



Dr Ralli Sangno

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Department of Electrical Engineering
National Institute of Technology
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EXPERTISE

Energy and Fuels

Curriculum Vitae

PROFESSIONAL EXPERIENCE

Assistant Professor (Grade-II)**Jul 2022 - Present**

Department of Electrical Engineering | National
Institute of Technology Arunachal Pradesh

Assistant Professor**Sep 2013 - Jul 2022**

Department of Electrical Engineering | National
Institute of Technology Arunachal Pradesh

Engineer**Feb 2010 - Oct 2013**

Indiabulls Power Ltd./Rattan India Power Ltd

Guest Lecturer**Jul 2008 - Jun 2009**

North Eastern Regional Institute of Science &
Technology, Papum Pare, Itanagar

EDUCATION

**Doctor of
Philosophy****2019**

NERIST, Nirjuli

**Certificate Course
(generic,
university/college-
level)****2012**

SYNERGEM, Nagpur

**Master of
Technology****2009**

NERIST, Nirjuli

**Bachelor of
Engineering****2006**

Govt. Engineering
College, Modasa

HONOURS & AWARDS

**Best Paper Award
for "Enhancing
Power Quality in
Edge-of-Grid
Systems Using SAPF
with SOGIROGI-FLL
Based Control****2026**

NIT Meghalaya, 2026
IEEE North-East India
International Energy
Conversion Conference
and Exhibition

PUBLICATIONS

Modified hybrid DC-DC boost converter with high voltage gain for renewable energy integration using GWO-DE parameter optimization 2026

Scientific Reports

Habung Tado; Mrinal Kanti Rajak; Rajen Pudur; Ralli Sangno; A. Lavanya. Vol. 16, Issue 1

DOI: 10.1038/s41598-026-54955-6**Experimental performance and analysis of standalone self-excited induction generators considering different fault variations and power quality** 2026

International Journal of Emerging Electric Power Systems

Jotirmoy Samanta; Unmesh Chandra Naik; Yatindra Gopal; Ralli Sangno; Rajen Pudur. Vol. 27, Issue 4, Pages 723-737

DOI: 10.1515/ijeeps-2025-0414**Enhancement of Power Quality in Edge-of-Grid Systems: MCCF-SRF Based Control for Dynamic Load Compensation** 2026

IEEE Transactions on Industry Applications

Jotirmoy Samanta; Ralli Sangno; Rajen Pudur. Vol. 62, Issue 3, Pages 5407-5413

DOI: 10.1109/TIA.2025.3619925**Application of Triple Order Generalised Integrator Based Control for Power Quality Improvement of SEIG Using SAPF** 2026

IEEE Transactions on Industry Applications

Jotirmoy Samanta; Ralli Sangno; Rajen Pudur.

DOI: 10.1109/TIA.2026.3699272**Hybrid MDSOGI-ROGI Control Strategy for Mitigating Harmonics and Unbalance in SEIG Based Standalone Systems** 2026

IEEE Latin America Transactions

Jotirmoy Samanta; Ralli Sangno; Rajen Pudur; Yatindra Gopal; Julio C. Rosas-Caro. Vol. 24, Issue 3, Pages 307-318

DOI: 10.1109/TLA.2026.11421256**Enhancing Power Quality in Edge-of-Grid Systems Using SAPF with SOGI-ROGI-FLL Based Control** 2026

Jotirmoy Samanta; Yatindra Gopal; Ralli Sangno; Rajen Pudur; Mohan V. Aware. Pages 1-5

DOI: 10.1109/ne-iecee69680.2026.11666254

Hybrid Grey Wolf-Differential Evolution Optimized Deep Neural Network Controller for DSTATCOM-Based Power Quality Enhancement 2026

Nabam Bida; Mrinal Kanti Rajak; Rajen Pudur; Ralli Sangno; Brajagopal Datta. Pages 1-6

DOI: 10.1109/ne-iecce69680.2026.11666132

Hybrid Grey Wolf-Differential Evolution Optimized DC-DC Boost Converter Design for Enhanced Efficiency in Renewable Energy Systems 2026

Habung Tado; Mrinal Kanti Rajak; Rajen Pudur; Ralli Sangno; A. Lavanya. Pages 1-6

DOI: 10.1109/ne-iecce69680.2026.11666158

Study of power quality issues in a renewable-driven self-excited induction generator due to different loads at edge-off grid system 2025

e-Prime - Advances in Electrical Engineering, Electronics and Energy

Jotirmoy Samanta; Samrat Chakraborty; Ralli Sangno; Rajen Pudur. Vol. 11

DOI: 10.1016/j.prime.2024.100885

Shunt Active Power Filter Based on DETOGI for Self-Excited Induction Generator Under Unbalanced Loaded Condition 2025

Jotirmoy Samanta; Ralli Sangno; Rajen Pudur.

