

# Sherin S Das

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## Education

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### **Indian Institute of Technology - Delhi (IIT-D), Abu Dhabi - UAE, 2024 - Pursuing**

Master of Technology in Energy Transition and Sustainability

**Research Interests:** Decarbonisation Technologies, Energy Systems Modelling

### **Tata Institute of Social Sciences, Hyderabad, 2016-'18**

Master of Arts in Natural Resources and Governance, CGPA: 7.70/10.00

**Dissertation:** Implementation of Forest Rights Act, 2006 among tribal communities of Kerala and Tamil Nadu: A case study of Kanikkar tribe of Western Ghats

### **Mar Athanasius College of Engineering, Kothamangalam 2012-'16**

Bachelor of Technology (B-Tech) in Electrical and Electronics, CGPA: 7.70/10.00

**Project:** Energy Auditing and Reactive Power Optimization

## Honors and Scholarships

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Institute Silver Medal for the second best student, *M.A in Natural Resources & Governance, TISS Hyderabad*, 2016 - 18

Central Sector Scheme (CSS) Scholarship for College and University Students. *Awarded by Department of Higher Education, Govt., of India for the meritorious students.* 2012 - 2016

## Work/ Research Experience

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### **National Institute of Advanced Studies, (NIAS)**

*Aug 2021 - May 2023*

*Research Assistant, Energy, Environment and Climate Change Programme (EECP)*

- Investigated thermo-electric powerplant parameters and innovated a mathematical model for optimizing the Specific Water Consumption (SWC in  $m^3/MWh$ )
- Employed Machine learning (ML) algorithms to discover the feature important parameters influencing water consumption in sub-critical thermal powerplants in India.
- Evaluated the importance of coal washing (part of coal beneficial technologies) in enhancing the calorific value of coking coal.
- Formulated probabilistic methods for the Resource Adequacy studies in India under the aegis of Southern Regional Load Dispatch Centre (SRLDC), Ministry of Power (MoP), India.
- Delivered a presentation on 'Integrated Resource Planning for Achieving Resource Adequacy in India' to the research group at Southern Regional Load Dispatch Centre (SRLDC)
- Coordinated NIAS-MECS Workshop on "Evidence-based Approach to Assess the Energy Transition in the Residential Cooking Sector" jointly organized by Finovista, Loughborough University (UK) in partnership with the Office of the Principal Scientific Adviser (O/o PSA) to the Government of India.

### **Electrical Supervisor**

*Jul 2019 - Aug 2021*

*Self-Employed*

- Established a team with 5 technicians, and coordinated electrical installations in 7 residential buildings (LV category), thereby gaining hands-on practical experience of electrical wiring systems, managerial and time management skills.

## Independent Research Work

Mar - May 2019

### Research Assistant

- Assisted Dr. Aparna Katre (University of Minnesota, Duluth Campus) and Ms. Arianna Tozzi (Univ. of Manchester, U.K) by conducting field work for the study titled, 'Community Involvement in Decentralized Renewable Energy Solutions in India'.
- The field sites were spread over the states of Jharkhand and Uttar Pradesh. Conducted qualitative, structured and semi-structured interviews, stakeholder group discussions, questionnaire surveys with the beneficiaries of the solar minigrids.

## Cygni Energy Private Limited

Apr 2018 - Feb 2019

### Project Coord., CSR & New Emerging Business

- Supervised 'Last mile Energy Access Programme of Providing Solar off- grid solutions (DC 48 V)' to the rural hamlets in the states of Karnataka and Telangana.
- Commissioned a project worth Rs. 7.5 million in Daimler-Chrysler AG (Mercedes Benz) facility, Bengaluru. Project included erection of 16 kWp solar panels and 48 V DC control systems.

## Journal Articles, Reports, Online Blogs

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**S Das, Sherin., Majumdar, Rudrodip., Krishnan, A.V., Srikanth,R. (2022).** *Exploring Urban Water-Energy Nexus: Case Study of Thermal Power Plants in Raichur and Ballari districts in Karnataka*, submitted to Natural Resources Forum on December, 2022 (Under Review)

**S Das, Sherin., Majumdar, Rudrodip., Krishnan, A.V., Srikanth,R. (2023).** *Urban Water-Energy Nexus: A Case Study of Select Thermal Power Plants in Water-Stressed Regions in India*, National Institute of Advanced Studies (Report number: NIAS/NSE/EECP/U/RR/01/2023)

**S Das, Sherin., Majumdar, Rudrodip., Krishnan, A.V., Srikanth,R. (2023).** *Water use by sub-critical thermoelectric power plants in India: An Explanatory model using Machine Learning (ML) Classification Algorithms (Working Paper)*

*Collaborative Paper (Ongoing). Ecosystems and the Water-Energy-Food Nexus by "Network On WEF Nexus For A Low-Carbon Economy In Europe and Beyond" (NEXUSNET).*  
<https://nexusnet-cost.com/>

**S Das, Sherin (2022).** *Artificial Intelligence, Causality and Consciousness*, published in *Nerd for Tech, Medium*. <https://sherinsathyadas.medium.com>

**S Das, Sherin (2023).** *ChatGPT: Revisiting Turing Test and Chinese Room Argument*, published in *Nerd for Tech, Medium*. <https://sherinsathyadas.medium.com>

## International Conferences

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**Poster Presentation (Online), 7th CUCS Conference Naples, 2022.** "Water-Energy Nexus: Reclaiming wastewater for thermal power plants in Raichur City, Karnataka, India".

