Dr. GAURAV SAINI

DEPARTMENT OF MECHANICAL ENGINEERING
HARCOURT BUTLER TECHNICAL UNIVERSITY KANPUR,
KANPUR-208002 INDIA
Email: gsaini@hbtu.ac.in

RESEARCH AREAS

- ✓ **Computational Fluid Dynamics (CFD) -** Numerical Modelling and Roto-dynamics analysis, Multiphase flow analysis.
- ✓ **Turbomachines -** Hydraulic Turbines: Design, Selection, and performance assessments, Pumps: Design, Selection, and Assessments
- ✓ **Hydrokinetic/Tidal Energy-** Site Selection and resource assessment, Technology selection and design, Installation strategies, Performance evaluation, and O&M issues.
- ✓ **Renewable Energy-** Hydropower, Solar-Thermal, Wind Energy Technologies and assessment
- ✓ **Energy Storage-** Phase Change Materials, High and Medium Temperature applications, Gravity Storage, Pump-Storage Plants

PROFESSIONAL EXPERIENCES

Assistant Professor **June, 2022- *Till date***
Department of Mechanical Engineering,
Harcourt Butler Technical University Kanpur, Uttar Pradesh, India.

Post-Doctoral Fellow **Dec. 2021- June, 2022**
Indian Institute of Technology Kanpur, Uttar Pradesh, India.

Assistant Professor **Nov. 2020- Dec., 2021**
Indian Institute of Engineering Science and Technology Shibpur, Howrah West-Bengal, India.

Project Fellow **Aug., 2020- Nov., 2020**
Indian Institute of Technology Roorkee Uttarakhand (India).

Assistant Professor **July, 2014- June, 2016**
Department of Mechanical Engineering, IMS Engineering College Ghaziabad (India).

Graduate Research Assistant **July, 2012- June, 2014**
Computational Fluid Dynamics (CFD) Laboratory, Indian Institute of Technology Roorkee India.

ACADEMIC QUALIFICATIONS

Ph.D. **2016-2020**
Indian Institute of Technology Roorkee, Uttarakhand India

M. Tech. **2012-2014**
Indian Institute of Technology Roorkee, Uttarakhand India

B. Tech. **2007 -2011**
Gautam Buddh Technical University (Formerly Uttar Pradesh Technical University) Lucknow, India

Intermediate **2007**
UP Board Lucknow, India.

High School **2005**
UP Board Lucknow, India

AWARD & HONORS

- **Research Excellence Award** (HBTU Kanpur) 2023
- Institute Post-Doctoral Fellowship (IIT Kanpur) 2021-22
- **Suri Travel Grant** for International Travel (Japan) 2019
- MHRD Fellowship (During Doctorate) 2016-2020
- MHRD Fellowship (During post-graduation) 2014-2016
- **GATE 2012** qualified with 96.39 percentile 2012
- Best paper presentation award at ICMMRE-2019, SMU Sikkim, India 2019

PUBLICATIONS

PATENTS

i. **Gaurav Saini** & Ashoke De (2024), *Crossflow Hybrid Hydrokinetic Turbine for Riverine System with a Self-Start Mechanism*, Application No.202411002787 A, (Published)

ii. **Gaurav Saini,** (2023), *Self-Starting Cross-Flow Hybrid Hydrokinetic Turbine for Riverine System*, Design No: 388647-001, Indian Patent (***Granted)***

iii. K. Kumar, N. Kumar, R.S. Raw, A. Kumar, R.P. Singh, **Gaurav Saini** (2022), *Automatic Real-Time Weather Condition-based home appliances control and monitoring system*, Application Number: 202211003658, Indian Patent (Published)

PEER-REVIEWED SCI JOURNALS

YEAR_2018

1. **Gaurav Saini***, R.P. Saini, (2018), A numerical analysis to study the effect of radius ratio and attachment angle on hybrid hydrokinetic turbine performance, Energy for Sustainable Development, 47, December 2018, 94-106. DOI: doi.org/10.1016/j.esd. 2018.09.005

