Department of Mechanical Engineering Motilal Nehru National Institute of Technology Allahabad, 18-20th December 2023, Prayag Raj - 211004, Uttar Pradesh, INDIA.
 - [3] A keynote speech on ‘**Smart Grid and ICT for Green Energy Integration,**’ delivered at the 2023 International Conference on IoT, Communication and Automation Technology (ICICAT), Gorakhpur, Organized by Budha Institute of

- Technology Gorakhpur in collaboration with Madan Mohan Malaviya University of Technology, Gorakhpur, UP, India, 23-24th June 2023.
- [4] A keynote speech on '**Thailand Power Development considering VRE Integration**' in 'International Conference on Power Electronics & IoT Applications in Renewable Energy and its Control (PARC 2022), 21-22 January 2022, Department of Electrical Engineering, GLA University, Mathura, India.
 - [5] A keynote speech on '**Estimation of EV's electricity load profile in Bangkok and Thailand**' in 'International Conference on Recent Developments in Control, Automation & Power Engineering (RDCAPE-2021)', 7-8th October 2021, organized by Amity University, Noida, India.
 - [6] A keynote speech on '**Generation and Integration of Renewable Energy**' in an '*International Conference on Recent Trends in Signals, Systems and Information*' 27-28th May 2021, Nehru College of Engineering & Research Centre Thiruvilwamala, Thrissur (Dt), Pampady, Kerala, India.
 - [7] A keynote speech on '**Smart Grid and Variable Renewable Energy Integration**' in '3rd International Conference on Smart Grids, Structures and Materials 2021,' 19-20th April- 2021, Department of EEE, KLEF Deemed to be University, Guntur, Andhra Pradesh India.
 - [8] A keynote speech on '**Optimal Speed Determination of Electric Vehicles at Different SOC Level**' at 'The International Conference on Power Electronics & IoT Applications in Renewable Energy and its Control (PARC 2020), 28-29 February 2020, Department of Electrical Engineering, GLA University, Mathura, India.
 - [9] A keynote speech on '**An Approach to Minimize the Range Anxiety of Electric Vehicles at Different SoC Levels of the Battery**' in 'International Conference on Smart Energy Systems and Electric Vehicles (ICSESEV-2020), 8-10 February 2020, Department of Electrical and Electronics Engineering, Siddhartha Academy of General and Technical Education, Vijayawada, India.
 - [10] A keynote speech on '**Smart Grid for Green Energy and Transport Sectors**' in an International Conference on "**Sustainable Development**" ICSD – 2019, February 14-15, 2019, at STES', Sinhgad College of Engineering, Vadgaon (Bk), Pune.
 - [11] A keynote speech on '**Electric Vehicles and Renewable Integration in Smart Grid**' in '**International Conference on Artificial Intelligence, Smart Grid and Smart City Applications,**' 4-5, January 2019, PSG College of Technology, Coimbatore, India.
 - [12] A keynote speech on '**Electric Vehicles and Future Prospective**' in '**1st International Conference on Mechanical Innovative and Emerging Trends (MIET)**', Department of Mechanical Engineering, MIET, Meerut, India, 4-5, December 2018.
 - [13] A **keynote speech** on '**Smart Grid and ICT**' at 'International Conference on Emerging Trends in Computing & Communication Technology,' organized by the Department of Computer Science & Engineering, Graphic Era Hill University, Dehradun, India, 17-18th November 2017.
 - [14] A **keynote speech** on 'Economic and Environmental Assessment 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, 22nd October 2016.
 - [15] A **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, 23rd April 2016.

- [16] A **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.
- [17] A **keynote speech** on ‘Smart Grid for Low Carbon Society’ in International Conference on Energy, Economics and Environment, 27-28th March 2015, Noida, India.
- [18] A **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.

6. Others

I have been invited as an external examiner and evaluated **31 Doctoral dissertations** so far. More details can be seen in section 4/D/V.

F. Other Activities

1. Mentorship of junior faculty/staff

- i) Dr. Sushil Kumar Himanshu, ASE/FAB
- ii) Dr. Prashant Kumar, SOM

2. Additional activities aligned with AIT themes

I have been interacting with the public and private sectors and have established strong links, mainly with donor agencies, research institutes, and universities.

