Curriculum Vitae

Associate Professor (Electrical Engineering)
National Institute of Technology Arunachal Pradesh
Jote, Papum Pare, Arunachal Pradesh
Jote-791113, India

Dr. Rajen Pudur

E- mail: rajenpudur[AT]nitap[DOT]ac[DOT]in /
rajenpudur1977[AT]gmail[DOT]com/rajenpudur[AT]ieee[DOT]org
Mobile No: +91 9436634942

Areas of Specialization:

- Power System, renewable sources of energy
- Power quality issues of renewable energy,
- Micro-hydro power plants,
- Renewable energy integration,
- SEIG for rural areas,
- Converters for renewable energies.

Educational Qualification

Courses	Year	Board/University	Subject
Ph.D.	2016	NERIST	Electrical Engineering
M.Tech.	2011	NERIST	Electrical Engineering
B.E(Elect)	2002	North Gujarat University	Electrical Engineering

Research experience

Duration: November 2010 to till date

Workshop/Training Attended/conducted:

1. One week course in "Industrial and Commercial Power System Analysis (ICPSA)" Recommended Practices. On 1st July 2013 to 5th July 2013, at MNNIT Allahabad.

2. Two days' workshop on "Grid Integration of Renewable Energy Sources (GIRES)" at IIT Delhi, on 18th to 19th April 2015.

3. Conducted one week in-house workshop on "Renewable source of energy: as future energy (RSEFE)" 1st Dec – 7th Dec' 2013

4. Conducted one day workshop on "Hydro Power a Clean Power" 7th Sep'2014

5. Attended, one day workshop on "Promotion of off-grid Renewable Energy access projects in rural areas "sponsored by MNRE, Govt. of India, organized by APEDA Govt. of Arunachal Pradesh, on 20th July 2015 at Banquet hall.

6. Attended, one day workshop/meeting on "Housing for all by 2022" organized by HUPA Ministry of Housing Govt. of India, 5th May 2015, at Nirman Bhawan, New Delhi.

7. Attended, one day workshop on "R&D in Small Hydro Power Technology" at India International Centre, New Delhi, organized by AHEC, IIT Roorkee, in collaboration with MNRE, Govt. of India, on 16th Sept 2016.

8. Attended/ participated "Festival of Innovation at Rashtrapati Bhavan, President's Secretariat and National Innovation Foundation" at West Hall Rashtrapati Bhavan Cultural Centre, President's Estate, New Delhi, on Tuesday 10th March 2015 at 10:00 am.

9. Conducted five days training on "Machine Design using Numerical Technique in Ansys software" in associated with EDULIFE INDIA, 17th – 21st April'2017, at NIT AP.

10. Two days' workshop on "Stability and Control of Renewable Energy based system" s (SCRE)" at IIT Delhi, on 2nd to 3rd Sep 2017.

11. Two days training/workshop on Outcome based education (OBE) on NBA at AICTE Delhi 8-9th Feb 2018

12. Three days 4th world summit on Accreditation NBA at hotel Ashoka, Delhi on 7th -9th Sept'18.
13. Invited for screening-cum-evaluation committee for Govt. Polytechnics under Career Advance Scheme (CAS), at Itanagar on 12th Sept 2018.

14. Attended 5 (five) days short term training on " Simulation of Power Electronics converters Serving to Hydropower Plants" organized by WRDM Indian Institute of Technology, Roorkee, Uttarakhand, 20th -24th May 2019 sponsored by TEQIP –III

15. Conducted Five Days workshop on "Photography" 12th Oct – 16th Oct 2020, sponsored by AICTE Training & Learning (ATAL)Academy.

16. Conducted a week long Training on Layer poultry farming-I sponsored by NECTAR, 15-19 Feb 2021 at NIT Arunachal Pradesh.

17. Conducted a week long Training on Layer poultry farming-II sponsored by NECTAR, 7-12 Feb 2022 at NIT Arunachal Pradesh.

18. Conducted a week long Training on Layer poultry farming-III sponsored by NECTAR, 14-19 Feb 2022 at NIT Arunachal Pradesh.

19. Conducted a week long Training on Fibre extraction form banana stem-I sponsored by NECTAR, 21-25 Feb 2022 at NIT Arunachal Pradesh.
20. Conducted a week long Training on Fibre extraction form banana stem-II sponsored by NECTAR, 1-5 March 2022 at NIT Arunachal Pradesh.
21. Conducted a week long Training on Fibre extraction form banana stem-III sponsored by NECTAR, 7-11 March 2022 at NIT Arunachal Pradesh.
22. Conducted a week long Training on Fibre extraction form banana stem-IV sponsored by NECTAR, 14-19 March 2022 at NIT Arunachal Pradesh.
23. Conducted one month long Training on domestic wiring- I sponsored by NECTAR, 13th Dec 2021-12th Jan 2022 at NIT Arunachal Pradesh.
24. Attended 7 (seven) days short term training on " Emerging Trends in Energy & Power System" organized by Electrical Engineering NIT Delhi, 26th -31st July 2022.
25. Conducted 7 days training on Fibre extraction from Banana stem Phase- V, on 21st – 26th Nov 2022, under NECTAR, Sponsored by NECTAR
26. Conducted 7 days training on Bamboo Broom Making, on 13th – 18th March 2023, under NECTAR, Sponsored by NECTAR
27. Conducted 7 days training/crash course on Basic domestic wiring and repair of electrical appliances, on 13th Feb 2023 – 18th Feb 2023, Sponsored by MSME
28. Conducted 7 days training on Handicraft making from natural fibre Ph-I, on 6th March 2023 – 11th March 2023, under NECTAR, Sponsored by NECTAR
29. Conducted 7 days training on Handicraft making from natural fibre Ph-II, on 20th March 2023 – 25th March 2023, under NECTAR, Sponsored by NECTAR
30. Attended 7 (seven) days short term training on "Emerging Trends in Power, Energy and Control" organized by Electrical Engineering MITS Kerala, 22nd – 27th August 2022.
31. Attended 7 (Seven) days FDP (e-FDP) "Opportunities and Challenges in Applications of Renewable Energy Systems (OCARES-2023)" held from (23rd - 27th October 2023), conducted by Department of Electrical Engineering, NIT Hamirpur.
32. Attended 5 (Five) days FDP (e-FDP) " Opportunities and Applications of Artificial intelligence in Electrical Engineering)" held from (6th – 10th May 2024), conducted by Department of Electrical Engineering, NIT Hamirpur.
33. Attended 2 (Two)days' workshop on "LaTex:A Tool for Scientific Writing" Feb 12-13, 2024, conducted by RAMAN lab, MNIT Jaipur.

