Faculty detail

Name: Dr. Sanjay Sharma

Designation: Assistant Professor

Department: Electrical Engineering Department

Research Interests: Network Planning, Renewable optimization, Microgrids designing, Hybrid renewable system sizing, distribution network.

Academic/ Industrial Experience

Sr. No.	Position	Organization	Period in months/years
1.	Project Scientist	National Agri Food Bio Technology Institute Mohali	9 months
2.	Assistant Professor (Regular)	University Institute of Technology, Himachal Pradesh University	8 months
3.	Guest Faculty	National Institute of Technology (NIT) Jalandhar	6 Months
4.	Lecturer	National Institute of Technology (NIT) Hamirpur	2 Years 3 Months
5.	Lecturer	National Institute of Technology (NIT) Hamirpur	6 Months
6.	Assistant Professor (Regular)	Baba Gulam Shah Badshah University Rajouri (J&K)	5 Months
7.	Lecturer	National Institute of Technology (NIT) Hamirpur	1 Year 3 Months
8.	Lecturer	National Institute of Technology (NIT) Hamirpur	4 Months

Awards/Recognitions

Sr. No.	Title	Organization	Year
1.	Best paper Award	GHEC	2011
2.	Session chairperson (CAMSE -2020)	Shobhit University Gangoh and NIT Jalandhar Punjab	2020
3.	Session chairperson (SOCTA-2020)	STEM-research Society	2020

Publications

1. SCI Journals: (5)

1. Sanjay Kumar, T. Kaur, M. K. Arora, and S. Upadhyay. "Resource estimation and sizing optimization of PV/micro hydro-based hybrid energy system in rural area of Western Himalayan Himachal Pradesh in India." Energy Sources, Part A: Recovery, Utilization, and Environmental Effects vol. 41, issue 22, pp. 2795-2807, 2019 (SCI index).

2. Mohit Kumar, Sanjay Kumar, & S. Bidhu, “Determination of sequent depth of hydraulic jump over sloping floor with rounded and crushed aggregates using experimental and ANN model,” Water Supply, vol. 19 no. 8, 2240-2247,2019 (SCI index).
3. Sanjay Kumar & Kaur Tarlochan, “Efficient solar radiation estimation using cohesive artificial neural network technique with optimal synaptic weights” Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, 0957650919878318 (2019) (SCI index).
4. Sanjay Kumar, Kaur T, Upadhyay S, Sharma V, Vatsal D, “Optimal Sizing of Stand Alone Hybrid Renewable Energy System with Load Shifting” Energy Sources, Part A: Recovery, Utilization, and Environmental Effects. 2020 Oct 23:1-20 (SCI index).
5. Sanjay Kumar, Kumar V, Awasthi U, Vatsal M, Singh SK. Modified SEIR model for prediction of COVID-19 outbreak trend in India with effectiveness of preventive care. Journal of Statistics and Management Systems. 2020 Dec 10:1-1. (ESCI index).
6. Sanjay Kumar, Kumar V, Nitish Katal, S.K. Singh, “Performance Comparison of Dynamically Controlled Particle Swarm Optimization and Grey Wolf Optimizer for Dynamic Power Reserve Scheduling in Multi Areas Problems” journal, Mathematical Problems in Engineering (Accepted)

7. Referred journals: (7)

1. Nitish Katal , Sanjay Kumar Singh, Sanjay Kumar, Covariance Matrix Adaptation Evolution Strategy for Robust Load Frequency Control of Hydro Power Systems, Songklanakarin Journal of Science and Technology.(Scopous Indexed).
2. Sharma, V., Sharma, S., Verma, O. P., Bhardwaj, B., Sharma, T. K., & Pachauri, N. (2021). Prediction and optimization of abrasive wear loss of ultrahigh strength martensitic steel using response surface methodology, Harris Hawk and artificial neural network. International Journal of System Assurance Engineering and Management, 1-17. (Scopous Indexed)
3. Sanjay Kumar, Kumar V, Awasthi U, Vatsal M, Singh SK. Modified SEIR model for prediction of COVID-19 outbreak trend in India with effectiveness of preventive care. Journal of Statistics and Management Systems. 2020 Dec 10:1-1. (ESCI index).
4. Kaur Tarlochan, Sanjay kumar, Ravneet Kaur, and Ayush Gera. "ANN based global solar radiation prediction: a case study." Kaav Int. J. of Science, Engineering & technology Pp. 54-63, 2018.
5. Sanjay Kumar and Tarlochan Kaur, “Development of ANN Based Model for Solar Potential Assessment Using Various Meteorological Parameters, Energy Proc.,vol.90, pp.587 – 592, 2016. (scopus index).
6. Sanjay Kumar, Tarlochan Kaur, Manoj Arora,” Estimation of Solar Radiation Using Artificial Neural Network” International Journal of Science Technology & Management Volume No.04, issue 01, pp.658-662, 2015.
7. Sanjay Kumar, Tarlochan Kaur,” Energy Audit: A Case Study” in International Journal of Research in Management, Science & Technology Vol. 1; No. 1, pp.28-32, 2013