- i) LONGi Green Energy Technology Co., Ltd, Xi'an, China
- ii) Shaanxi Solar Energy Industry Association, China
- iii) Chongqing Renewable Energy Society, China
- iv) University of Technology and Applied Sciences, Sultanate of Oman
- v) National Power Training Institute, Faridabad, India
- vi) Vellore Institute of Technology, Vellore, India
- vii) GLA University, Mathura, India
- viii) University of Petroleum and Energy Study, Dehradun, India
- ix) Madan Mohan Malviya University of Technology, Gorakhpur, India

3. Collaborative activities with colleagues

- [1] There are a few sponsored research projects working with other colleagues.
- [2] I am an external expert of the doctoral program committee from the School of Engineering at the University of Petroleum and Energy Studies, Dehradun, India.
- [3] I co-authored a doctoral student from the Department of Electrical and Electronics Engineering, Amrita Vishwa Vidyapeetham, Amritapuri, India.
- [4] I am working on a joint project in collaboration with PSG College of Technology Coimbatore, Tamil Nadu, India and the National Institute of Technology (ITN) Malang Indonesia on “Design and Development of Smart Grid Test Bed for Experimental Verification of Synchrophasor-based Algorithms for Wide Area Monitoring, Protection and Control (WAMPAC) for Power Grids with Large Penetration of Renewable Energy Resources” under ASEAN-INDIA SCIENCE & TECHNOLOGY DEVELOPMENT FUND (AISTDF).
- [5] I have been involved in and coordinated one project jointly with energy colleagues and some from different nationalities, e.g., the Philippines, India, and Indonesia.
- [6] I facilitated one AIT student to work in IIT Mandi India for three months in 2014, and I was jointly involved in research and published two conference papers.

- [7] I have been working jointly to develop several research project proposals with colleagues from other Fields of Studies in SERD as well as the School of Engineering and Technology.
- [8] I am also working on some research work in collaboration with colleagues from different institutions like the Royal Institute of Technology-KTH, Stockholm, Sweden, Katholieke Universiteit Leuven, Belgium and University College Dublin, Ireland, IIT Mandi and Kanpur.
- [9] I have also been involved in joint research with IIT Kanpur.
- [10] I am also involved in joint research with Vidya Academy of Science & Technology Thrissur, Kerala, India.
- [11] I was involved with other Energy program colleagues in developing and implementing a micro-hydro and PV hybrid system in AIT with energy and WEM colleagues.
- [12] I have been a committee member and co-chair to several master and PhD students inside the field and outside school, e.g., WEM and TC.

4. Institute promotion and marketing

- [1] I presented and promoted the role of the Sustainable Energy Transition Academic program in Asia in an ‘International Forum on Regional Cooperation for Sustainable Development of Green Mountains’ on 17th December 2023, Chongqing, China.
- [2] I am coordinating to visit various universities in South India at the end of February 2024 for promotional activities.
- [3] I am engaged in the Sustainable Energy Transition academic program’s promotional activities through personal contact as well as social media advertisement.
- [4] I promoted EECC/SERD and AIT through various AIT Roadshows.
- [5] I am informally promoting SERD and AIT during my visits outside the campus for attending conferences/symposiums/workshops and, guest lectures, etc.
- [6] I initiated liaising with IEEE to get 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.

5. Joint pedagogical activities

- [1] I am co-teaching with energy colleagues three courses, i.e., ED86.13: Power System Restructuring and Economics, ED86.07: Microgrid Design, Applications and Control, and ED86.09: Energy Systems, Economics and Policy from the 2020 August semester.
- [2] I am authoring a book on Smart Grid with a colleague from the College of Applied Sciences – Suhar, University of Technology and Applied Sciences, Oman.
- [3] I am editing 2 books with colleagues from the University of South-Eastern Norway, World Resources Institute (WRI) India, Anna University, and the University of Petroleum and Energy Studies, India.
- [4] I am a member of several student program committees from our department/school to another school (SET).
- [5] I am co-teaching an “ED72.07: Power System Design and Operation” course with an energy colleague from the 2014 August semester.
- [6] I coordinated with many USA and European universities to host Energy FoS students for their three-month internships.

