FACULTY PROFILE

Name: Dr. Ranjeet Singh

Designation: Assistant Professor

Email: ranjeets@srmist.edu.in

Professional Qualification:

Degree	University/ Board	Year of Passing	Specialization
PhD	Delhi Technological University, Delhi (Formerly Delhi College of Engineering)	2024	Solar Photovoltaic Systems
M.Tech	NIT, Kurukshetra	2016	Renewable Energy Systems
B.Tech	G.B. Pant Engineering College, Pauri Garhwal	2011	Electrical Engineering

Publications (Journals & Conferences):

Journals:

1) **Ranjeet Singh**, Vinod Kumar Yadav and Madhusudan Singh, "An Improved Hot Spot Mitigation Approach for Photovoltaic Modules Under Mismatch Conditions," in *IEEE Transactions on Industrial Electronics*, vol. 71, no. 5, pp. 4840-4850, May 2024, doi: 10.1109/TIE.2023.3281684.
2) **Ranjeet Singh**, Vinod Kumar Yadav and Madhusudan Singh, "Optimal Shade Dispersion Strategy for Enhanced PV Power Extraction Under PSCs," in *IEEE Transactions on Power*

Electronics, vol. 38, no. 11, pp. 14665-14674, Nov. 2023, doi: 10.1109/TPEL.2023.3307813.

3) **Ranjeet Singh**, Vinod Kumar Yadav and Madhusudan Singh, "A Comprehensive Shade Resilient Approach for Enhanced PV Array Performance Under Irradiance Mismatch Conditions," in *IEEE Journal of Photovoltaics*, doi: 10.1109/JPHOTOV.2024.3374069.
4) **Ranjeet Singh**, Vinod Kumar Yadav and Madhusudan Singh, "Performance Enhancement of a Novel Reduced Cross-Tied PV Arrangement Under Irradiance Mismatch Scenarios", in "*Applied Energy*", Volume 376, Part A, 2024, 124185, doi: https://doi.org/10.1016/j.apenergy.2024.124185.
5) Vinod K. Yadav, A.D. Behera, **Ranjeet Singh**, A. Maheshwari, S. Ghosh, A. Prakash, "A novel PV array reconfiguration technique based on circular array data structure," *Energy*, vol. 283, 2023, 128505, ISSN 0360-5442, https://doi.org/10.1016/j.energy.2023.128505.
6) Vinod K. Yadav, R. Yadav, **Ranjeet Singh**, I. Mishra, I. Ganvir, Manish, "Reconfiguration of PV array through recursive addition approach for optimal power extraction under PSC," *Energy Conversion and Management*, vol. 292, 2023, 117412, ISSN 0196-8904, https://doi.org/10.1016/j.enconman.2023.117412.
7) S. Kushwaha, **Ranjeet Singh**, R. Yadav, V.K. Yadav, T. Yadav and S. Singh "Reconfiguration of PV Array for Improved Performance Under Different Partial Shading Conditions Using Roulette Barrel Shifter Approach", in *Energy Conversion and Management"* vol. 322, 2024, 119151, ISSN 0196-8904, https://doi.org/10.1016/j.enconman.2024.119151.
8) V. Jain, **Ranjeet Singh,** R. Yadav, V. K. Yadav, V. Kumar, and S. Garg "Multi-Step Optimization for Reconfiguration of Solar PV Array for Optimal Shade Dispersion", in "*Electrical Engineering"*. https://link.springer.com/article/10.1007/s00202-024-02840-8.

Conferences:

1) **Ranjeet Singh**, Vinod Kumar Yadav and Madhusudan Singh "Optimizing the Shade-Tolerant Performance in a Mismatched PV Array Using Cross-Diagonal Module Rearrangement Approach", *IEEE International Conference on Power, Electronics, Intelligent Control and Energy System (ICPEICES)* Delhi, India, April 26-28, 2024.
2) **Ranjeet Singh**, Vinod Kumar Yadav and Madhusudan Singh "Design and Performance Evaluation of Three-Phase Grid-Tied Solar Power Generation System Using STF based Algorithm", *IEEE International Conference on Power, Instrumentation, Energy and Control (PIECON)* Aligarh, India, 2023, pp. 1-6, doi: 10.1109/PIECON56912.2023.10085865. ***(Best Paper Award)***.

3) **Ranjeet Singh** and Jayaram Nakka, "Design, simulation and performance analysis of Fuel Cell based energy system with Cascaded H-Bridge Multilevel Inverter," *2016 IEEE 1st International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES)*, Delhi, India, 2016, pp. 1-6, doi: 10.1109/ICPEICES.2016.7853308.

Awards and Achievements:

1) Received the "**Best Paper Award**" in the IEEE International Conference on Power, Instrumentation, Energy and Control (PIECON-2023) organized by the Department of Electrical Engineering, Aligarh Muslim University.
2) **All India Topper** of the NPTEL/SWAYAM course "Teaching and Learning in Engineering-TALE" conducted by IISc Bangalore.
3) Received 01 "**Premier Research Award**" (worth 1 Lakh rupees) and 02 "**Commendable Research Awards"** (worth 0.5 Lakh rupees each) from Delhi Technological University, Delhi for research excellence during the academic year 2023- 24.
4) Eligible for 01 "**Premier Research Award**" (worth 1 Lakh rupees) and 03 "**Commendable Research Awards"** (worth 0.5 Lakh rupees each) from Delhi Technological University, Delhi for research excellence during the academic year 2024- 25.

Workshops/Seminars/FDPs:

1) One-week short term training programme through ICT mode on "Indian Electricity Rule and Code of Practices at NITTTR, Kolkata from 16.12.2019 to 20.12.2019.
2) One-week Faculty development programme on "Recent Developments in Optical Communication and Antenna Technology (RDOPCAT-2019) sponsored by Dr. A.P.J. Abdul Kalam Technical University, Lucknow under TEQ-IP-III organized by department of Electronics and Communication Engineering, Galgotias College of Engineering and Technology (GCET), Greater Noida between 14.10.2019 and 18.10.2019.
3) One-week AICTE recognized short term course on "Soft Computing Techniques using MATLAB through ICT conducted by Electrical Engineering Department from 05.03.2018 to 09.03.2018 at Galgotias University, Greater Noida, U.P.
4) One-week short term training programme through ICT mode on "Problem based learning" organized by NITTTR, Kolkata from 02.12.2019 to 06.12.2019.

5) AICTE Short-term course (One week) on “MATLAB and LABVIEW with its Hardware Interface through ICT conducted by Electrical Engineering Department from 29.01.2018 to 02.02.2018 at Galgotias College of Engineering & Technology, Greater Noida (U.P).
6) 12 weeks short term NPTEL/SWAYAM course on “Design of Photovoltaic Systems” during Jul-Oct 2018.
7) 4 weeks short term NPTEL/SWAYAM course on “Teaching and Learning in Engineering (TALE)” during Feb-March 2019.
8) 4 weeks short term NPTEL/SWAYAM course on “Control Systems” during Feb-March 2019.

Work Experience: 5 Years

Professional Memberships:

- IEEE Member (since 2021)