8. **Conference Presentations: (13)**

1. Sanjay Sharma, Y. R. Sood, Alok Kumar, Govind Murmu," Energy conservation achievements problems during urbanization in India: An oriented approach to save earth from Global warming", International Conference on Electrical Power & Energy System, August 26-28, 2010 MANIT Bhopal.
2. Tarlochan Kaur, Sanjay Kumar, Ravi segal "Application of Artificial Neural Network for Short Term Wind Speed Forecasting, IEEE conference on Power and Energy Systems: Towards Sustainable Energy (PESTSE).
3. Tarlochan Kaur, Jaimala Gambhir, Sanjay Kumar, "Arduino Based Solar Powered Battery Charging System For Rural SHS" IEEE conference on Power electronics 2016.
4. Nikita Gupta, Sanjay Kumar, Jasmine Kaur Saini "Review of inverter control algorithms in Grid-integrated Solar Photovoltaic system" 2nd International Conference of Sustainability and Resilience Bahrain 11th -12th November 2020.
5. Naveen Kumar, Sanjay Kumar," Static var Compensator and its Installation in India" in National Conference,' RAEE',Dec 26-27, 2008 NIT Hamirpur.
6. Sanjay Kumar, Y.R.Sood," Electrical Energy Conservation in India- achievements problems and their solution", National Conference on Recent Trend in Electrical & Electronic Engineering, May14-15,2010 Haryana College of Technology & Management.
7. Sanjay Sharma, Deven Vatsal, Anand mohan," A Review of Energy Audit Methodology of Commercial Building" in National conference REMET, March 26-27,2011 Green Hills Engineering college Kumarhatti.
8. Deven Vatsal, Sanjay Sharma," Transformer oil sampling and testing- a Review" in National conference REMET, March 26-27,2011Green Hills Engineering college Kumarhatti.
9. Disha Vaidiya, Sanjay Sharma," Aging Assessment of Power Transformer using UV Spectrophotometer" in National conference REMET, March 26-27,2011 Green Hills Engineering college Kumarhatti.
10. Deven Vatsal, Chandan, Sanjay Sharma, "A review on Power Line Communication System", National conference on research method in science , technology and management, REMET2011, March 26-27, 2011.
11. Dinesh Kumar, Sanjay kumar, Deven Vatsal, "Diluted Magnetic Semiconductors Materials and their Applications" in National conference RACTEE, Feb. 25-26,2011 Sant Longowal Institute of Engineering & Technology (SLIET), Longowal, Sangrur, Punjab.
12. Dinesh Kumar, Sanjay kumar, "Wide band amplifier for high frequency application" in National conference RACTEE, Feb. 25-26,2011 Sant Longowal Institute of Engineering & Technology (SLIET), Longowal, Sangrur, Punjab.
13. Sanjay Kumar, Tarlochan Kaur, "Renewable Energy Resources in India and Power World Simulator Model for Integration of Renewable Energy Resources with Grid" 2013 in National conference ESET, NIT, Hamirpur (H.P.).

9. **Book/Books chapter published:**

1. Sanjay Kumar, Nikita Gupta, Vineet Kumar, Tarlochan Kaur. A systematic approach for solar and Hydro resource assessment for DC Microgrid applications. Book chapter accepted in a book titled DC Microgrids Advances Challenges and Applications, Wiley Scrivener Publishing to be released in August 2021.
2. Analysis of COVID-19 outbreak using GIS and SEIR model, book titled " Fractional Order Systems and Applications in Engineering" to be published by Elsevier released in October 2021.
3. Kamaldeep, Himanshu Sharma, Sanjay Kumar, Arjun Tyagi, **"**Quality Improvement by Eliminating Harmonic using Nature based Optimization Technique", Renewable Energy Systems: Modeling, Optimization, and Applications. Wiley Scrivener Publishing to be released in September 2021.