34. Conducted 5 days DST sponsored Workshop on Development and Maintenance of Off-Grid Hydro Power Plants, Dec 8 – 12 2025, Sponsored by CEST
35. Conducted 3 days Hands-on Training/Workshop on OPEL RT sponsored by IEEE IAS Students Branch Chapter, Nov 20 – 22 2025.
36. Conducted 5 days FDP on Application of Power Electronics Converters for Grid-Connected Renewable Energy Systems (PECRES-2026), May 18 – 22 2026, Sponsored by Institute,
37. Attended one day webinar " Hardware-in-the-Loop Simulation for Real-Time Testing of Power Electronic and Energy Systems", sponsored by IAS, IEEE, on 24th June 2026.

Top Post Graduation project supervised:

S/n	Title	Name of scholar	Remarks
1.	Performance of Savonius rotor with multiple blades for hydrokinetic application	Shadab Zafar	2016
2.	Design and analysis of single basin solar still for Arunachal Pradesh.	Moloy Sameer Dutta	2016
3.	Investigation of minimum distance between two consecutive wind towers for optimal extraction of wind power	Ananya Garhwal	2016
4.	Voltage sag compensation for integrated power system using DVR	Onam Techi	2016
5.	Power quality improvement using active filters for hydropower station	Kanya Hage	2016
6.	Design of Tri-copter for surveillance using Arduino controller	Chetan Sharma Sumit Kumar, Mohit Anand Choudhary Aman Das	Gold medal project 2013
7.	Design and implementation of ELC for micro hydro power plants.	Avinash Nair Pothabathula Sai S. Prashanth Reddy Om Kesharwani Papumoni Gogoi	Gold medal project 2014
8.	Feasibility Study of Wind Farm : A case Study for Pasighat , Arunachal Pradesh	Pencil Saring	2018
9.	Simulation and Study of Solar Powered Water Pumping System Using BLDC Motor	Priyatosh Jena	2018
10.	Performance Analysis of Hybrid Hydro-Wind System Using Electronic Load Controller	Vivek Kumar Srivastava	2018
11.	Feasibility Study of Wind Farm : A case Study for Sela Pass , Arunachal Pradesh	Tashi Dondup	2018
12.	Simulation and Study of DC Micro-grid for Hydro	Krittika Mukherjea	2018

	and Solar Power Integration		
13	Analysis of Voltage Sag Compensation using Dynamic Voltage Restorer	N.G. Sorum	2019
14	Analysis of power flow control with UPFC for grid connected renewable sources.	Pallavi Kumari	2019
15	Analysis of Savonius rotor based grid connected hydrokinetic power generation	Perwez Alam	2019
16	Modeling & Simulation of a Virtual Synchronous Machine(VSM) to Improve Power Quality through Integrated Distributed Generation	Mrinal Kanti Rajak	2020
17	Analysis of Power Quality Improvement using High Pass Filter and Low Pass Filter	Thoi Thoi Angom	2020
18	Study and Analysis of Zeta converter fed BLDC	Tilling Tabing	2020
19	Design of Three Phase, 2.5 kW Resistive Load using Nichrome & Tungsten material and testing with 2.2 kW SEIG	Jonathon Borang	2021
20	Design of Single Phase, 2.5 kW Resistive Load using Nichrome & Tungsten material and testing with 2.2 kW SEIG.	Oter Tamut	2021
21	Study of Bidirectional Converter for Electric Vehicle Application.	Mr. Biraj Borah	2022
22	Attenuation of harmonics using zig-zag transformer for off-grid system	Mr. Sooraj C	2022
23	Design of Shunt Active Filter (SAF) for harmonic contaminated micro hydro System	Mr. Jotirmoy Samanta	2022
24	Steady State analysis of two SEIGs operating in Parallel	Mr. Swaraj Sharma	2022

Top Ph.D. pursuing/submitted/awarded:

S/n	Title	Name of scholar	Status of guide	Remarks
1.	Voltage and frequency regulation of SEIG based Micro-Hydro power plants using Generalized Impedance Controller	*Laishram Khumanleima Chanu*	Supervisor	**Awarded**
2.	Control and Management of Microgrid for Renewable Energy Sources	*Ingudam Chitrasen Meite*	Supervisor	**Awarded**
3.	SEIG Based Micro Hydro Power Generation	*Samrat Chakraborty*	Supervisor	Submitted
4.	Grid Integration of Renewable Energy Sources	*Mrinal Kanti Rajak*	Supervisor	**Awarded**
5.	Voltage & Frequency regulation of SEIG based micro hydro plan using modified ELC	*Shalini Sinha*	Supervisor	Submitted

6.	Soft switching of switches for DC-DC converters (Tentative)	*Jyoti Prakash Mohapatra*	Supervisor	Pursuing
7.	Application of VSG for SEIG based micro-grid (Tentative)	*Unmesh Naik*	Supervisor	Pursuing
8.	Modified control system for improving power quality in integrated renewable sources	*Joytirmoy Samanta*	Co-Supervisor	Submitted
9.	Application of power electronics in designing efficient drive train for EV	*Arghya Mukherjee*	Co-Supervisor	Submitted
10.	High-Gain Modified Single-Ended Primary Converter (SEPIC) Topologies for Renewable Energy Application	*Chinmay Battercharya*	Supervisor	Pursuing

Post-Doc undertaken

S/N	Name	Topic	Status/year
1	Dr. Yatindra Gopal	Reduced Switch and boost Type Multilevel Inverters for Photovoltaic Application	Completed

Projects undertaken:

Funding Agency	Title	Cost in Lakh	Duration	Year of sanction	Status	Year of completion
TEQIP-III	Design & Implementation of test run and control of BLDC motor, using rechargeable battery.	**5.0**	**3 years**	**2013**	**Completed**	**2016**
TEQIP-III	Three-phase self-Excited Induction generator feeding single phase loads to remote area	**2.0**	**1 year**	**2016**	**Completed**	**2017**
SERB (DST)	Investigation of Micro Hydro and Wind Power off-grid Integrated System using Electronic Load Controller with Pump Storage as a Dump Load for Rural Area	**29.0**	**3 years**	**2020**	**Completed**	**2023**
CERT(DST)	Demonstration and Development of an Edge-of-grid Micro-hydro power scheme using Self Excited Induction Generator for Sustainable Development in Rural Area.	**81.14**	**3 years**	**2024**	**Ongoing**	**2027**
CERT (DST)	Skill Development Trainings on edge-of-grid system using renewable	**4.0**	**3 years**	**2024**	**Ongoing**	**2027**