YEAR_2019

2. **Gaurav Saini*,** R.P. Saini, (2019), A review on technology, configurations, and performance of cross-flow hydrokinetic turbines, International Journal of Energy Research, pp. 43(13), 6639-6679. DOI: 10.1002/er.4625

YEAR_2020

3. **Gaurav Saini*,** R.P. Saini, (2020), A computational investigation to analyze the effects of different rotor parameters on hybrid hydrokinetic turbine performance, Ocean Engineering, 199, Article No: 107019, DOI: 10.1016/j.oceaneng.2020.107019

4. A. Kumar, R.P. Saini, **Gaurav Saini*,** Gaurav Dwivedi, (2020), Effect of number of stages on the performance characteristics of modified Savonius hydrokinetic turbine Ocean Engineering, 217 Article No: 108090, DOI: 10.1016/j.oceaneng.2020.108090.

YEAR_2021

5. M. Kamal, **Gaurav Saini***, A. Abbas, V. Prasad, (2021) Numerical Investigations on the Cavitation Prediction and Performance Analysis of Francis Turbine under Different Loading Regimes, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, DOI: 10.1080/15567036.2021.2009941.

YEAR_2022

6. **Gaurav Saini***, R.P. Saini, S.K. Singal (2022) Numerical investigations on performance improvement of cross flow hydro turbine having guide vane mechanism, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, Vol. 44, No. 1, 771–795, DOI: 10.1080/15567036.2022.2050963.

7. Chauhan, S. Upadhyay, **Gaurav Saini***, N. Senthilkumar (2022), Agricultural Crop Residue Based Biomass in India: Potential Assessment, Methodology and Key Issues, Sustainable Energy Technologies and Assessments, Volume 53, Part B, Article No. 102552, DOI: 10.1016/j.seta.2022.102552
8. S. Mishra, **Gaurav Saini***, S. Saha, A. Chauhan, A. Kumar, S. Maity, (2022) A survey on multi-criterion decision parameters, integration layout, storage technologies, sizing methodologies and control strategies for integrated renewable energy system, Sustainable Energy Technologies and Assessments, 52, Part C, Article No.102246, DOI: 10.1016/j.seta.2022.102246.
9. J. Bhatt, V.S.K.V. Harish, O. Jani, **Gaurav Saini** (2022), Performance based optimal selection of communication technologies for different smart microgrid applications, Sustainable Energy Technologies and Assessments, Vol. 53, Part A, Article No. 102495, DOI: 10.1016/j.seta.2022.102495
10. G. Dwivedi, S. Jain, A. K. Shukla, P. Verma, T. N. Verma, **Gaurav Saini,** (2022) Impact analysis of biodiesel production parameters for different catalyst, Environment, Development and Sustainability, DOI: 10.1007/s10668-021-02073-w,
11. G. Raina, S. Sinha, **Gaurav Saini**, S. Sharma, P. Malik, NS Thakur, (2022) Assessment of Photo voltaic power generation using Fin Augmented passive cooling technique for different climates, Sustainable Energy Technologies and Assessments, Vol. 52, Part B, Article No.102095, DOI: 10.1016/j.seta.2022.
12. H. Bakır, Ü. Ağbulut, A. E. Gürel, G. Yıldız, U. Güvenç, M. E. M. Soudagar, A. T. Hoang, B. Deepanraj, **Gaurav Saini**, A. Afzal (2022), Forecasting of future greenhouse gas emission trajectory for India using energy and economic indexes with various metaheuristic algorithms, Journal of Cleaner Production, Vol. 360, Article No. 131946, DOI: 10.1016/j.jclepro.2022.131946.
13. U. Rajak, P. Nashine, P. K. Chaurasiya, T. N. Verma, A. Dasore, K. Pathak, G. Dwivedi, A.K. Shukla, **Gaurav Saini** (2022) The effects on performance and emission characteristics of DI engine fueled with CeO2 nanoparticles addition in diesel/tyre pyrolysis oil blends, Environment, Development and Sustainability, DOI: 10.1007/s10668-022-02358-8.
14. Al-Dawody, U. Rajak, A. Jazie, Al-Farhany, **Gaurav Saini**, T.N. Verma, P. Nashine (2022), Production and performance of biodiesel from Cladophora and Fucus green diesel, Sustainable Energy Technologies and Assessments, Volume 53, Part D, Article No. 102761, DOI: 10.1016/j.seta.2022.102761.
15. H. Puppala, S. R. S. Vasanthawada, N. Garlapati, **Gaurav Saini** (2022), Hybrid multi-criteria framework to determine the hierarchy of hydropower reservoirs in India for floatovoltaic installation, International Journal of Thermofluids, Volume 16, 100229, (Elsevier), DOI: 10.1016/j.ijft.2022.100229.
16. Saikat Saha, **Gaurav Saini***, Shubhangi Mishra, Anurag Chauhan, Subho Upadhyay, (2022) A comprehensive review of techno-socio-enviro-economic parameters, storage technologies, sizing methods and control management for integrated renewable energy system, Sustainable Energy Technologies and Assessments, Vol. 54, December 2022, 102849, DOI: 10.1016/j.seta.2022.102849.

