

Dr. Manish Kumar Singla

Postgraduate
Ph.D. (Electrical Engineering)
Thapar Institute of Engineering and
Technology (TIET), Patiala,
Punjab, India.

Current Job: Assistant Professor
(BFGI)

Experience: Assistant Professor (BFGI)
(4th May 2022 – 10th Jan 2023).

Assistant Professor (CU) (14th Feb 2023-
28th May 2025).

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SPECIALIZATION:

- Machine Learning
- Fuel Cell
- Integration of Fuel Cell with
Renewable Energy System
- Solar Photovoltaic
- Optimization

LANGUAGES PROFICIENCY:

- English
- Hindi
- Punjabi

ACHIEVEMENTS:

Honorary Fellowship (Jordan
University, Jadara University).

Top 2% Scientist (2025), Stanford
University and Elsevier.

Appreciation Letter from (Purdue,
Karamanoglu Mehmetbey and
Sejong University).

International Outstanding Young
Researcher Award 2024 by MSME.

SUMMARIZE:

- 63 SCI/SCIE
- 43 SCOPUS
- 34 CONFERENCES
- 28 PATENTS GRANTED
(National & International)
- 2 BOOKS EDITOR (SCOPUS)

SUPERVISION:

- 1 PhD Candidate Ongoing
(2024-2027).
- 2 M.E. Candidate
Completed.

CAREER OBJECTIVE

An enthusiastic and reliable individual, looking for suitable positions, tasks and opportunities for enhancement of personal attributes, critical thinking and analytic skills in the working domain of industries and research.

TRAINING & WORKSHOPS

- ✓ 66 KV Grid Station Dabawali Road, Bathinda Six weeks Training.
- ✓ Participated in “International Conference on Power System” during Sept21-23, 2018.
- ✓ PP Industries Pvt Ltd New Focal Point Dabwali Road Bathinda for the 6 Month training.

EXPERIENCES

- ✓ Placement Representative of M.E. 2016-18 batch.
- ✓ 66 KV Grid Station Dabawali Road, Bathinda Six weeks Training.
- ✓ Managed, and coordinated in Sparks held at B.Tech, Bathinda.
- ✓ Two time overall captain of Electrical Engineering in Thapar-olympics.
- ✓ Year representative in SPADES (Year wise sports).
- ✓ Year representative in IZHAAR (Cultural Fest).
- ✓ Volunteer in IEEE conference held in Thapar University, Patiala.
- ✓ Presented the research paper in IEEE Conference.

TECHNICAL SKILL SET

- ✓ Trained in MATAB.
- ✓ Proficient in MS Excel, PowerPoint and other specialist office software.

Examination	University/ Board	Session	Division
M.E. (Power Systems)	TIET, Patiala	2016-2018	First Division
B.Tech (EE)	GZS, Bathinda	2013-2016	First Division
Diploma (EE)	PSBTE	2010-2013	First Division
Secondary	CBSE	2010	First Division

ACADEMIC AND EXTRA CURRICULAR ACHIEVEMENTS

- ✓ Participated and head in youth fests in Diploma College.
- ✓ Scholarship holder in DIPLOMA.
- ✓ Achieved First Position in **BRICS “ENERGY YOUTH OUTLOOK 2019”** held in MOSCOW.
- ✓ Achieved Second Position in **BRICS “ENERGY YOUTH OUTLOOK 2020”** held in MOSCOW.
- ✓ **Advisory Board Member** of International Conference on Emerging Technology and Sustainable Solutions ICESS 2023 at Chitkara University, Punjab.
- ✓ **Star Performer in Excellence Award for the Research** at Chitkara University, Punjab in 2023.
- ✓ **Achieved Fourth Position in Excellence Award for the Research and Innovation** at Chitkara University, Punjab in 2024.

RESEARCH PAPERS/PATENT

- ✓ 63 **SCI** papers were published, and 7 were communicated.
- ✓ 24 **SCOPUS** papers published 19 are accepted.
- ✓ 8 **BOOK** chapters published and 2 is accepted.
- ✓ 34 **SCOPUS CONFERENCE** papers were published and 3 are accepted.
- ✓ 5 papers published in international journals.
- ✓ 28 **Patents** are granted, 8 are published, 4 are filled and 4 are under process.
- ✓ 2 **Books Editor** (Wiley and Bentham Science).