	energy for Underserved Community/Scheduled Tribe (ST) of Arunachal Pradesh					

Administrative Experiences: -

Duration	Designation	Duties	Experience in Years
2004 -2007	Guest Lecturer, NERIST	Teaching	3 years
2008-2012	Junior Engineer (EE)	Field Engineer	5 years
2012- 2023	Assistant Professor (EE),NIT AP	Teaching	11 years
17/04/2023- till date	Associate Professor NIT AP	Teaching	3+ years
19.02.2012 to 15.03.2013	Scholarship Coordinator	Contact with ministry for stipends for students	~ 1 year
10.01.2013 to 24.07.2014	Chairman, Construction Committee	Construction works at NIT Yupia	~ 1 yr 6 months
2012-2021	Centre in-charge, Deputy Central-incharge CCB-12,CSAB-13,CSAB-14, CSAB-15, CSAB-16, CSAB-17, CSAB-18. CSAB-19, CSAB-20, CSAB-21	Counseling process Through AIEEE 12, JEE(Main)-13, JEE(Main)-14, JEE(Main)-15, JEE(Main)-16, JEE(Main)-17, JEE(Main)-18,JEE (Main)-19, JEE(Main)-20, JEE (Main)-21	~ 9 years
10.01.2013 to 24.07.2014	CTO, NCC unit NIT AP	NCC activities	~ 1 yr 6 months
23.12.2013 to 13.02. 2018	HoD, EE	Looking after department of EE	~ 5 years
09.01.2013 to 2014	Member, B&WC, NIT AP	Decision making for construction works	~ 1 year
13.02.18- 2019	Deputy Registrar (Admin)(i/c)	Looking after Administration	~ 7 months
13.02.18- 2022	Chief Warden	Looking after hostel management	4 years
13.02.18- 2018	Security incharge	Looking after security matters	~ 5 months
2017 –2019	NBA Coordinator	NBA activities	~ 2 years
13.02.18 –2022	Chairman, HMC	Hostel management activities.	4 years
Jan 2019 – 27 August 2021	Dean (Academic & Examination)	Academic activities of institute	~ 3 Years
27th July 2023- 28th Oct 2025	HoD(EE)	Looking after department of EE	~2 years
3rd Oct 2024-till date	Registrar (i/c)	Looking after Administration	2+ years

Awards/Achievement:

1. Qualified in GATE 2002

2. Qualified in GATE 2003

3. Certificate of appreciation in the post of Junior Engineer (Electrical) from the Police Housing Department, Govt. of Arunachal Pradesh

4. Qualified in Departmental Account Examination 2011, conducted by the Public Work Department (PWD), Govt. of Arunachal Pradesh.

5. Awarded with Commendation Certificate - I &II, in the categories of "Dedication and Sincerity in Service", by APH&WCL, Police Head Quarter (PHQ) 2010, No. PHQ/DIGP(HQ)-37/2009/925, dated 9th March 2010.

6. **Best paper awards** for the paper titled: "Hybrid Metaheuristic Approach for Optimal LCL-Filter Design in Grid-Connected Inverters Using CSA-PSA with Adaptive Parameter Tuning" with paper id 324, presented on 1st IEEE NE-IECCE 2025 at NIT Silchar, during 4th - 6th July 2025

7. **Awarded Travel Grant** by IEEE, to scholar Mr. Jotirmoy Samanta, for IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES) - 18-21st December 2024,for paper titled "Hybrid Converter with Simultaneous DC and AC Outputs".

8. **Awarded Travel Grant** by IEEE to scholar Ms Shalini Sinha, for IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES) - 18-21st December 2024, for paper titled " Reliability Analysis of SEIG-ELC System using Markov Modelling".

9. **Awarded Travel Grant** by IEEE, to Scholar Mr. Unmesh Chandra Naik, for 2025 IEEE North-East India International Energy Conversion Conference and Exhibition 4-6th July, for paper Titled "Optimizing Matrix Converter Performance Using Hybrid Particle Swarm Optimization and Gradient Descent Techniques".

10. **Awarded Travel Grant** by IEEE to Scholar Mr. Roshan Kumar, for IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES) - 18-21st December 2024, for paper Titled "A Hardware-in-the-Loop Approach to Enhanced Harmonic Suppression in Grid-Connected Inverters Using LCL Filters with Trap Branches".

11. **Awarded Travel Grant** by IEEE to Scholar Mr. Roshan Kumar, for 2025 IEEE North-East India International Energy Conversion Conference and Exhibition 4-6th July, for paper Titled " Hybrid Optimization Using Particle Swarm Optimization and Gradient Descent to Improve Phase Locked Loop Performance in Grid Connected Systems".

12. **Best paper awards** for the paper titled: "Enhancing Power in Edge-of-Grid System Using SAPF with SOGI-ROGI-FFT Based control" with paper id 814, presented on 1st IEEE NE-IECCE 2026 at NIT Meghalaya, during 12th - 14th June 2026

13. **Best paper awards** for the paper titled: " Virtual Synchronous Generator Control of a Self-Excited Induction Generator Based Converter for Islanded Microgrid Applications" with paper id 596, presented on 1st IEEE NE-IECCE 2026 at NIT Meghalaya, during 12th - 14th June 2026

14. **Awarded Travel Grant** by IEEE, to Scholar Mr. Unmesh Chandra Naik, for" with paper id 596, presented on 1st IEEE NE-IECCE 2026 at NIT Meghalaya, during 12th - 14th June 2026, paper Titled "Virtual Synchronous Generator Control of a Self-Excited Induction Generator Based Converter for Islanded Microgrid Applications".

15. **Awarded Travel Grant** by IEEE, to Scholar Mr. Jyotiprakash Mohapatra, for 2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE) 12-14th June, for paper Titled "Grey Wolf-Differential Evolution Optimized Zero Current Switching Based Dual Input Isolated DC-DC Converter for Hybrid PV-Super-Capacitor Systems".

16. **Awarded Travel Grant** by IEEE, to Scholar Miss Pranita Baishya, for 2026 IEEE North-East India International Energy Conversion Conference and Exhibition 12-14th June, for paper Titled "Adaptive Chaotic L´ evy Flight Grey Wolf Optimizer for Multi-Objective Energy Management in Islanded Microgrids".

17. **Best paper awards** for the paper titled: " Hybrid PSO-GWO Optimized Energy Management for Parallel Operation of Wind and Hydro Driven Induction Generators " with paper id 1053, presented on 1st IEEE NE-IECCE 2026 at NIT Meghalaya, during 12th - 14th June 2026

Personal details:-

Full Name : - Dr. Rajen Pudur

Father's Name : - Shri Tayong Pudur

Date & Place of Birth : -06/08/1980, Aalo, West Siang Distt. Arunachal Pradesh.

Permanent Address : -C/o Tayong Pudur, Pakam-II, Aalo, West Siang Distt. Arunachal Pradesh Pin – 791001

Postal Address : - Associate Professor, Electrical Engineering, NIT, Arunachal Pradesh, Papumpare, Jote 791113

Category : -Scheduled Tribe

Nationality : - Indian

Language Known : English, Hindi, Assamese and Local dialect

Contact number : +91 9436634942

Declaration:-I do hereby declare that above mentioned information are true to the best of my knowledge.