**Paper Presentation, Samvaad - A Tribal Conclave organized by Tata Steel, Odisha.** "Forest Rights Act of 2006: A Status Update of Kerala".

## Oral Presentations

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- *Sherin S Das. (2023, January). Integrated Resource Planning for Achieving Resource Adequacy in India. NIAS, Bengaluru*
- *Sherin S Das. (2022, October). Synergies of Urban Water-Energy Nexus: Water Conservation Opportunities in Thermal Power Plants at Pre-final Review Meeting of Ministry of Earth Science (MoES) funded project. NIAS, Bengaluru*

- Sherin S Das. (2022, August). *Effect of Plant Load factor (PLF) and Cycles of Concentration (CoC) on water conservation in Thermal Power Plants: A case study of Rayalaseema TPP* NIAS, Bengaluru
- Sherin S Das. (2022, March). *Overview of different water processes in Yermarus Thermal Power Station (YTPS), Raichur, Karnataka.* NIAS, Bengaluru
- Sherin S Das. (2022, March). *Evaporative Cooling: Basics of Natural and Mechanical Draft Cooling.* NIAS, Bengaluru
- Sherin S Das. (2021, December). *Water-Energy-Food (WEF) Nexus: A case study of Northern Karnataka.* NIAS, Bengaluru

## Certificate Courses/ Workshops

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- *Munich Climate School - 2023 (Online) conducted by Ludwig-Maximilians University via hybrid mode, October 9 - 13, 2023*
- *E-learning modules on Soft Skills, Circular Economy, Sustainable Water Management, Sustainable Food Systems, Climate Adaptation conducted as part of YENESIS, a project funded by Iceland, Liechtenstein and Norway through the EEA and Norway Grants Fund for Youth Employment, Nov 2023*
- *MOOC Machine Learning in Weather and Climate (40 hours) , organised by European Centre for Medium-Range Weather Forecasts (ECMWF) - International Foundation Big Data and Artificial Intelligence for Human Development (IFAB), Jan - Apr, 2023*
- *'Exploring the World of Data Structures' organized by Encora Inc., Gujarat facilitated by NPTEL, Sep, 2023*
- *Climate Change and Sustainability - (B). NIAS, Bengaluru, 2023*
- *Topics in Artificial Intelligence: Reading the Classics - (A grade). NIAS, Bengaluru, 2022*
- *Quantitative Research Methods - (B+ grade). NIAS, Bengaluru, 2022*
- *'Linear Algebra for Computer Science and Machine Learning' organized by The Institute of Mathematical Sciences (IMSc), Chennai Mathematical Institute (CMI), 15 hours, 2022*
- *Workshop on 'Untangling the role of Ecosystems and Their Services in the Water-Energy-Food Nexus', organized by University of Oulu, 2022*
- *Online Training Programme on Water Audit: A systematic Tool for Water Conservation, Centre for Science and Environment (CSE), 2023*
- *Global Online Training Programme on 'Demystifying Climate Data for Communication and Action', Centre for Science and Environment (CSE), 2022*
- *Advanced Energy Systems and Futuristic Solutions - (A+ Grade). NIAS, Bengaluru, 2022*
- *Major Conventional and Non-conventional Pathways to Harness Energy - (A+ Grade). NIAS, Bengaluru, 2022*
- *RS and GIS Applications in Natural Resource Management - (B Grade). Indian Institute of Remote Sensing (IIRS), Dehradun, 2021*
- *Certificate course on "Elementary Kannada Language", Jan - May 2022, (A+ Grade), Bharatiya Bhasha Sanskriti Sansthan (BBSS), Gujarat Vidyapith, Ahmedabad, Gujarat*
- *Workshop on Energy Conservation Building Code (ECBC) organized by Energy Management Centre (EMC), Kerala State Productivity Council, Ernakulam, 2015*

## Professional Certifications

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- *Associate Member, Electrical Engg. Division, Institution of Engineers India (IEI) w.e.f. 2022.*
- *Electrical Supervisor (Grade-A) Permit with scope of - 'LT/MV Installation (Generator & Transformer) upto & incl. 500 kVA', Electricity Licensing Board, Govt., of Kerala w.e.f. 2022.*

## Extracurricular Activities

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- **Chairperson** (2017), *Student's Council, Tata Institute of Social Sciences (TISS), Hyderabad*
- **Chief Editor** (2016), *SPHARA - yearly technical magazine, Department of Electrical and Electronics Engineering, Mar Athanasius College of Engineering, Kothamangalam.*
- **Member** (2015), *NSS Acitivity Coordination Team (N-ACT), NSS Technical Cell, Ernakulam District, Kerala*
- **Energy Society - OJAS** (2014), *Formed an Energy Auditing Society to create awareness on Energy Conservation; undertook pilot Energy Audit services in industrial buildings; conducted Nuclear Safety Seminar with scientists from Kudankulam Nuclear Power Project (KKNPP).*
- **Volunteer Secretary** (2014), *National Service Scheme (NSS), Unit No. 117, Mar Athanasius College of Engineering, Kothamangalam*
- **Languages:** *Malayalam (Mother tongue), English (Proficient), Hindi (Proficient), Tamil (Fluent), Kannada (Intermediate), Telugu (Intermediate)*
- **IT proficiencies:** *Statistical Software (R Studio), Microsoft BI, Office (Word<sup>TM</sup>, Excel<sup>TM</sup>, Powerpoint<sup>TM</sup>), Computing Language (MATLAB, Python)*
- **Personal Interests:** *I am an avid traveler and enjoy exploring new places and cultures. As part of my research work, I have visited different states of India, which has allowed me to connect with people and communities.*