LIST OF PUBLICATIONS

PATENT

1. Nijhawan, P., Oberoi, A. S., & **Singla, M. K.**, (2020). A Novel Design of a Hybrid Solar PV-Wind and Fuel Cell-Based Energy Conversion System. *Australian Government Innovation Patent, (Patent Number 2020103372)*.
2. Nijhawan, P., Oberoi, A. S., & **Singla, M. K.**, (2021). A Novel Design of a Hybrid Solar PV and Wind Energy Conversion System. *Australian Government Innovation Patent, (Patent Number 2021100882)*.
3. Nijhawan, P., **Singla, M. K.**, & Gupta, J., (2021). A Hybrid Solar PV, Wind, MHD and PEM Fuel Cell-Based Energy Conversion System. *Australian Government Innovation Patent, (Patent Number 2021100419)*.
4. Nijhawan, P., Kumar, V., **Singla, M. K.**, Gupta, J., & Bhullar, S., (2021). Single Phase Preventer Relay. *Australian Government Innovation Patent, (Patent Number 2021102764)*.
5. **Singla, M. K.**, Rathore, R. S., Gupta, J., & Bajaj M., (2023). IoE Enabled Battery Less Solar PV-Fuel Cell Based Hybrid Electric Vehicle. *Germany Patent, (Granted) (Patent Number 202023102673.7)*.
6. Gupta, A., Aljaidi, M., **Singla, M. K.**, Alshammari, M. E., Gupta, J., Alshammry, N. K., Alrslani, F. A., Alanazi, R. N., & Alsuwaylimi, A. A., (2023). Antenna with Stable Impedance for IoT Devices. *Japanese Utility Model Patent, (Granted) (Patent Number 2023-004589)*.
7. **Singla, M. K.**, Gupta, J., Singh, M., Abdelaziz, A. Y., & EI-Shahat, A., (2023). A Computing System for Parameter Estimation of Solar PV Cell. *Germany Patent, (Granted) (Patent Number 202023100123.8)*.
8. **Singla, M. K.**, Rathore, R. S., Gupta, J., & Bajaj M., (2023). HPSODOX- Metaheuristic Optimization Based System for Parameter Estimation of Fuel Cell. *Germany Patent, (Granted) (Patent Number 202023102712.1)*.
9. **Singla, M. K.**, Alshinwan, M., Gupta, J., Mostafa, N. M., & Shdefat, A. Y., (2023). Parameter Estimation of Fuel Cell. *Germany Patent, (Granted) (Patent Number 202023107172.4)*.
10. Singh, M., Sharma, R., Kumar, R., Tayal, A., Sandhu, G. S., **Singla, M. K.**, Singh, J., & Mittal, A., (2024). Foldable Sitting Table with Attachment on Workshop. *Indian Patent (414911-001), (Granted)*.
11. **Singla, M. K.**, Gupta, J., Berjozkina, S., & Safaraliev, M., (2024). Hybrid PSORSA- Parameter Estimation of a Solar Cell. *Germany Patent, (Granted) (Patent Number 202024100617.8)*.
12. Gupta, A., Aljaidi, M., **Singla, M. K.**, Alshammari, M. E., Gupta, J., Alrslani, F. A., Alanazi, R. N., Alsuwaylimi, A. A., & Alanazi, Z. S., (2024). Implantable Antenna for IoT Based Health Monitoring Devices. *Japanese Utility Model Patent, (Granted) (Patent Number 2024-000387)*.
13. Kumar, R., Aljaidi, M., Pandey, P. K., Alshammari, M. E., **Singla, M. K.**, Alrslani, F. A., Gupta, J., Alanazi, R. N., Alsuwaylimi, A. A., & Alanazi, Z. S., (2024). Satellite/GPS-Based Stick for Blind Patients. *Japanese Utility Model Patent, (Granted) (Patent Number 2024-000986)*.
14. Gupta, A., Aljaidi, M., **Singla, M. K.**, Alenezi, S. M., Kumar, R., Alrslani, F. A., Alshammari, K., Anbarkhan, S. H., & Alanazi, R. N., (2024). Circular Polarized on-body Repeater Antenna for IoT-Based Wristband Devices. *Japanese Utility Model Patent, (Granted) (Patent Number 2024-002152)*.