DOI: 10.1109/STPEC66316.2025.11490321

Hybrid wind solar energy system with qZSI for optimal power point tracking 2025

International Journal of Power Electronics

Nadaf, J.M.; Reddy, C.V.K.; Karthikeyan, N.; Sangno, R.. Vol. 21, Issue 6, Pages 560-576

DOI: 10.1504/IJPELEC.2025.149601

Hybrid Converter with Simultaneous DC and AC Outputs 2024

Jotirmoy Samanta; Ralli Sangno; Rajen Pudur; Mohan V Aware. Issue 2024

DOI: 10.1109/PEDES61459.2024.10961409

Modified SRF Theory Based Shunt Active Power Filter for Power Quality Improvement 2024

Jotirmoy Samanta; Ralli Sangno; Rajen Pudur.

DOI: 10.1109/SEFET61574.2024.10717483

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 2024

Jotirmoy Samanta; Ralli Sangno; Rajen Pudur. Vol. Part F2601, Pages 445-466

DOI: 10.1007/978-981-97-1406-3_16

Non-Linear PID Based Power Quality Improvement Using Single-Phase Shunt Active Power Filter 2024

Jotirmoy Samanta; Ralli Sangno; Rajen Pudur. Issue 2024

DOI: 10.1109/PEDES61459.2024.10961789

A MODIFIED CONTROL SCHEME TO MITIGATE HARMONICS, IMPROVE VOLTAGE REGULATION & POWER FACTOR USING SINGLE-PHASE SHUNT ACTIVE POWER FILTER 2024

Suranaree Journal of Science and Technology

Jotirmoy Samanta; Ralli Sangno; Rajen Pudur. Vol. 31, Issue 6, Pages 1-7

DOI: 10.55766/sujst-2024-06-e03764

Maximum power extraction of partially shaded solar photovoltaic array using reconfiguration method 2024

Smart Science

M. Raju; P. Rajesh; D. R. Srinivasan; Ralli Sangno. Vol. 12, Issue 4, Pages 575-592

DOI: 10.1080/23080477.2024.2350822

Multi-term islanding protection and load priority-based optimal shedding framework for maintain voltage stability loadability in microgrid system 2024

Electrical Engineering

Kuppusamy, M.; Muthukumaran, N.; Lakshmi, R.R.; Sangno, R.. Vol. 106, Issue 3, Pages 3627-3645

DOI: 10.1007/s00202-023-02159-w

Design and optimisation of slotted stator tooth switched reluctance motor for torque enhancement for electric vehicle applications 2022

International Journal of Ambient Energy

Mahesh A. Patel; Kamran Asad; Zeel Patel; Mohit Tiwari; Purv Prajapati; Hitesh Panchal; M. Suresh; Ralli Sangno; Mohammd Israr. Vol. 43, Issue 1, Pages 4283-4288

DOI: 10.1080/01430750.2021.1873857

Efficient Energy Management in Hybrid Electric Vehicles Using DRBF Networks**2020**

Sangno, R.; Panigrahi, S.P.; Kumar, S.. Pages 15-21

DOI: 10.1007/978-981-13-8222-2_2**MEMS Based Low Power Efficient Capacitive Inverter for renewable energy applications****2019**

Dr Ralli Sangno; Santanu Maity; R.K. Mehta.

Erratum to: Improvement in capacitive performances of efficient micro electro mechanical system (MEMS) based power inverter (Cogent Engineering, (2018), 5, 1, 10.1080/23311916.2018.1455407)**2018**

Cogent Engineering

Sangno, R.; Mehta, R.K.; Maity, S.. Vol. 5, Issue 1, Pages 1465152

DOI: 10.1080/23311916.2018.1465152**Improvement in capacitive performances of efficient micro electro mechanical system (MEMS) based power inverter****2018**

Cogent Engineering

Sangno, R.; Mehta, R.K.; Maity, S.. Vol. 5, Issue 1, Pages 1455407

DOI: 10.1080/23311916.2018.1455407**Optimization and characterization of silicon nitride for solar photovoltaic system****2017**

Sangno, R.; Maity, S.; Mehta, R.K.; Mahato, N.K.. Pages 1902-1905

DOI: 10.1109/ICCSP.2017.8286728**Plasmonic Effect Due to Silver Nanoparticles on Silicon Solar Cell****2016**

Procedia Computer Science

Sangno, R.; Maity, S.; Mehta, R.K.. Vol. 92, Pages 549-553

DOI: 10.1016/j.procs.2016.07.381**Performance analysis of micro hydropower plant with electronic load controller****2016**

Dr Ralli Sangno; Rajen Pudur; Kapuipi Paul.