List of top few publications

Journals

1. **Rajen Pudur**, Sarsing Gao, "Savonius rotor based grid connected hydrokinetic power generation scheme", Sustainable, Energy Grid and Network (SEGAN), **Elsevier**, 2016, Vol-5, pp- 148-155.
2. **Rajen Pudur**, Sarsing Gao, "Performance Analysis of Savonius Rotor Hydro Generation Scheme with Electronics Load Controller", Journal of Renewable Energy, Hindawi, volume2016, pp- 1-7, doi:10.11/2016/4127619.
3. Dr. A.K Singh, Dr. **Rajen Pudur**"Modelling of single phase UPFC without DC capacitor" IJEST,vol-3. No. 5 May 2011, ISSN: 0975-5462, (P-3732-3738)
4. Ralli Sangno, P. Devchandra Singh and **Dr. Rajen Pudur**, "Reliability evaluation of a 132/33 kV HV substation" International Journal on Current Science & Technology, Vol-04, June 2016, ISSN: 2320 5636, pp-430.
5. I. Chitrasen & **Rajen Pudur**, "Analysis and Optimization of Hybrid Renewable Energy Sources: A Case Study for Litan, Manipur" Journal of Advance Research in Dynamical and Control System, **Elsevier**, Vol-12, 2020, DOI: 10.5373/JARDCS/V12SP3/20201254. pp – 200-208.
6. I. Chitrasen, **Rajen Pudur**, "Optimization of wind solar and battery hybrid renewable system using backtrack search algorithm" Indonesian Journal of Electrical Engineering and Computer Science **Elsevier** Vol. 24, No. 3, December 2021, pp. 1269~1277 ISSN: 2502-4752, DOI: 10.11591/ijeecs.v24.i3.pp1269-1277

7. I. Chitrasen, **Rajen Pudur,** "Optimization of Hybrid System for an Institute and a Hospital" Design Engineering, **Elsevier**, 2021, ISSN: 0011-9342 | Year 2021 Issue: 7 | Pages: 871-883
8. L.K.Chanu & **Rajen Pudur**, "Voltage and Frequency Regulation of Micro Hydro-Based Renewable Energy Generation", Journal of Optoelectronics Laser, vol. 41, no. 7, pp. 1271–1289, Jul. 2022.
9. Mrinal Kanti Rajak, J. Samanta & **Rajen Pudur**, "A hardware-based novel approach for parallel operation of two differently rated SEIGs", Results in Engineering, **Elsevier** , vol. 17 (https://doi.org/10.1016/j.rineng.2022.100825) . ISSN 2590-1230, pp. 100825, Jan. 2023.
10. L.K. Chanu, S. Chakraborty, **Rajen Pudur** "Real-time analysis of voltage and frequency regulation of self-excited induction generator based micro hydro plant using generalized impedance controller" Measurement: Sensors, June 2024 **Elsevier**,Vol-33, ISSN – 26659174, https://doi.org/10.1016/j.measen.2024.101235 [Scopus Q2, IF 6.6]
11. S. Chakraborty, J. Samanta, **Rajen Pudur,** "Experimental analysis of a modified scheme for supplying single-phase remote loads from micro-hydro based three-phase self-excited induction generator", Measurement: Sensors, June 2024, **Elsevier**,Vol-33 ISSN – 26659174, https://doi.org/10.1016/j.measen.2024.101166
12. Rajak, M. K., & **Pudur, R**. (2025). "Mathematical modelling and dynamic optimization of phase-locked loop systems using hybrid PSO-gradient descent approach" Systems Science and Control Engineering, 13(1). https://doi.org/10.1080/21642583.2024.2448636, **[ESCI, 5.6 IF, Q1]**
13. Rajak, M.K. and **Pudur, R.** (2025), "Adaptive hybrid PSO-GD optimized phase-locked loop for robust grid synchronization in renewable energy systems", COMPEL - The international journal for computation and mathematics in electrical and electronic engineering, Vol. 44 No. 4, pp. 566-596. https://doi.org/10.1108/COMPEL-11-2024-0463 **[SCIE, Q3, 1.4 IF]**
14. Rajak, M.K. and **Pudur, R.** (2025), "Steady-state analysis of parallel-connected self-excited induction generators with hybrid excitation using fixed-point iteration method", COMPEL - The international journal for computation and mathematics in electrical and electronic engineering, Vol. 44 No. 4, pp. 470-489. https://doi.org/10.1108/COMPEL-10-2024-0444, **[SCIE, Q3, 1.4 IF]**
15. Rajak, M.K., **Pudur, R.** Multiobjective adaptive predictive virtual synchronous generator control strategy for grid stability and renewable integration. Scientific Reports 15, 9241 (2025). https://doi.org/10.1038/s41598-025-93721-y**, [SCI, Q1, 4.9 IF]**
16. Mrinal Kanti Rajak, **Rajen Pudur**; Deep reinforcement learning framework for adaptive power control in grid-forming inverters: A multi-objective optimization approach. Journal of Renewable and Sustainable Energy 1 April 2025; 17 (2): 026301. https://doi.org/10.1063/5.0249385, **[SCI, Q3, 2.4 IF]**
17. Samanta, Jotirmoy, Ralli Sangno, and **Rajen Pudur**. "A Modified Control Scheme to Mitigate Harmonics, Improve Voltage Regulation & Power Factor using Single-Phase Shunt Active Power Filter." Suranaree Journal of Science & Technology 31.6 (2024**).[ESCI, Q4,0.3 IF]**

18. Samanta, J., Chakraborty, S., Sangno, R. and **Pudur, R**., 2025. Study of power quality issues in a renewable-driven self-excited induction generator due to different loads at edge-off grid system. e-Prime-Advances in Electrical Engineering,

Electronics and Energy, 11, p.100885. https://doi.org/10.1016/j.prime.2024.100885, **[Scopus, Q1]**