15. Gupta, A., Aljaidi, M., Kumar, V., Alenezi, S. M., **Singla, M. K.**, Alanazi, F. H., Alshammari, K., Anbarkhan, S. H., & Alanazi, R. N., (2024). Two-Element MIMO Implantable Antenna for IoT based Health Monitoring Devices. *Japanese Utility Model Patent, (Granted) (Patent Number 2024-002153)*.
16. Malhotra, R., Yang, T., Rathore, R. K. S., Wu, Z., **Singla, M. K.**, Ghansham., & Bajaj, M., (2024). IoT based Gesture Controlled Adjustable Workbench with Smart Lighting. *Germany Patent, (Granted) (Patent Number 2024105713.9)*.
17. Singh, M., Yang, T., Rathore, R. K. S., **Singla, M. K.**, Gupta, A., & Bajaj, M., (2024). IoT based Self-Powered Air Curtain for Bike. *Germany Patent, (Granted) (Patent Number 2024105714.7)*.
18. Maity H., Khanra, P., Singh, H., **Singla, M.K.**, Mittal, S.K., (2024). A Novel Design of Secure Password Protected Box for Food Delivery. *Indian Patent, (Granted) (Patent Number 407982-001)*.
19. **Singla, M. K.**, & Kumar, A., (2024). Modification of Lower Half of Small-Scale Shear Box for Calculation of Interfacial Angle. *Indian Patent, (Granted) (Patent Number 387159-001)*.
20. Kumar, R., Yang, T., Rathore, R. K. S., Wu, Hang., **Singla, M. K.**, Kumar, A., & Bajaj, M., (2024). IoT based Health Tracking Adjustable Belt for Enhanced Bio-Impedance Monitoring. *Germany Patent, (Granted) (Patent Number 2024105715.5)*.
21. Aljaidi, M., Pandey, P. K., Kumar, R., Alshammari, M. S., **Singla, M. K.**, Alhomoud, A. M., Gupta, J., Alenezi, S. M., Alsuwaylimi, A. A., & Alanazi, F. H., (2024). An IoT-enabled ECG Monitoring System. *Japanese Utility Model Patent, (Granted) (Patent Number 2024-002776)*.
22. Kumar, R., Aljaidi, M., **Singla, M. K.**, Alkoradees, A. F., & Queyam, A. B., (2024). IoT-Driven Automated Maturity System for Smart Farm Fruits and Vegetables. *Japan Patent, (Granted) (Patent Number 2024-003436)*.
23. Alhussan, A. A., EI-Kenawy, E. S. M., Thakur, E., **Singla, M. K.**, Eid, M. M., & Khafaga, D. S., (2025). Triple-Band notched UWB Antenna using Electromagnetic Band-Gap (EBG) Structure. *Japan Patent, (Granted) (Patent Number 2025-000072)*.
24. EI-Kenawy, E. S. M., **Singla, M. K.**, Alhussan, A. A., Eid, M. M., Gupta, J., Gupta, A., & Khafaga, D. S., (2025). Solar PV, Wind, Fuel Cell Based Hybrid Electric Vehicle. *Japan Patent, (Granted) (Patent Number 2025-000364)*.
25. Kumar, R., Aljaidi, M., **Singla, M. K.**, Mamlook, R. E. Al., Singh, A. K., Aljohani, A., Mohamed, F. A., & Alfalah, A. S., (2025). IoT Based Automatic Power Factor Correction System for 3-Phase Motors. *Japanese Utility Model Patent, (Granted) (Patent Number 2025-001349)*.
26. **Singla, M. K.**, Aljaidi, M., Albalawi, N. S., Alnafisah, K. H., Kumar, R., Alshammari, N. H., & Alshammari, S. A., (2025). IoT-Based Automated Vital Sign Monitoring System for Comatose Patients. *Japanese Utility Model Patent, (Granted) (Patent Number 2025-002275)*.
27. Kumar, R., Aljaidi, M., Alnafisah, K. H., Alshammari, H. O., Kenawy, E. S. M. E., Alshammari, A. O., Alshammari, S. A., Albalawi, N. S., & **Singla, M. K.**, (2025). IoT-Enabled Adaptive Cooling System for Temperature Regulation. *Japanese Utility Model Patent, (Granted) (Patent Number 2025-002276)*.
28. Gupta, A., Aljaidi, M., **Singla, M. K.**, Aljohani, A., Mamlook, R. E. A., Gharaibeh, T., Mohamed, F. A., Alkoradees, A. F., & Alshammari, N. H., (2025). Wideband Dielectric Resonator-Based MIMO Antenna

