Shweta Singh

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https://scholar.google.com/citations?user=IJtH5i4AAAAJ&hl=en

SCIENTIFIC SKILLS AND PROFICIENCIES

SimaPro OpenLCA Design-Expert SuperDecision Origin

EDUCATION

PhD, Manufacturing Engineering — Graduated, July 2023
School of Mechanical and Materials Engineering — CGPA 8.5
Indian Institute of Technology Mandi
Mandi, Himachal Pradesh

MTech, Manufacturing System Engineering — Graduated, July 2018
Sant Longowal Institute of Engineering & Technology — CGPA 9.15
Sangrur, Punjab

BTech, Mechanical and Automation Engineering — Graduated, July 2014
Indira Gandhi Institute of Technology — Marks 75.54%
Kashmere Gate, Delhi

CAREER HIGHLIGHTS

PhD Thesis

Title- "An Evaluation Framework for Sustainable Solar Photovoltaic Module Manufacturing and Utilization in Indian Context"

Publication-

1. **Singh S,** Powar S, Dhar A. End of life management of crystalline silicon and cadmium telluride photovoltaic modules utilising life cycle assessment. **Resour Conserv Recycl** 2023;197:107097. https://doi.org/10.1016/j.resconrec.2023.107097
2. **Singh S**, Kajal P, Dhar A, Mathews N, Boix P, Powar S. Reduced Global Warming Potential in Carbon-based Perovskite Solar Modules: Cradle to Gate Life Cycle Analysis **Journal of Cleaner Production** , 426, 139136. https://doi.org/10.1016/j.jclepro.2023.139136

3. **Singh S**, Upadhyay SP, Powar S. Developing an integrated social, economic, environmental, and technical analysis model for sustainable development using hybrid multi-criteria decision making methods. **Applied Energy** 2022;308:118235. https://doi.org/10.1016/J.APENERGY.2021.118235.
4. **Singh S**, Powar S. Decision-Making Framework for Comprehensive Performance analysis of Solar Photovoltaic Power Plants considering Various Performance Influencing Criteria **Energy Strategy Reviews**, 50, 101202. https://doi.org/10.1016/j.esr.2023.101202
5. Saini P, **Singh S,** Kajal P, Dhar A, Khot N, Mohamed ME, et al. A review of the techno-economic potential and environmental impact analysis through life cycle assessment of parabolic trough collector towards the contribution of sustainable energy. **Heliyon** 2023;9:e17626. https://doi.org/10.1016/j.heliyon.2023.e17626
6. Attri SD, **Singh S**, Dhar A, Powar S. Multi-attribute sustainability assessment of wastewater treatment technologies using combined fuzzy multi-criteria decision-making techniques. **Journal of Cleaner Production** 2022;357:131849. https://doi.org/10.1016/J.JCLEPRO.2022.131849
7. Chauhan A, **Singh S**, Dhar A, Powar S. Optimization of pineapple drying based on energy consumption, nutrient retention, and drying time through multi-criteria decision-making. **Journal of Cleaner Production** 2021;292:125913. https://doi.org/10.1016/j.jclepro.2021.125913.
8. **Singh S**, Kawade S, Dhar A, Powar S. Analysis of mango drying methods and effect of blanching process based on energy consumption, drying time using multi-criteria decision-making. **Cleaner Engineering and Technology** 2022;8:100500. https://doi.org/10.1016/J.CLET.2022.100500
9. **Singh S**, Yaragatti N, Doddamani M, Powar S, Zafar S. Drilling parameter optimization of cenosphere/HDPE syntactic foam using CO_2 laser. **Journal of Manufacturing Processes** 2022;80:28–42. https://doi.org/10.1016/j.jmapro.2022.05.040
10. **Singh S**, Doddamani M, Powar S. Multi-objective optimisation of machining parameter in laser drilling of glass microballoon/epoxy syntactic foams. **Journal of Material Research and Technology**. 23 (2023): 3869-3879. https://doi.org/10.1016/j.jmrt.2023.02.025

Master's Thesis

Title- Sustainable Supply Chain Management using Multi Criteria Decision Making approach: a case study