Reliability Evaluation of a 132/33 kV HV Substation**2016**

P. Devachandra Singh; Rajen Pudur.

RESEARCH PROJECTS

Developing Appropriate Technology & Entrepreneurship Practices for Lotus Tea manufacturing, smoke Fish processing and bamboo fishing tools

2026 - 2029

Co-Principal Investigator

Grant No: TPN/72099 | **Status:** Other

Skill Development Training on edge-off-grid system using renewable energy for underserved community/Scheduled Tribe (ST) of Arunachal Pradesh

2024 - 2027

Principal Investigator

Grant No: TPN No. 104195 | **Status:** Other | **Amount:** ₹400,000

THESES

Enhancement of Power Quality in Renewable Energy Sources Using Shunt Active Power Filter

NIT Arunachal Pradesh

Thesis | Awarded: 2026

PATENTS

ELC- Car Charging Location:Electric Car Charging Location, Charging Time, Charging Rate Notification Systems

Ralli Sangno etal.

Patent | No. 2021110085

Design of Efficient Switch-Capacitor Multilevel Inverter for PV System

Mohan V. Aware, Ralli Sangno, Rajen Pudur, Yatin Gopal, Jotirmoy Samanta

Patent | No. 222289

High Gain Transformerless SC MLI for Photovoltaic System

Mohan V. Aware, Ralli Sangno, Rajen Pudur, Yatin Gopal, Jotirmoy Samanta

Patent | No. 211332

Renewable energy Hybrid DC-DC converter

Mr Nabam Bida,Mr Jotirmoy Samanta,Dr Yatindra Gopal,Dr Ralli Sangno,Dr. Rajen Pudur

Patent | No. 218755 | India

MEMBERSHIP

IEEE Membership

Professional Membership

Annual

Arunachal Pradesh science & technology council

Committee Membership

GOVERNMENT OF ARUNACHAL
PRADESH STATE COUNCIL FOR
IT & E-GOVERNANCE
DEPARTMENT OF IT &
COMMUNICATION

Commitee-Hostel,Mess, Cafetaria and other hostel related issues

Committee Membership

Member

Vidyalaya Management Committee, KVS NIT A,Jote

Committee Membership

VMC member-ST/SC

SES REC- Social Entrepreneurship, Swachhta & Rural Engagement Cell) Committe

Committee Membership

ENERGY MANAGEMENT
(COMMUNITY/ ADOPTED
VILAGES To Promote Rural
Social Entrepreneurship and
Community Engagement)
Commitee Head

Medical Unit NIT AP

Committee Membership

Faculty In charge Medical Unit

NIT Peace club

Committee Membership

Faculty In charge

Hostel Management Committee

Committee Membership

Warden Siang Hostel

Hostel Management Committee

Committee Membership

Warden Papum Hostel

National Service Scheme

Committee Membership

NSS Program Officer

Security & Surveillance

Committee Membership

Faculty In charge

Tobacco Free Campus

Committee Membership

Nodal Officer

Unnat Bharat Abhiyan

Committee Membership

Co-Coordinator

Red Ribbon Club

Committee Membership

Faculty Coordinator

Hostel Management Committee

Committee Membership

Warden Papum Hostel

Security Tender Evaluation Committee

Committee Membership

Convenor

Tender Evaluation Committee Civil & Electrical Works

Committee Membership

Member

Tender Evaluation Committee at Centre For Earth Science & Himalayan Studies, Department of

Committee Membership

Member

Adi Karmyogi students Chapter, NIT AP, Ministry of Tribal Affairs

Committee Membership

Nodal Officer

ATULYAM-2025

Committee Membership

Chairman

Institute Disciplinary Committee (IDF)

Committee Membership

Member

Security Advisory Committee(SAC)

Committee Membership

Chairman