19. **Pudur, R**., & Rajak, M. K. (2025). A comprehensive review of grid-connected inverter topologies and control strategies (2020–2025). Next Energy, 9, 100433. https://doi.org/10.1016/j.nxener.2025.100433, **[ESCI, Q1, 6.4 IF]**
20. Rajak MK, **Pudur R** (2025;), "Model predictive control–based virtual synchronous generator for enhanced grid integration under weak grid conditions using adaptive dynamic approach". *COMPEL*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/COMPEL-06-2025-0258, **[SCIE, Q3, 1.4 IF]**
21. Sinha, S., **Pudur, R**. "Machine learning-based predictive framework for PCC voltage estimation in SEIG–ELC systems for rural micro-hydro applications". International Journal of Information Technology. (2025). https://doi.org/10.1007/s41870-025-02995-y (**Scopus, Q2**)
22. Rajak, M.K., Meitei, I.C. & Pudur, R. Hybrid PSO-GWO optimization for converter-free grid integration of parallel induction generators with experimental validation in micro-hydro power plants. Scientific Report, Springer Nature (2026). https://doi.org/10.1038/s41598-026-49653-2
23. Borah, B., Rajak, M.K., Banerjee, A., Pudur, R. and Deepa, S.N., Enhanced grid stability of DFIG-based wind systems through intelligent reactive power coordination using machine learning-based control. Scientific Report, Springer Nature (2026). https://doi.org/10.1038/s41598-026-47806-x
24. Sinha, S., Rajak, M.K. & Pudur, R. PSO-optimized electronic load controller with intelligent energy recovery for self-excited induction generator based micro-hydro systems. Scientific Report, Springer Nature, 16, 10862 (2026). https://doi.org/10.1038/s41598-026-45570-6 (**SCI-E, Q1, IF 3.9**)
25. Rajak, M.K., Samanta, J., Pudur, R. and Murthy, S.S., 2026. Parallel operation of induction generators in grid-connected micro-hydro systems. Ain Shams Engineering Journal, Elsevier, 17(3), p.104021. https://doi.org/10.1016/j.asej.2026.104021
26. Rajak, M.K., Pudur, R. Bio-inspired mitochondrial energy optimization for enhanced grid-connected inverter performance in weak grid systems. Scientific Report, Springer Nature, 15, 44836 (2025). https://doi.org/10.1038/s41598-025-28884-9
27. Arghya Mukherjee, Shantanu Chatterjee, **Rajen Pudur**, A comprehensive review on Electro Chemical Energy storage systems for Electric Vehicle application, Journal of Energy Storage, Elsevier, Volume 138, 2025, 118620, ISSN 2352-152X, https://doi.org/10.1016/j.est.2025.118620, **[SCI, Q1, 10.7 IF]**
28. J. Samanta, R. Sangno, R. Pudur, Y. Gopal and J. C. Rosas-Caro, "Hybrid MDSOGIROGI Control Strategy for Mitigating Harmonics and Unbalance in SEIG Based Standalone Systems," in **IEEE Latin America Transactions,** vol. 24, no. 3, pp. 307-318, March 2026, doi: 10.1109/TLA.2026.11421256 **[SCI Q2, 1.6 IF]**
29. J. Samanta, R. Sangno and **R. Pudur**, "Enhancement of Power Quality in Edge-of-Grid Systems: MCCF-SRF Based Control for Dynamic Load Compensation," in **IEEE Transactions on Industry Applications**, vol. 62, no. 3, pp. 5407-5413, May-June 2026, doi: 10.1109/TIA.2025.3619925. **[SCI, Q1, 5.4 IF]**
30. J. Samanta, R. Sangno and **R. Pudur**, "Application of Triple Order Generalised Integrator Based Control for Power Quality Improvement of SEIG Using SAPF," in **IEEE Transactions on Industry Applications**, doi: 10.1109/TIA.2026.3699272 **[SCI, Q1, 5.4 IF]**
31. Yatindra Gopal, **Rajen Pudur**, Mohan V. Aware, Yogendra Arya, "Compact transformer less switched-capacitor multilevel inverter with reduced devices count for photovoltaic applications", Electric Power Systems Research (EPSR), Elsevier,

Volume 259, 2026, 113191, ISSN 0378-7796, https://doi.org/10.1016/j.epsr.2026.113191. **[SCI, Q1, 4.3IF]**

32. Shalini Sinha, Mrinal Kanti Rajak and **Rajen Pudur**, "Intelligent prediction of transient power quality parameters in parallel SEIG-ELC systems for rural micro-hydro applications"16 July 2026, IOP, Engineering Research Express, Volume 8, Number 14, DOI 10.1088/2631-8695/ae8749 (**ESCI, Q2, IF 2.6**)
33. Chakraborty, S., Samanta, J., **Pudur, R**., & Murthy, S. S. (2026). "Balanced Performance of Three-phase SEIG Supplying Off-grid Single-phase Power Using a Passive Excitation Scheme". Taylor & Francis, *IETE Journal of Research*, 1–20. https://doi.org/10.1080/03772063.2026.2683559 **[SCIE, Q3, 1.4IF]**
34. Mrinal Kanti Rajak, **Rajen Pudur**, "Real-time adaptive control of grid-forming inverters using attention-based reinforcement learning", Array, Volume 30, 2026, 100877, ISSN 2590-0056, https://doi.org/10.1016/j.array.2026.100877. **[ESCI, Q1, 5.3 IF]**
35. Tado, H., Rajak, M.K., **Pudur, R**. et al. Modified hybrid DC-DC boost converter with high voltage gain for renewable energy integration using GWO-DE parameter optimization. Scientific Report, Springer Nature (2026). https://doi.org/10.1038/s41598-026-54955-6, (**SCI-E, Q1, IF 3.9**)
36. Samanta, Jotirmoy, Naik, Unmesh Chandra, Gopal, Yatindra, Sangno, Ralli and **Pudur, Rajen.** "Experimental performance and analysis of standalone self-excited induction generators considering different fault variations and power quality" *International Journal of Emerging Electric Power Systems*. https://doi.org/10.1515/ijeeps-2025-0414 **[Scopus, Q3, 1.0 IF]**
37. Borah, B., Rajak, M.K., Banerjee, A. **Rajen Pudur**. " Enhanced grid stability of DFIG-based wind systems through intelligent reactive power coordination using machine learning-based control". Scientific Report, Springer Nature (2026), Vol-16, 17000 (2026). https://doi.org/10.1038/s41598-026-47806-x, (**SCI-E, Q1, IF 3.9**)
38. Rajak, M.K., Meitei, I.C. & **Pudur, R**. "Optimal slip coordination of parallel grid-connected induction generators using hybrid PSO-GWO with experimental validation for micro-hydro power plants". Physica Scripta, IOP @2026, **DOI** 10.1088/1402-4896/ae8d9f **(SCI-E, Q2, IF 2.6)**

39. Jadhav S.P., Rajak M.K., Pawar M.M., **Rajen Pudur**. Optimal capacitor value calculation for self excited induction generators using hybrid grey wolf differential evolution optimization with experimental validation. Scientific Report, Springer Nature (2026). https://doi. org/10.1038/s41598-026-62604-1 (**SCI-E, Q1, IF 3.9**)

Conference papers:

1. Sarsing Gao, **Rajen Pudur**, 'Harnessing hydroelectric power using Savonius rotor coupled with asynchronous generator connected to grid", IEEE, international Conference at Hong Kong, APPEEC-2013,(p-1-4)
2. Bikash Sah, **Rajen Pudur** 'Study of unsymmetrical faults in power system using Morlet wavelet technique" IEEE, SCEECS-2014, March 1-4, Bhopal, India.
3. **Dr. Rajen Pudur**, et.al "Wireless Power Transmission: A Survey", IEEE, International Conference on Recent Advances and Innovations in Engineering (ICRAIE-2014) May-09-11, 2014, Jaipur India.