- for IoT-Based Health Monitoring Devices. *Japanese Utility Model Patent, (Granted) (Patent Number 2025-002489)*.
29. Singh, M., **Singla, M. K.**, Kumar, A., Biswal, A., Beri, K., Jurado, F., & Kamel, S., (2022). Auto Sleeping Pods. *Indian Patent, (Published) (Patent Number 202211044558)*.
30. Singh, H., **Singla, M. K.**, Garg, A., Jindal, V., Sran, S.S., & Singh, H., (2022). Finger Print Identity Module Using Arduino. *Indian Patent, (Published) (Patent Number 202211062340)*.
31. **Singla, M. K.**, Singh, H., Jindal, V., Kumar, V., Kaur, M., & Singh, S., (2022). Goods Delivery Robocar and Method for Delivering Goods through the Robocar. *Indian Patent, (FER Submitted) (Patent Number 202211062341)*.
32. **Singla, M. K.**, Kochar, N., Jindal, V., Singh, H., Sheenu., Kaur, S., Kumar, V., & Singh, M., (2023). IoE Based Health Monitoring System using Arduino. *Indian Patent, (Published) (Patent Number 202311003532)*.
33. **Singla, M. K.**, & Gupta, J., (2023). A Hybrid Electric Vehicle and a Method to Generate Energy for the Same. *Indian Patent, (Published) (Patent Number 202311039504)*.
34. Talwar, R., **Singla, M. K.**, Gupta, J., Singh. M., & Vinayak. R., (2023). A computing System for Parameter Extraction of Proton Exchange Membrane Fuel Cell. *Indian Patent, (Published) (Patent Number 202311039769)*.
35. Thakur, E., Jaglan, N., **Singla, M. K.**, Gupta, J., & Talwar, R., (2024). 1*2 MIMO Antenna with Enhanced Bandwidth in Microwave-Millimeter Bands for UWB Applications. *Indian Patent, (Filled)*.
36. Thakur, E., Jaglan, N., **Singla, M. K.**, Gupta, J., & Gupta, A., (2024). Next-Generation Communication: Microstrip Antenna Design for 5G Operation at 28/38 GHZ. *Indian Patent, (Filled)*.
37. Gupta, A., Kumar, V., **Singla, M.K.**, Thakur, E., & Gupta, J., (2024). Implantable Health Monitoring Devices. *Indian Patent, (Patent Number 202411026905)*.
38. Gupta, A., Kumar, V., **Singla, M.K.**, Thakur, E., & Gupta, J., (2024). Antenna with stable impedance for IoT devices. *Indian Patent, (Filled)*.
39. Thakur, E., Jaglan, N., **Singla, M. K.**, & Gupta, J., (2024). Design of Compact UWB MIMO Antenna with Enhanced Bandwidth. *Indian Patent, (Filled)*.
40. **Singla, M. K.**, Gupta, J., Gupta, A., Kumar, V., & Singh, T (2024). Method for Enhanced Optimization in Two-Dimensional Spaces Using a Modified Snake Optimizer. *Indian Patent, (Patent Number 202411026899)*.
41. **Singla, M. K.**, Gupta, J., Gupta, A., Kumar V., & Singh, M., (2024). System and Method for Parameter Extraction of Four Diode Photo-Voltaic Cell. *Indian Patent, (Filled) (Patent Number 202411009077)*.
42. Singh, M., **Singla, M. K.**, Sharma, R., Singh, J., Mittal, A., Gupta, J., Kumar V., & Lal, N., (2024). Self-Adjustable Clothing Belt. *Indian Patent, (Filled) (Patent Number 202411026893)*.
43. Singh, M., Beri, K., **Singla, M. K.**, Singh, J., & Mittal, A., (2024). Brick Picker. *Indian Patent, (Filled)*.
44. Singh, M., Uppal, A. S., Kumar A., Singh, J., Mittal, A., & **Singla, M. K.**, (2024). Self-Dust Cleaning Mat for Car. *Indian Patent, (Filled)*.

