Dr. Sahil Bajaj

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Ph.D. in Renewable Energy and Efficiency with a focus on Renewable Energy (Solar and Wind), Economic Models, and Cost Optimization. More than 7 years of teaching, research and consultancy experience in power and renewable energy sector.

EXPERIENCE

Assistant Professor
(Guest Faculty)
Sep 2021 – Present

SRI VISHWAKARMA SKILL UNIVERSITY, GOVT OF HARYANA

- Design of Solar Energy Systems (PV and Thermal)
- Solar Photo-Voltaic Energy Conversion
- PV Module Design and Fabrication (Cost and economics)
- Energy Auditing and Management

Associate
Jan 2022 - Present

CKINETICS

- CAFÉ Manager (Carbon Analytics and Forecasting Engine) in the California carbon division
- Managing a robust database of carbon credits and sustainability index across the North America and Canada markets
- Guide clients across North America with research insights and consulting on moving towards sustainability.
- Responsible for overall operations of the Carbon Markets team including resourcing, budgeting and governance.
- Presented more than 50 analytics and created more than 15 datasets for the California markets team to build better insights for our clients.

Senior Research Analyst
Dec 2020 – Jan 2022

INFRALINE ENERGY

- Leading the power, coal and renewables division
- Worked across different energy infrastructure sectors to provide analytics, strategy and implementation support of power projects
- Handing all operational research activities aimed at providing the right analysis for end clients.
- Experienced in power generation, transmission and distribution, cost reduction and performance improvement aspects of big power projects, preparation of urban design
- Responsible for weekly and monthly reports around coal and power statistics across the world.

Senior Research Fellow
2014 – 2020

NIT KURUKSHETRA

- Economical aspects of Wind power generation – Modelling and Techno-economical analysis (Ph.D)
- Use of MATLAB/Simulink and Levelized Cost of Energy Technique to analyze and simulate large amounts of data.

Industrial Trainee
June 2011

NHPC Ltd. Teesta V Sikkim (National Hydro Power Corporation)

- Hands on experience with various power plant components.
- Analyze design parameters for Concrete Gravity Dam, situated at Singtam, Sikkim

EDUCATION

Ph.D
Renewable Energy and Efficiency

NIT KURUKSHETRA
CGPA: 8.5
2014-2020

M.Tech
Renewable Energy Systems

NIT KURUKSHETRA
CGPA: 8.75
2012-2014

B.Tech
Mechanical Engg.

SIKKIM MANIPAL INSTITUTE OF TECHNOLOGY
CGPA: 6.92
2008-2012

AWARDS

Senior Research Fellowship

Awarded by - CSIR (Council for Scientific and Industrial Research), Government of India

SKILLS

Renewable Energy Economics
Sustainable Development
Carbon Credits and Utilization
Energy Distribution and Management
Optimization Techniques
Data Analytics and Forecasting

PUBLICATIONS

- Sahil Bajaj and K.S. Sandhu, “Effect of site and size of wind turbine on its economic operation” international journal of circuit systems and signal processing volume 13, 2019, pp. 237-242. (SCOPUS indexed)

- Sahil Bajaj and K.S. Sandhu, “Analysis of sizing parameters of a wind turbine using LCOE technique” international journal of energy environment and economics, volume 25, number 1, 2017, pp. 57-68. (SCOPUS indexed)

- Sahil Bajaj and K.S. Sandhu, “Annualized cost of wind power generation”, national conference on renewable energy and sustainable environment, NIT Kurukshetra, 30-31 august 2019. (accepted for publication in springer book chapter)

- Sahil Bajaj and K.S. Sandhu, "Effect of relative cost of components on the cost of wind power plant" 2016 IEEE 1st International Conference on Power Electronics, Intelligent Control and Energy systems. (ICPEICES).2016.pp1-3.

- Sahil Bajaj, Manasvi Bhargava “Modeling of analytical hierarchy process for various renewable energy systems”, National conference on Nano materials and instrumentation, National Institute of Technology Kurukshetra, June 6-7, 2015

- Sahil Bajaj, Manasvi Bhargava “Decision making technique for renewable energy systems using analytical hierarchy process” International Journal Of engineering technology, Management and Applied sciences, March 2015, Volume 3 Special Issue, ISSN 2349-4476, 467-473

- Sahil Bajaj, K.S. Sandhu “Wind turbine economics: a study”, 6th IEEE India International Conference on Power Electronics (IICPE-2014), National Institute of Technology Kurukshetra, December 8-10 ,2014

- Sahil Bajaj, K.S. Sandhu “Economic analysis of wind power plant” student conference on engineering sciences, MNIT Allahabad 28th – 30th May 2014

- Sahil Bajaj, K.S. Sandhu “MATLAB/Simulink modeling for cost estimation of wind turbine” National conference on Nano materials and instrumentation, National Institute of Technology Kurukshetra, March 9-10 ,2014.

- Sahil Bajaj, K.S. Sandhu “Economic analysis of wind turbine using new cost model” International conference on power system and engineering, Interlaken, Switzerland February 22-24, 2014.

- Sahil Bajaj, K.S. Sandhu “Economic analysis of nacelle in wind turbine” Conference on mechanical engineering and technology (COMET) at IIT (BHU) Varanasi, Jan 2014.

- Sahil Bajaj, Navjot Singh Sandhu “Optimization of solar water disinfectant system: a household approach” National conference on low and high application of solar energy, National Institute of Technology Kurukshetra, May 25th -26th, 2013.

- Sahil Bajaj, Amitava Ray, Sunny Diyaley “Optimization of WEDM process parameters using grey relational analysis.” 4th International and 25th All India manufacturing technology, design and research conference, Jadavpur university, Kolkata, India,14th -16th December 2012.