- [7] I was involved in developing a curriculum with the School of Management for 'MBA in Energy Business,' which started in August 2012.
- [8] I was involved in developing a curriculum with the School of Management for 'Professional Masters in Energy Business Management,' which started in August 2012.
- [9] I am co-teaching a course on "ED72.22: Power Sector Management under Deregulation" with an energy colleague continuously each January semester from 2011 and onwards.
- [10] I have been serving as a committee member as well as co-chair to several master and PhD students in Energy FoS and other schools.
- [11] Two PhD students graduated in December 2011 and 2012, of which I served as a co-chair and chairperson to second.
- [12] I have been invited, along with other experts, to deliver lectures on different topics in various training programs organized by AIT Extension for power utilities of different countries.
- [13] Developed curriculum of two courses for the National University of Laos (NUOL) sponsored by SIDA and given as follows.
 - i) Transmission, Interconnection and Distribution 3(3,0)
 - ii) Power System Design, Operation and Control 3(2,3)

VI. Personal Statement

My impactful journey unfolds through my unwavering commitment to advancing sustainable energy education, novel research, and extensive collaboration, positioning me as a catalyst for positive change in the field.

Educational Scout: My passion for education radiates through a decade-plus commitment to teaching at the Asian Institute of Technology (AIT). I am dedicated to introducing innovative courses like smart grid, renewable energy integration, greening the energy system and improving energy access, and electrification of the transport sector. By 2023, over a thousand students have benefited from my teachings, reflecting my commitment to imparting the latest knowledge and ensuring students remain at the forefront of emerging fields. I have been invited as an external evaluator of more than 30 doctoral theses from different countries. Similarly, I have delivered 20 keynote speeches at various international conferences, which were technically co-sponsored by IEEE.

As a program coordinator and chair, I was pivotal in reshaping the 'Energy' curriculum, launching a new doctoral program in 'Energy Business Management,' and spearheading the complete revamping of the 'Sustainable Energy Transition' academic program. My approach ensures that AIT produces graduates ready to tackle the challenges of a rapidly evolving energy landscape.

Research and Innovation: In the realm of research, my efforts are making substantial contributions to the field of energy transition. Through supervising numerous master's and Ph.D. students, I have fostered a culture of inquiry and exploration. The extensive publication record and involvement in editing books reflect a commitment to advancing knowledge within AIT and on a global scale.

My research pursuits are aligned with the pressing needs of the time, focusing on machine learning and AI applications in smart grids, grid modernization, community microgrids, resource forecasting, demand response, and electric and hybrid electric vehicles. The impact of this work extends beyond the academic realm, influencing the future of energy systems and contributing to the global conversation on sustainable practices. Furthermore, my involvement in faculty development programs and international conferences underscores my commitment to knowledge dissemination and academic exchange.

Collaboration and Global Impact: The ability to collaborate is a testament to my capacity to bridge diverse academic and industrial domains. My involvement in AIT student program committees, collaborations with international organizations, and contributions to faculty

development programs showcase a commitment to fostering a collaborative academic environment. Further, my engagements as a panelist and keynote speaker at international forums/events and twice interviewed about energy transition reflected the same in news media in India and China, highlighting my role as a thought organizer in sustainable energy transition.

Whether it's coordinating a 9-month SAR100 training program for 101 mid-career women in the South Asian energy industry or organizing international conferences, I am actively involved in initiatives that transcend geographical boundaries. The numerous invitations to deliver keynote speeches and the involvement in joint research projects with institutions worldwide underscore my impact on the global stage.

Future-Forward Initiatives: I have set forth a compelling vision for the future. With a focus on decarbonization, resilience enhancement of energy systems, and policy frameworks, I aim to contribute significantly to global efforts in combating climate change. My commitment to exploring advanced energy storage technologies, ensuring resilience in power systems, and navigating policy intricacies showcase my dedication to steering the world toward a sustainable and resilient energy future.

In closing, my journey is not merely a collection of achievements; it's a testament to the transformative power of education, research, and collaboration in shaping a sustainable future. As I express gratitude for the support received, the world eagerly anticipates the continued impact of this scouting in the realm of sustainable energy access and transition.

I would like to thank you for taking the time and effort to read my above statement.

CERTIFICATION:

I, the undersigned, certify that, to the best of my knowledge and belief, these biodatas correctly describe myself, my qualifications and my experience. I understand that any willful misstatement described herein may lead to my disqualification.

SIGNATURE:

DATE:

Jai Govind Singh
15th January 2024
Day / Month / Year