45. Singh, M., Singh, K., **Singla, M. K.**, Beri, K., Singh, J., & Mittal, A., (2024). Self-Adjustable Chair. *Indian Patent, (Filled)*.
46. Gupta, A., Kumar, V., **Singla, M.K.**, Singh, M., Singh, S., Aljaidi, M., Bansal, S., & Gupta, J., (2024). Antenna for 5G FR1 Band at 2600 MHZ for IoT devices. *Indian Patent, (Filled)*.
47. Thakur, E., Jaglan, N., **Singla, M. K.**, Talwar, R., & Gupta, A., (2024). Microstrip Antenna System. *Indian Patent, (Patent Number 202411026906)*.
48. Kumar, R., Aljaidi, M., Pandey, P. K., Alshammari, M. E., **Singla, M. K.**, Alsuwaylimi, A. A., Alshammari, K. M., Anbarkhan, S. H., Alshammari, A. A., & Albalawi, N., (2024). IoT-Based Automated Voltage Controller System for Motor Operated Three-Phase Autotransformer. *Indian Patent, (Patent Number 202411063420)*.
49. Kumar, R., Aljaidi, M., Pandey, P. K., Alshammari, M. E., **Singla, M. K.**, Alsuwaylimi, A. A., Alshammari, K. M., Anbarkhan, S. H., Alshammari, A. A., & Albalawi, N., (2024). IoT-Based Automated Voltage Controller System for Motor Operated Three-Phase Autotransformer. *USA Patent, (Patent Number 18/887,649)*.
50. Singh, M., Aljaidi, M., **Singla, M. K.**, Mamlook, R. E. A., Gupta, J., Elgeberi, N., Aljohani, A., & Aljohani, S., (2025). A Controllable Mist System for Microphone and a Method Thereof. *Indian Patent, (Patent Number 202511032787)*.
51. Singh, M., Aljaidi, M., **Singla, M. K.**, Mamlook, R. E. A., Gupta, J., Elgeberi, N., Aljohani, A., & Aljohani, S., (2025). A Controllable Mist System for Microphone and a Method Thereof. *USA Patent, (Patent Number 19/208,650)*.
52. Singh, M., **Singla, M. K.**, Singh, G., Singh, P., Sumit., Kumar, K., & Aljaidi, M., (2025). A Smart Sheet Feeder System and Method For Automated Evaluation. *Indian Patent (Patent Number 202511072315)*.
53. Singh, M., **Singla, M. K.**, Singh, G., Parkash, C., Singh. S., & El-Kenawy, E. S. M., (2025). A Smart System and Method for Crop Produce Grading and Shelf-Life Prediction. *Indian Patent (Patent Number 202511078990)*.
54. Singh, M., **Singla, M. K.**, Aljaidi, M., & Alkoradees, A. F., (2025). Self-Powered Air Curtain Device For Two-Wheeler Rider Protection. *Indian Patent (Patent Number 202511087573)*.

SCI/SCIE

1. **Singla, M. K.**, Nijhawan, P., & Oberoi, A. S., (2021). Hydrogen fuel and fuel cell technology for cleaner future: a review. *Environmental Science and Pollution Research*, 28(13), 15607-15626. (Impact Factor: 4.223). Q1
2. **Singla, M. K.**, Nijhawan, P., & Oberoi, A. S., (2021). Parameter estimation of proton exchange membrane fuel cell using a novel meta-heuristic algorithm. *Environmental Science and Pollution Research*, 28(26), 34511-34526. (Impact Factor: 4.223). Q1
3. **Singla, M. K.**, Nijhawan, P., & Oberoi, A. S., (2021). Cost-Benefit Comparison of Fuel Cell Based and Battery Based Renewable Energy Systems. *International Journal of Energy Research*, (Impact Factor: 5.164). Q1