4. **Rajen Pudur**, Sarsing Gao "Performance analysis of Savonius rotor on different aspect ratio for hydropower generation" ICPDEN, 10th – 11th Jan 2015 IEEE, NERIST
5. **Rajen Pudur**, Sarsing Gao "Single phase power for remote area using Savonius rotor based hydropower generation" IEEE, International Conference on Energy, Power and Environment (ICEPE) 12-13, June 2015 NIT Meghalaya.
6. **Dr. Rajen Pudur**, Vivak Kumar Srivastava, "Performance Study of Electronic Load Controller for integrated Renewable Sources" 2nd International Conference on Electronics, Materials Engineering & Nano-Technology (IEMENTech), IEEE , 2018, pp-1-6.
7. **Rajen Pudur** et al., "Mitigation of Power Fluctuations in UPFC based Network" International conference on Electronics System & Intelligent Computing (ESIC 2020) **Springer**, pp 407-418, https://doi.org/10.1007/978-981-15-7031-5_39, Print ISBN: 978-981-15-7030-8, online ISBN: 978-981-15-7031-5
8. P.Jena, **Rajen Pudur**, T.Kamsi P.Saring Extremum Seeking Control Maximum Power Point Tracking Applied to Solar PV Water Pumping System Using BLDC Motor, IEEE, 2019 International Conference on Computer, Electrical & Communication Engineering (ICCECE),18-19 Jan2019, 10.1109/ICCECE44727.2019.9001890
9. **Rajen Pudur** et. al "ANN Based MPPT Applied To Solar Powered Water Pumping System Using BLDC Motor" IEEE International Conference on Sustainable Energy Technologies and Systems (ICSETS),25-Feb 2019, 10.1109/ICSETS.2019.8744804
10. Samrat Chakraborty, **Dr Rajen Pudur**, "Techno-Economic Analysis of Grid Connected Integrated Energy System for most Populated City on Earth: A case study in Gurugram , ISBN:978-81-942561-2-0, India" International Conference on Impact of Changing Energy Mix in Power Sector (ICIEMPS -2019), West Bengal, 23rd – 24th Nov' 2019
11. S.Chakraborty, **Rajen Pudur**, "Supply of Single-Phase Power for Rural Area using Three-Phase Self-Excited Induction Generator", 2021 IEEE Asian Conference on Innovation in Technology (ASIANCON) Pune, India., 28-29 Aug 2021, 10.1109/ASIANCON51346.2021.9545057
12. I. Chitrasen, **Rajen Pudur**, "Optimize Model of Hybrid Renewable System with Minimum Power Fluctuation Rate", 2021 IEEE 6th International Conference on Computing, Communication and Automation (ICCCA), 17-19 Dec 2021, 10.1109/ICCCA52192.2021.9666352
13. **Rajen Pudur,** Mrinal K. R, S. Zafar, "Analysis of Savonius Rotor with Multiple Blades for Hydrokinetic Application", Proceedings of the International Conference on Recent Trends in Developments of Thermo-fluids and Renewable Energy NIT Arunachal Pradesh, Yupia, India November 26 – 28, 2020
    Paper No. TFRE20/ 046

14. **Rajen Pudur,** B. Datta, "Speed control of PMBLDC motor using rotor position rotor speed PWM technique", Proceedings of the International Conference on Recent Trends in Developments of Thermo-fluids and Renewable Energy
    NIT Arunachal Pradesh, Yupia, India November 26 – 28, 2020
    Paper No. TFRE20/ 041

15. I. Chitrasen, **Rajen Pudur** "Optimize Model of Hybrid Renewable System with Minimum Power Fluctuation Rate", IEEE 6th International Conference on Computing, Communication and Automation (ICCCA), 2021 (https://doi.org/10.1109/ICCCA52192.2021.9666352)

16. S.Chakraborty, **Rajen Pudur** "Supply of Single-Phase Power for Rural Area using Three-Phase Self-Excited Induction Generator", IEEE Asian Conference on Innovation in Technology (ASIANCON) Pune, 2021 (https://doi.org/10.1109/ASIANCON51346.2021.9545057)

17. Chakraborty, S., & **Pudur, R**. (2022, November). A Novel Balancing Operation Topology for Single-Phase Supply to Remote Locations from Three Phase SEIG. In 2022 IEEE 19th India Council International Conference (INDICON) doi: 10.1109/INDICON56171.2022.10040112 (pp. 1-6). IEEE.

18. Chakraborty, S., & **Pudur, R**. (2022, December). Hardware Investigation of a New Phase Balancing Topology for Supplying Single-Phase Loads using Three-Phase SEIG. In 2022 IEEE Sustainable Power and Energy Conference (iSPEC) doi: 10.1109/iSPEC54162.2022.10033026 (pp. 1-5). IEEE

19. L. K. Chanu and **R. Pudur**, "Real-Time Simulation of Frequency Control of 2.2 kW SEIG using Generalized Impedance Controller," 2022 IEEE 2nd International Symposium on Sustainable Energy, Signal Processing and Cyber Security (iSSSC), pp. 1–6, Dec. 2022, doi: 10.1109/ISSSC56467.2022.10051306.

20. J. Samanta and **R. Pudur**, "Comparison of p-q and d-q theory for Shunt Active Power Filter," 2022 IEEE International Power and Renewable Energy Conference (IPRECON) 16-18 December 2022, doi: 10.1109/IPRECON55716.2022.10059658

21. Shalini Sinha, Mrinal Kanti Rajak and **Rajen Pudur** "Experimental Investigation of Voltage Regulation Using ELC for Two Self-Excited Induction Generators Connected in Parallel", 2023 5th International Conference on Energy, Power and Environment: Towards Flexible Green Energy Technologies (ICEPE), 2023, vol.5, pp. 1-6 (https://ieeexplore.ieee.org/document/10201555)

22. Samrat Chakraborty, and **Rajen Pudur**. "Performance Study of a Three-Phase SEIG Feeding Single-Phase Non-Linear Loads." In 2024 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), pp. 1-5. IEEE, 2024.