YEAR_2023

17. **Gaurav Saini*** and Ashoke De, (2023) On the Self-Starting Comparative Performance Evaluation of Darrieus and Hybrid Hydrokinetic Rotor, International Journal of Energy for a Clean Environment, Vol.24 (5), DOI:10.1615/InterJEnerCleanEnv.2022044132.
18. Shubhangi Mishra, **Gaurav Saini***, Anurag Chauhan, Subho Upadhyay, (2023) Optimal Sizing and Assessment of Grid-Tied Hybrid Renewable Energy System for

Electrification of Rural Site, Renewable Energy Focus 44 (3), 259-276, 102849, DOI: 10.1016/j.ref.2022.12.009.

19. Yang Bao, Ruihong Li, Xuelan Yang, **Gaurav Saini***, P. Ranjith Krishna, Genqiang Wang, (2023) Optimal planning and multi-criteria decision making for effective design and performance of hybrid microgrid integrated with energy management strategy, *Sustainable Energy Technologies and Assessments*, Vol. 56, January 2023, Article No. 103074, DOI: 10.1016/j.seta.2023.103074.

20. Krishna Kumar, **Gaurav Saini***, Aman Kumar, RM Elavarasan, Zafar Said, Vladimir Terzija, (2023) Effective monitoring of Pelton turbine-based hydropower plants using data-driven approach, *International Journal of Electrical Power and Energy Systems* Vol. 149, February 2023, Article No. 109047, DOI: 10.1016/j.ijepes.2023.109047.

21. AA Sinha, Gaurav Saini, Sanjay, AK Shukla, MZ Ansari, Gaurav Dwivedi, Tushar Choudhary, (2023), A novel comparison of energy-exergy, and sustainability analysis for biomass-fueled solid oxide fuel cell integrated gas turbine hybrid configuration, *Energy Conversion and Management* Vol. 283 March 2023, Article No. 116923, DOI: 10.1016/j.enconman.2023.116923.

22. Neeraj Kumar Pandey, Krishna Kumar, **Gaurav Saini**, Amit Kumar Mishra, (2023) Security issues and challenges in cloud of things-based applications for industrial automation, *Annals of Operations Research*, March 2023, DOI: 10.1007/s10479-023-05285-7

23. Saikat Saha, **Gaurav Saini***, Anurag Chauhan, Subho Upadhyay, RM Elavarasan, M.S. Hossain Lipu (2023), Optimum design and techno-socio-economic analysis of a PV/biomass-based hybrid energy system for a remote hilly area using discrete grey wolf optimization algorithm, *Sustainable Energy Technologies and Assessments*, Vol. 57, June 2023, 103213, DOI: 10.1016/j.seta.2023.103213.

24. **Gaurav Saini***, RP Saini (2023), Clearance and blockage effects on hydrodynamic performance of hybrid hydrokinetic turbine, *Sustainable Energy Technologies and Assessments*, Vol. 57, June 2023, 103210, DOI: 10.1016/j.seta.2023.103210.