4. **Singla, M. K.**, Nijhawan, P., & Oberoi, A. S., (2022). A novel hybrid particle swarm optimization rat search algorithm for parameter estimation of solar PV and fuel cell model. *COMPEL- The international journal for computation and mathematics in electrical and electronic engineering*. (Impact Factor: 0.7). Q3
5. Singh, B., Nijhawan, P., **Singla, M. K.**, Gupta, J., & Singh, P., (2022). Hybrid algorithm for parameter estimation of fuel cell. *International Journal of Energy Research*, (Impact Factor: 5.164). Q1
6. **Singla, M. K.**, & Nijhawan, P., (2021). Triple diode parameter estimation of solar PV cell using hybrid algorithm. *International Journal of Environmental Science and Technology*, 19(5), 4265-4288. (Impact Factor: 2.860). Q1
7. Nijhawan, P., **Singla, M. K.**, & Gupta, J., (2021). A proposed hybrid model for electric power generation: a case study of Rajasthan, India. . *IETE Journal of Research*, 1-11. (Impact Factor: 2.333).
8. Gupta, J., **Singla, M. K.**, & Nijhawan, P., (2021). MAGNETOHYDRODYNAMIC SYSTEM- A NEED FOR A SUSTAINABLE POWER GENERATION SOURCE. *MAGNETOHYDRODYNAMICS*, 57(2), 251-272. (Impact Factor: 0.5). Q3
9. Singh, B., **Singla, M. K.**, & Nijhawan, P., (2022). Parameter Estimation of Four Diode Solar Photovoltaic Cell using Hybrid Algorithm. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, (Impact Factor: 3.447). Q2
10. **Singla, M. K.**, Nijhawan, P., & Oberoi, A. S., (2022). Parameter Estimation of Three Diode Solar PV Cell Using Chaotic Dragonfly Algorithm. *Soft Computing*, (Impact Factor: 3.732). Q2
11. **Singla, M. K.**, Gupta, J., & Nijhawan, P., (2022). Solid Oxide Fuel Cell Parameter Estimation using Enhanced LSHADE Algorithm and Newton Raphson Method. *International Journal of Energy Research*, (Impact Factor: 5.164). Q1
12. Gupta, J., Hussain, A., **Singla, M. K.**, Nijhawan, P., Haider, W., Kotb, H., & Aboras, K. M., (2022). Parameter Estimation of Different Photovoltaic Models Using Hybrid Particle Swarm Optimization and Gravitational Search Algorithm. *Applied Sciences (MDPI)*, (Impact Factor: 2.838).
13. **Singla, M. K.**, Gupta, J., Nijhawan, P., Alsharif, M. H., and Kim, M. K., (2023). Sustainable Development of Fuel Cell using Enhanced Weighted Mean of Vectors Algorithm. *Heliyon*, (Impact Factor: 3.776). Q1
14. **Singla, M. K.**, Hosny, M., Gupta, J., Jurado, F., Nijhawan, P., and Kamel, S., (2023). An Enhanced Efficient Optimization Algorithm (EINFO) for Accurate Extraction of Proton Exchange Membrane Fuel Cell Parameters. *Soft Computing (Springer Nature)*, (Impact Factor: 3.732). Q2
15. **Singla, M. K.**, Gupta, J., Singh, B., Nijhawan, P., Abdelaziz, A. Y., and Shahat, A. EL., (2023). Parameter Estimation of Fuel Cell using Hybrid Optimization Algorithm. *Sustainability (MDPI)*, (Impact Factor: 3.889).
16. **Singla, M. K.**, Gupta, J., Alsharif, M. H., and Jahid, A., (2023). Optimizing Integration of Fuel Cell Technology in Renewable Energy-Based Microgrids for Sustainable Energy and Cost-Effective. *Energies (MDPI)*, (Impact Factor: 3.252).