23. J. Samanta, R. Sangno and **R. Pudur**, "Modified SRF Theory Based Shunt Active Power Filter for Power Quality Improvement," 2024 IEEE 4th International Conference on Sustainable Energy and Future Electric Transportation (SEFET), Hyderabad, India, 2024, pp. 1-6

24. J. Samanta, R. Sangno and **R. Pudur**, "Non-Linear PID Based Power Quality Improvement Using Single-Phase Shunt Active Power Filter," 2024 IEEE

International Conference on Power Electronics, Drives and Energy Systems (PEDES), Mangalore, India, 2024, pp. 1-6

25. J. Samanta, R. Sangno, **R. Pudur** and M. V. Aware, "Hybrid Converter with Simultaneous DC and AC Outputs," 2024 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Mangalore, India, 2024, pp. 1-5

26. S. Sinha and **R. Pudur**, "Reliability Analysis of SEIG-ELC System Using Markov Modelling," 2024 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Mangalore, India, 2024, pp. 1-6, doi: 10.1109/PEDES61459.2024.10961452

27. Rajak, M. K., Mosobi, R. W., & Pudur, R. (2025). Advanced hybrid excitation system with enhanced voltage control for self-excited induction generators in off-grid applications. 2025 IEEE Guwahati Subsection Conference (GCON), Itanagar, India, 1–7. https://doi.org/10.1109/GCON65540.2025.11173332
28. Rajak, M. K., Mosobi, R. W., & Pudur, R. (2025). Dynamic performance analysis of parallel connected self excited induction generators for remote power systems. 2025 IEEE Guwahati Subsection Conference (GCON), Itanagar, India, 1–8. https://doi.org/10.1109/GCON65540.2025.11173410
29. U. C. Naik, M. K. Rajak, M. V. Aware and **R. Pudur**, "Optimizing Matrix Converter Performance Using Hybrid Particle Swarm Optimization and Gradient Descent Techniques," 2025 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE), Silchar, India, 2025, pp. 1-6, doi: 10.1109/NE-IECCE64154.2025.11182721.
30. M. K. Rajak, R. Kumar and **R. Pudur**, "Hybrid Optimization Using Particle Swarm Optimization and Gradient Descent to Improve Phase Locked Loop Performance in Grid Connected Systems," 2025 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE), Silchar, India, 2025, pp. 1-7, doi: 10.1109/NE-IECCE64154.2025.11183559.
31. M. K. Rajak, A. Singh and **R. Pudur**, "Grid Integration of Parallel-Connected Self-Excited Induction Generators Using Adaptive Predictive Virtual Synchronous Generator Control," 2025 IEEE 5th International Conference on Sustainable Energy and Future Electric Transportation (SEFET), Jaipur, India, 2025, pp. 1-7, doi: 10.1109/SEFET65155.2025.11255548.
32. M. K. Rajak, A. Singh and **R. Pudur,** "Advanced Model Predictive Control Based Virtual Synchronous Generator With Adaptive Dynamic Optimization for Weak Grid Integration," 2025 IEEE 5th International Conference on Sustainable Energy and Future Electric Transportation (SEFET), Jaipur, India, 2025, pp. 1-7, doi: 10.1109/SEFET65155.2025.11255014.
33. U. C. Naik, M. K. Rajak, M. V. Aware and **R. Pudur**, "Optimizing Matrix Converter Performance Using Hybrid Particle Swarm Optimization and Gradient Descent Techniques," 2025 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE), Silchar, India, 2025, pp. 1-6, doi:10.1109/NE-IECCE64154.2025.11182721.

34. J. Samanta, R. Sangno and **R. Pudur**, "Shunt Active Power Filter Based on DETOGI for Self-Excited Induction Generator Under Unbalanced Loaded Condition," 2025 IEEE 4th International Conference on Smart Technologies for Power, Energy and Control (STPEC), Goa, India, 2025, pp. 1-5, doi: https://doi.org/10.1109/STPEC66316.2025.11490321
35. J. Samanta, Y. Gopal, R. Sangno, **R. Pudur** and M. V. Aware, "Enhancing Power Quality in Edge-of-Grid Systems Using SAPF with SOGI-ROGI-FLL Based Control," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-5, doi: 10.1109/NE-IECCE69680.2026.11666254.
36. U. C. Naik, **R. Pudur** and M. V. Aware, "Virtual Synchronous Generator Control of a Self-Excited Induction Generator Based Converter for Islanded Microgrid Applications," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-5, doi: 10.1109/NE-IECCE69680.2026.11666100.
37. I. C. Meitei, M. K. Rajak and **R. Pudur,** "Adaptive Hybrid Graph Neural Network with Grey Wolf-Differential Evolution Optimizer for Real-Time Transmission Loss Calculation in Renewable-Integrated Power Systems," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-6, doi: 10.1109/NE-IECCE69680.2026.11666176.
38. R. W. Mosobi, M. K. Rajak and **R. Pudur**, "Hardware Implementation of Parallel Operation of Self-Excited Induction Generator with Synchronous Generator Without Power Electronics for Micro-Hydro Systems," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-6, doi: 10.1109/NE-IECCE69680.2026.11666222.
39. S. P. Jadhav, M. K. Rajak, I. C. Meitei and **R. Pudur**, "An Improved Non-Isolated Quadratic DC-DC Boost Converter with Ultra-High Voltage Gain and Grey Wolf Optimized Control for Renewable Energy Applications," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-6, doi: 10.1109/NE-IECCE69680.2026.11666103.
40. J. Mohapatra, **R. Pudur** and A. Rathore, "Grey Wolf-Differential Evolution Optimized Zero Current Switching Based Dual Input Isolated DC-DC Converter for Hybrid PV-Super-Capacitor Systems," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-6, doi: 10.1109/NE-IECCE69680.2026.11666183.
41. H. Tado, M. K. Rajak, **R. Pudur,** R. Sangno and A. Lavanya, "Hybrid Grey Wolf-Differential Evolution Optimized DC-DC Boost Converter Design for Enhanced Efficiency in Renewable Energy Systems," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-6, doi: 10.1109/NE-IECCE69680.2026.11666158.
42. P. R. Tupare, M. Biswas, M. K. Rajak and **R. Pudur**, "DC-DC Boost Converter Control Using Hybrid Grey Wolf-Differential Evolution Optimization Algorithm," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-6, doi: 10.1109/NE-IECCE69680.2026.11666010.
43. R. M. Devi, M. K. Rajak, I. C. Meitei and **R. Pudur**, "GWO-DE Optimized Andronov-HOPF Oscillator PLL for Parallel Operation of Differently-Rated

SEIGs in Micro-Hydro Power Systems," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-6, doi: 10.1109/NE-IECCE69680.2026.11665855.