25. Shubhangi Mishra, VSKV Harish, **Gaurav Saini*** (2024) Developing design topologies and strategies for the integration of floating solar, hydro, and pumped hydro storage system, *Sustainable Cities and Society*, Vol. 95, August 2023, 104609, DOI: 10.1016/j.scs.2023.104609.

YEAR_2024

26. AS Rajpoot, **Gaurav Saini**, HM Chelladurai, AK Shukla, and Tushar Choudhary (2024) "Comparative combustion, emission, and performance analysis of a diesel engine using carbon nanotube (CNT) blended with three different generations of biodiesel." *Environmental Science and Pollution Research* (2024): 1-19.

27. Karthikeyan N. **Gaurav Saini**, (2024), Active Alleviations of fatigue stress of the blades by adaptively Maneuvered Deformable Trailing edge flaps (DTEE), *Environmental Science and Pollution Research*, DOI: 10.1007/s11356-023-31309-7.

28. Omveer Singh, **Gaurav Saini**, Ashoke De, (2024), Hydrodynamic Performance Enhancement of Savonius Hydrokinetic Turbine Using Wedge-Shaped Triangular Deflector in Conjunction with Circular Deflector, *Ocean Engineering*, Vol. 292, 116572, DOI: 10.1016/j.oceaneng.2023.116572.

29. Omveer Singh, Gaurav Saini, Ashoke De, (2024), Enhancing hydrodynamic efficiency of Savonius hydrokinetic turbine through circular deflector flow augmentation, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, Vol. 46 (1), pp. 3432-3453, DOI: 10.1080/15567036.2024.2319726.

30. K. Kumar, A. Kumar, **Gaurav Saini**, M.A. Mohammed, R. Shah, J. Nedoma, R. Martinek, S. Kadry, (2024) Performance monitoring of Kaplan turbine based hydropower plant under variable operating conditions using machine learning approach, *Sustainable Computing: Informatics and Systems*, Volume 42, 100958, DOI: 10.1016/j.suscom.2024.100958.

31. Prem Kumar, **Gaurav Saini**, Sarbjot Singh Sandhu, (2024), Exploiting a new combustion regime using a split partially premixed compression ignition engine fueled with n-butanol/diesel, Sustainable Energy Technologies, and Assessments, Vol. 64, 2024, 103690, DOI: 10.1016/j.seta.2024.103690.

*** Represents the corresponding author**

PEER-REVIEWED CONFERENCE PROCEEDINGS

1. International Conference Proceedings (Published online)

YEAR_2024

i. Omveer Singh, **Gaurav Saini**, Ashoke De (2024) "Hydrokinetic Energy Utilization Assessment on Deployment of Circular Deflector for Savonius Turbine" 10th International and 50th (Golden Jubilee) National Conference on Fluid Mechanics and Fluid Power (FMFP-2023) December 20-22, 2023.

YEAR_2023

ii. Shubhangi Mishra, **Gaurav Saini**, Anurag Chauhan, Sunanda Sinha (2023) "Optimal Designing of Grid-Connected Hybrid Renewable Model Using Harmony Search Algorithm" IEEE SILCON-2022, NIT Silchar, India, November 4-6, 2022.

YEAR_2020

iii. **Gaurav Saini,** A. Kumar, R.P. Saini, (2020), Assessment of hydrokinetic energy – A case study of eastern Yamuna canal, *Materials today: Proceedings*, Volume 46, Part 11, 2021, Pages 5223-5227, DOI: 10.1016/j.matpr.2020.08.595.

iv. A. Kumar, **Gaurav Saini**, (2020), Flow field and performance study of Savonius water turbine, *Materials today: Proceedings*, Volume 46, Part 11, 2021, Pages 5219-5222, DOI: 10.1016/j.matpr.2020.08.591.

v. **Gaurav Saini**, R.P. Saini, (2020). Study of Installations of Hydrokinetic Turbines and their Environmental Effects, *AIP Conference Proceedings*, 2273, 050022; https://doi.org/10.1063/5.0024338, ***(Awarded for best presentation)***

YEAR_2019

vi. **Gaurav Saini**, R.P. Saini, (2019). Comparative Investigations for Performance and Self-starting Characteristics of Hybrid and Single Darrieus Hydrokinetic Turbine, *Energy Reports*, vol. 6, (2), pp. 96-100, Proceedings of 6th International Conference on Power and Energy Systems Engineering (CPESE 2019) Okinawa, Japan. DOI: https://doi.org/10.1016/j.egyr.2019.11.047.