17. **Singla, M. K.**, Gupta, J., Nijhawan, P., Oberoi, A. S., Alsharif, M. H., and Jahid, A, (2023). Role of a Unitized Regenerative Fuel Cell in Remote Area Power Supply: A Review. *Energies (MDPI)*, (Impact Factor: 3.252).
18. **Singla, M. K.**, Gupta, J., Nijhawan, P., Singh, P., Giri, N. C., Hendawi, E., and EI-Sebah, M. I. A, (2023). Parameter Estimation Techniques for Photovoltaic System Modeling. *Energies (MDPI)*, (Impact Factor: 3.252).
19. **Singla, M. K.**, Gupta, J., Nijhawan, P., Meymand, H. Z., and Kamel, S, (2023). Application of RSAPSO Hybrid Optimizer for Parameter Extraction of Solar PV Cell Models under Temperature Variations. *Electric Power Components and Systems (Taylor and Francis)*, (Impact Factor: 1.5). Q3
20. **Singla, M. K.**, Gupta, J., Alsharif, M. H., Jahid, A., and Yahya, K., (2023). Sustainable Development of Direct Methanol Fuel Cell using Enhanced LSHADE Algorithm and Newton Raphson Method. *Sustainability (MDPI)*, (Impact Factor: 3.889).
21. **Singla, M. K.**, Gupta, J., Safaraliev, M., Nijhawan, P., & Oberoi, A. S., (2024). Hydrogen Storage in Activated Carbon for Fuel Cell-Powered Vehicles: A Cost-Effective and Sustainable Approach. *International Journal of Hydrogen Energy (Elsevier)*, (Impact Factor: 8.1). Q1
22. Alsharif, M.H., Kelechi, A.H., Jahid, A., Kannadasan, R., **Singla, M.K.**, Gupta, J., and Geem, Z.W., (2024). A Comprehensive Survey of Energy-Efficient Computing to Enable Sustainable Massive IoT Networks. *Alexandria Engineering Journal (Elsevier)*, (Impact Factor: 6.626). Q1
23. **Singla, M. K.**, Gupta, J., Beryozkina, S., Safaraliev, M., & Singh, M., (2024). The Colorful Economics of Hydrogen: Assessing the Costs and Viability of Different Hydrogen Production Methods- A Review. *International Journal of Hydrogen Energy (Elsevier)*, (Impact Factor: 8.1). Q1
24. **Singla, M. K.**, Gupta, J., Safaraliev, M., Nijhawan, P., Oberoi, A. S., & Menaem, A. A., (2024). Characterization of an Activated Carbon Electrode Made from Coconut Shell Precursor for Hydrogen Storage Applications. *International Journal of Hydrogen Energy (Elsevier)*, (Impact Factor: 8.1). Q1
25. Singh, M., **Singla, M. K.**, Beryozkina, S., Gupta, J., & Safaraliev, M., (2024). Hydrogen Vehicles and Hydrogen as a Fuel for Vehicles: A State of Art Review. *International Journal of Hydrogen Energy (Elsevier)*, (Impact Factor: 8.1). Q1
26. **Singla, M. K.**, Gupta, J., Alsharif, M. H., and Kim, M. K., (2024). A modified particle swarm optimization rat search algorithm and its engineering application. *PLOS ONE (Plos One)*, (Impact Factor: 3.7). Q1
27. **Singla, M.K.**, Gupta, J., Nijhawan, P., Thakur, E., Tella., T. G., Mossad, M. I., & Safaraliev, M., (2024). Improving Photovoltaic Cell Parameter Calculations through a Puffer Fish Inspired Optimization Technique. *Heliyon (Elsevier)*, (Impact Factor: 4). Q1
28. **Singla, M.K.**, Gupta, J., Safaraliev, M., Meymand, H. Z., & Ghanizadeh, A. J., (2024). Mathematical Modeling for Solar Cell Optimization: Evaluating Sustainability with Different Diode Configurations. *IEEE Access (IEEE)*, (Impact Factor: 3.4). Q1
29. Celtek, S. A., Kul, S., **Singla, M.K.**, Gupta, J., Safaraliev, M., & Meymand, H. Z., (2024). Grey Wolf-Based Heuristic Methods for Accurate Parameter Extraction to Optimize the Performance of PV Modules. *IET Renewable Power Generation (IET)*, (Impact Factor: 2.6). Q3

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