Book

1. Sanjay Sharma, Nikita Gupta, Sandeep Kumar and Subho Upadhyay. Renewable Energy Systems: Modeling, Optimization, and Applications. Book accepted under Wiley Scrivener Publishing to be released in September 2021.

Achievements

Received Ministry of Human Resource Development (MHRD) assistantship from Govt. of India, during the Ph.D.

GATE Qualified, with 96.39 percentile

Major Administrative Responsibilities

1. Coordinator of Alumni association of University Institute of Technology, HPU, Shimla

2. Associate Editor of Himalayan Journal of Engineering Sciences published by Himachal Pradesh University.

Research/ Consultancy Projects:

Patents

1. Kumar, Sandeep; Jain, Arpit; Raja, Rohit; Rani, Shilpa; **Sharma, Sanjay**; Kumar Singh Kushwaha, Alok; Bonde, Padma; Kumar, Ashok; Chaudhary, Ankur; Ranjan Labh, Jyoti; Chordiya, S. B, "SBDASecured Bra for Women Safety: Smart and Secured Bra for Women Safety Based on Deep Learning Algorithm", Application No. AU 2020102636 Status: Granted
2. Kumar Sandeep; Jain, Arpit; Raja, Rohit; Rani, Shilpa; Mandeep Kumar;Prasad KantiPudi, **Kumar Sanjay**; Devadi Rakesh ,Kumari Pooja, Sharma Vivek, "Deep Learning Based Robotic Judge for Rash Driving Crime" Application No. 202141002082 Status: Filed. Date of Filing

Teaching

UG courses:

1. Basic Electrical Engineering
2. Network Analysis and Synthesis
3. Power System
4. Transducer and signal conditioning

5. Transformer Engineering
6. Control System

PG courses:

1. Deregulation in Power System
2. Power System Analysis
3. High Voltage

Thesis Supervised

Masters: (1)

PhD: (None)

Reviewer of Journals

1. Journal of Renewable and Sustainable Energy (AIP)
2. ISA Transactions (Elesvier).
3. International Journal of Electrical Power and Energy Systems (Elesvier)
4. Sustainable Energy Technologies and Assessments (Elesvier)
5. Smart Grid and Renewable Energy (Scientific Research Publishing)
6. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects (Taylor & Francis)
7. International Journal of Communication Systems (Wiley)
8. Various International and national conferences.

Miscellaneous Honorary Work

1. Application of AI for potential assessment of renewable energy sources, one-day workshop on Renewable energy system organized by Baddi University of Emerging Sciences and Technologies Solan H.P.
2. Feasibility analysis of hybrid renewable energy system, Webinar organized by Baddi University of Emerging Sciences and Technologies Solan H.P.
3. Delivered a talk on IoT & Energy Sector, in faculty development programme (Teqip-III sponsered) "Satatical learning -based Internet of Things (IoT), organized by Anand International College of Engg. Jaipur (Rajsthan) 10-14 March, 2021.
4. Delivered lecture, "Application of Machine learning in Engineering," in Online Faculty Development Program on Machine learning based applications, organized by Department of Electronics and Communication Engineering, Sreyas Institute of Engineering and Technology, Hyderabad, 31st May to 6th June, 2021.
5. Delivered lecture, "Feasibility analysis of Hybrid Renewable Energy System", in Online Faculty Development Program on Renewable Power Generation Control and Applications (RPGCA-2021) organized by University Institute of Technology, Himachal Pradesh University, India, June 16th, 2021.

Other Details

1. Organized 1-week faculty development Program on Artificial Intelligence using Python in collaboration with Brainovision Solutions India Pvt. Ltd. and National Youth Council of India (NYCI).
2. Organized 1-week faculty development program Program on Renewable Power Generation Control and Applications (RPGCA-2021) organized by University Institute of Technology, Himachal Pradesh University.
3. Organized special session Perspective on energy Transition and Smart Grid in the International Conference on smart technologies in computing, electrical and electronics held at Reva University, Karnataka, India 9-10 October 2020.
4. Represented school at block level in Kho-kho.
5. Represented PEC in Senior Chandigarh State Softball Championship at PEC Chandigarh.
6. Valuable contribution for organizing the National conference on "RAEE-2008", held at NIT Hamirpur.
7. Valuable contribution as a referee in Carrom in SPORTARTEN organized at NIT Hamirpur.

Contact Details

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