YEAR_2018

vii. **Gaurav Saini**, R.P. Saini, (2018), Numerical Investigation of the Effect of Blade Profile of a Darrieus Hydrokinetic Turbine, 5th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON 2018), MMM Gorakhpur, Nov.2-4, 2018. *DOI:*10.1109/UPCON.2018.8597073.

2. International Conference Proceedings (Published offline)

YEAR_2019

i. **Gaurav Saini,** A. Kumar, R.P. Saini, (2019), Improvement of Starting Torque Characteristics of Darrieus Hydrokinetic Turbine, 11th International Exergy, Energy and Environment Symposium (IEEES-11) 14 – 18, July 2019, © SRM Institute of Science and Technology Kattankulathur, Tamil Nadu, India.

YEAR_2018

ii. **Gaurav Saini**, R.P. Saini, (2018), Numerical Investigations for Performance Comparison of Savonius Hydrokinetic Turbine, 1st International Conference on New Frontiers in Engineering, Science & Technology (NFEST 2018), Delhi Technological University (DTU) New Delhi, India. Pp. 395-400.

3. National Conference Proceedings (Published offline)

YEAR_2018

i. **Gaurav Saini**, R.P. Saini, (2018), Numerical Investigations on Hybrid Hydrokinetic Turbine for Electrification in Remote Area, All India Seminar on Renewable Energy for Sustainable Development, Institution of Engineers Ghaziabad Section (IoE), India.

BOOKS

i. **Gaurav Saini,** R. Kannan, E. Benini, K. Kumar, (2023), Enabling Methodologies for Renewable and Sustainable Energy, ISBN 9781032224763, February 17, 2023, CRC Press, pp. 246.

ii. **Gaurav Saini,** K. Cengiz, S. Srinivasan, S. Padmanaban, Krishna Kumar (2023), Solar Energy: Advancements and Challenges, ISBN 9788770227032, March 16, 2023, River Publishers, pp. 188.

iii. K. Kumar, **Gaurav Saini,** D. M. Nguyen, N. Kumar, R. Shah (2022), Smart Cities: Concepts, Practices, and Applications, ISBN 9781032190327, Published May 4, 2022 by CRC Press.

BOOK CHAPTERS

YEAR_2023

i. **Gaurav Saini,** R.P. Saini, (2023), Hydrokinetic as an Emerging Technology, Smart Energy and Advancement in Power Technologies, 711-721

ii. RC Garimella, S. R. K. Madeti, T. B. Shankar, K. R. Nayak, M. Kumar, **Gaurav Saini**, K. Kumar (2023) Design and Development of Solar-Powered Hybrid Energy Bank (2023), In book: Solar Energy: Advancements and Challenges, ISBN 9788770227032, March 16, 2023 DOI: 10.1201/9781003373902-3

iii. Krishna Kumar, **Gaurav Saini**, Rachna Shah, Narendra Kumar, Manoj Gupta, (2023) IoT-Based Dam and Barrage Monitoring System, In Book: Enabling Methodologies for Renewable and Sustainable Energy, February 17, 2023, CRC Press, Taylor and Francis