Publication-

1. Jayant A, **Singh S,** Garg SK. An integrated approach with MOORA, SWARA, and WASPAS methods for selection of 3PLSP. **Proceeding of International Conference of Industrial Engineering and Operation Management,** vol. 2018, 2018, p. 2497–509.
2. Jayant A, Chandan AK, **Singh S**. Sustainable supplier selection for battery manufacturing industry: A MOORA and WASPAS Based Approach. **Journal of Physics Conference Series** 2019;1240. https://doi.org/10.1088/1742-6596/1240/1/012015.
3. Jayant A, **Singh S,** Walke T. A Robust Hybrid Multi-criteria Decision-Making Approach for Selection of Third-Party Reverse Logistics Service Provider. **Lecture Notes Mechanical**

Engineering book series 2021:423–43. https://doi.org/10.1007/978-981-15-5519-0_32 (**Book Chapter in Advances in Production and Industrial Engineering).**

BTech (Project)

Title- Friction Stir Welding

Application of Friction Stir Welding on Aluminium and extruded Aluminium Grade-6063 in collaboration with **Indian Institute of Technology Delhi.**

CONFERENCE/WORKSHOP/SHORT-TERM COURSE

1. VII ISEES **International Conference** on **"Sustainable Energy and Environmental Challenges (VII SEEC)"** at IIT (BHU) Varanasi, India.
2. **Global Initiative of Academic Network (GIAN)** sponsored **short term course** entitled **"Sustainability Engineering: Determination of Water and Energy Footprints using Life Cycle Assessment (Sustainability-2022)"** held at Motilal Nehru National Institute of Technology Allahabad, Prayagraj, Uttar Pradesh, India.
3. TEQIP-III sponsored one-week **short term course** on "**Design and Implementation Issues in Supply Chain Management**" (DIISCM-19), organized by Department of Industrial and Production Engineering, Dr B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab, India.
4. TEQIP-III sponsored one-week **short term course** on "**Hybrid manufacturing process: Opportunities and challenges**" organized by Department of Industrial and Production Engineering, Dr B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab, India.
5. TEQIP-III sponsored one-week **short term course** on "**Supply Chain Management: Challenges and Strategies**" organized by Department of Industrial and Production Engineering, Dr B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab, India.
6. Science and Engineering Board (SERB), Department of Science and Technology, Government of India under Accelerate Vigyan Scheme sponsored One-Week Offline **National High End Workshop** on **"Statistical Tools: Modelling and Optimization"** organised by Department of Industrial and Production Engineering, Dr B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab, India.
7. Sixth **International Conference** on **"Advancement in Engineering and Technology"** 2018 at Bhai Gurdas Institute of Engineering and Technology, Sangrur Punjab.

SUMMER TRAINING OR INTERNSHIP

During MTech

1. Four week Training at **Bharat Heavy Electricals Limited** Ranipur, Haridwar on **Central Foundry & Forging Plant**

During BTech

1. Six week Training at **Northern Railways Diesel Shed Tughalakabad**, New Delhi on **Turbo Supercharger**.
2. Eight week Training at **SRB Machines Pvt. Ltd**., New Delhi on **CNC & Hydraulic Machines**

ACHIEVEMENTS AND EXTRA-CURRICULAR ACTIVITIES

- Secured **Excellent grade** in **GIAN sponsored short term course** on "Sustainability Engineering: Determination of Water and Energy Footprints using Life Cycle Assessment (Sustainability-2022)"
- Secured **2nd position** in MTech with **CGPA 9.15**.
- Qualified **Gate** Exam-2016 and 2017.
- Secured **1st prize** in **"Tug of War"** at SLIET Sangrur, Punjab in 2018.
- Secured **2nd position** in **"Truss and Frame"** Tech Event at XEBEC 2013 (Technical Fest at IGIT, Delhi).
- **Head Coordinator** for the event **"Junkyard Wars and Connectique"** held during XEBEC 2013 (Technical Fest at IGIT, Delhi).
- **Volunteer** in "Technical Paper presentation".
- Participated in the **Green Olympiad examination 2007**.

Declaration

I, Shweta Singh, hereby declare that the information contained herein is true and correct to the best of my knowledge and belief.

Shweta Singh