44. P. Baishya, M. K. Rajak, **R. Pudur** and B. Datta, "Adaptive Chaotic Lévy Flight Grey Wolf Optimizer for Multi-Objective Energy Management in Islanded Microgrids," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-6, doi: 10.1109/NE-IECCE69680.2026.11665898.
45. N. Bida, M. K. Rajak, **R. Pudur**, R. Sangno and B. Datta, "Hybrid Grey Wolf-Differential Evolution Optimized Deep Neural Network Controller for DSTATCOM-Based Power Quality Enhancement," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-6, doi: 10.1109/NE-IECCE69680.2026.11666132.
46. P. R. Jadhav, M. K. Rajak, I. C. Meitei and **R. Pudur,** "Differential Evolution Optimized Adaptive Backstepping Control for DC-DC Buck Converter with Enhanced Disturbance Rejection," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-6, doi: 10.1109/NE-IECCE69680.2026.11666417.
47. M. K. Rajak, S. Debbarma, C. Bhattacharya and **R. Pudur**, "Hybrid PSO-GWO Optimized Energy Management for Parallel Operation of Wind and Hydro Driven Induction Generators," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-6, doi: 10.1109/NE-IECCE69680.2026.11666215.
48. M. Biswas, R. M. Devi, M. K. Rajak and **R. Pudur,** "Grey Wolf-Differential Evolution Optimized Communication Protocol Selection for IoT-Based Remote Monitoring of Renewable Energy Plants," *2026 IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE)*, Sohra, India, 2026, pp. 1-6, doi: 10.1109/NE-IECCE69680.2026.11665989.
49.

Book Chapter:

1. **Rajen Pudur**, Sarsing Gao "Savonius rotor based hydropower generation" International Symposium on AMETI 2014 (p 104 – 111), 6th -8th Dec 2014, ISBN 978-93-83842-96-4, NERIST
2. Moloy S. Dutta**, Dr. Rajen Pudur** "A study on the techniques used for productivity enhancement of solar stills" Computer, Electronics and Electrical Engineering (CEE), 2nd Research Summit, 3rd – 4th June 2016, Vol-1, ISBN 978-93-85777-69-1, pp, 214-221, Yupia, NIT AP
3. Ananya Garjwal, Dr. **Rajen Pudur** "A study on optimal distance between two consecutive wind towers for maximum power extraction" Computer, Electronics and Electrical Engineering (CEE), 2nd Research Summit, 3rd – 4th June 2016, Vol-1, ISBN 978-93-85777-69-1, pp, 222-229, Yupia, NIT AP
4. **Dr. Rajen Pudur,** Ralli Sangno, K. Paul "Performance Analysis of Micro Hydropower Plant with Electronic Load Controller" Computer, Electronics and

Electrical Engineering (CEE), 2nd Research Summit, 3rd – 4th June 2016, Vol-1, ISBN 978-93-85777-69-1, pp, 230-239, Yupia, NIT AP

5. OnamTechi, Kanya Hage, Dr. **Rajen Pudur** "A study on load side control for micro hydro plants using electronic load controller" Computer, Electronics and Electrical Engineering (CEE), 2nd Research Summit, 3rd – 4th June 2016, Vol-1, ISBN 978-93-85777-69-1, pp, 240-249, Yupia, NIT AP.

6. Shadab Zafar, Dr. **Rajen Pudur** "Study on different shapes and sizes of solar still for high efficiency: a review" Computer, Electronics and Electrical Engineering (CEE), 2nd Research Summit, 3rd – 4th June 2016, Vol-1, ISBN 978-93-85777-69-1, pp, 250-255, Yupia, NIT AP
7. **Rajen Pudur** et al., "Mitigation of Power Fluctuations in UPFC based Network" International conference on Electronics System & Intelligent Computing (ESIC 2020) **Springer**, pp 407-418, https://doi.org/10.1007/978-981-15-7031-5_39, Print ISBN: 978-981-15-7030-8, online ISBN: 978-981-15-7031-5
8. **Rajen Pudur,** Mrinal K. R, S. Zafar, "Analysis of Savonius Rotor with Multiple Blades for Hydrokinetic Application", Advance in Thermo-fluids and Renewable Energy NIT Arunachal Pradesh, Yupia, India November 26 – 28, 2020, ISBN:978-981-16-3496-3 Paper No. TFRE20/ 046
9. **Rajen Pudur,** B. Datta, "Speed control of PMBLDC motor using rotor position rotor speed PWM technique", Advance in Thermo-fluids and Renewable Energy NIT Arunachal Pradesh, Yupia, India November 26 – 28, 2020, ISBN:978-981-16-3496-3 Paper No. TFRE20/ 041
10. Samanta, J., Sangno, R., **Pudur, R.** (2024). Modified P-Q Control Algorithm of Shunt Active Power Filter to Reduce Harmonics, Voltage Regulation, Power Factor Correction and Unbalanced Load for Hydro Electric Power Plant. In: De, S., Agarwal, A.K., Kalita, P. (eds) Challenges and Opportunities of Distributed Renewable Power. Energy, Environment, and Sustainability. **Springer**, Singapore. https://doi.org/10.1007/978-981-97-1406-3_16,pp445-466
11. Sinha, S., **Pudur, R.** (2024). Hardware-In-Loop Approach of ELC with Battery Storage as Dump Load in Off-Grid SEIG. In: De, S., Agarwal, A.K., Kalita, P. (eds) Challenges and Opportunities of Distributed Renewable Power. Energy, Environment, and Sustainability. Springer, Singapore. https://doi.org/10.1007/978-981-97-1406-3_13, pp 385-400
12. Chakraborty, S., Pudur, R. (2024). Performance Enhancement of Three-Phase SEIG to Feed Single-Phase Load in Micro-hydro Systems Using a Novel Capacitor Excitation Topology. In: De, S., Agarwal, A.K., Kalita, P. (eds) Challenges and Opportunities of Distributed Renewable Power. Energy, Environment, and Sustainability. Springer, Singapore. https://doi.org/10.1007/978-981-97-1406-3_15, pp 427-444
13. Rajak, M.K., Pudur, R. (2024). Hardware-In-The-Loop Simulation Approach for Grid Integration of a 2.2 kW Self-Excited Induction Generator Using Synchronous Reference Frame Theory. In: De, S., Agarwal, A.K., Kalita, P. (eds) Challenges and Opportunities of Distributed Renewable Power. Energy, Environment, and Sustainability. Springer, Singapore. https://doi.org/10.1007/978-981-97-1406-3_14, pp 401-426

Patents filed/granted:

S/n	Title	Application no.	Date of filing	Status
1.	A Dynamic Optimization System and Method for Electric Vehicle Charging Infrastructure Management	202431037157	10th May 2024	Published
2.	CAPACITOR MULTILEVEL INVERTER	476199-001	8th Oct 2025	Granted
3.	Low Cost Hybrid Excitation for SEIG in Rural Electrification	202531114048	20th Nov 2025	Published
4.	High-Gain Transformer less SC MLI for Photovoltaic System	502016-001	14th May 2026	Granted
5.	A Hybrid Power Converter for Simultaneous High-Gain DC and AC Output Generation	202621058750	8th May, 2026	Published
6.	Bio-inspired Mitochondrial Energy Production Optimization-Based Control System for Grid-Connected Inverter under Weak Grid Conditions.	202621074080	15th June , 2026	Published