YEAR_2022

iv. **Gaurav Saini,** Anuj Kumar and R.P. Saini, (2022) Effect of Hydrofoils on the Starting Torque Characteristics of Darrieus Hydrokinetic Turbine. In: Sustainable Developments by Artificial Intelligence and Machine Learning for Renewable Energies, pp-359-375, ISBN: 9780323912280 (Elsevier)

v. Rama Krishna Mediti, **Gaurav Saini,** Krishna Kumar (2022) Reservoir simulation model for the design of irrigation projects, In: Sustainable Developments by Artificial Intelligence and Machine Learning for Renewable Energies, pp-341-358, ISBN: 9780323912280 (Elsevier)

vi. Krishna Kumar, **Gaurav Saini**, Narendra Kumar, M. Shamim Kaiser, Ramani Kannan, and Rachna Shah (2022) Prediction of energy generation target of hydropower plants using an artificial neural network, In: Sustainable Developments by Artificial Intelligence and Machine Learning for Renewable Energies, pp-309-320, ISBN: 9780323912280 (Elsevier)

vii. Sujeet Kesharvani, Adarsh Gaurav, Gaurav Dwivedi, **Gaurav Saini**, Anuj Kumar, Kamaraj Nithyanandhan (2022), Application of alternative clean energy, In: Sustainable Developments by Artificial Intelligence and Machine Learning for Renewable Energies, pp-1-20, ISBN: 9780323912280 (Elsevier)

viii. Shivom Sharma, **Gaurav Saini**, Krishna Kumar, and Karuna Saini (2022), Futuristic Approach to Energy in Smart Cities, In: Smart Cities: Concepts, Practices, and Applications, ISBN:9781032190327 (Taylor & Francis).

YEAR_2021

ix. **Gaurav Saini** and R.P. Saini, (2021) Performance Study of Cross Flow Hybrid Hydrokinetic Turbine. In: Pandey A., Mishra S., Kansal M., Singh R., Singh V.P. (eds) Hydrological Extremes. Water Science and Technology Library, vol. 97. 249-257 Springer, Cham. https://doi.org/10.1007/978-3-030-59148-9_17.

COURSE/TRAINING/WORKSHOP ATTENDED

- Participated in the '*International Workshop on Sustainable Energy, Power, and Propulsion*" held at Outreach Center Noida, Sector 62 (IIT Kanpur Delhi Campus) on January 19-21, 2024.
- Participated in the '*High-Performance Computing Methods for Complex and Moving Geometries*" organized jointly by IIT Kanpur and Nodal Centre for Training in HPC and AI (IIT Kharagpur) under the aegis of the National Supercomputing Mission on Dec. 1-2, 2023.
- Participated in the '*International Workshop on Solar Thermal Energy Storage*' organized by IIT Roorkee on Dec.13-14. 2021.
- Participated in the '*2nd Online International Workshop on Instream hydrokinetic Devices*' organized by IIT Roorkee on Sept.27-28. 2021.
- Participated in the "*International Workshop on Hydrokinetic Technology*" organized by IIT Roorkee on Oct.10-11 2019.
- Participated in GYAN course on *'Two Phase Flow and Heat Transfer'* Sponsored by MHRD GoI/IIT Roorkee, 2017.
- Attended workshop on *'Numerical Modelling of Transport Phenomena in Fluid Flows for Engineering Applications'* Department of Mathematics, IIT Roorkee, 2017.
- Attended authors Workshop on '*Book Publishing'* MGCL, IIT Roorkee, 2016.
- Training at National Thermal Power Corporation Dadri Gautam Budha Nagar, Uttar Pradesh (India), 2010.

TEACHING ENGAGEMENTS

Subject	**Course**	**Semester/session**	**Institute/University**
Energy Conversion	B. Tech	Spring (2023-24)	HBTU Kanpur
Fluid Machinery	B. Tech	Autumn (2022-23)	HBTU Kanpur
Engineering Fluid Mechanics	B. Tech	Spring (2022-23)	HBTU Kanpur
IC Engine	B. Tech	Spring (2022-23)	HBTU Kanpur
Engineering Mechanics	B. Tech	Spring (2022-23),	HBTU Kanpur
Energy from Wind and Biomass	M. Tech	Autumn (2020-21)	IIEST Shibpur
Renewable Energy Project Management and Economics	M. Tech	Spring (2020-21)	IIEST Shibpur

INVITED LECTURES/SESSION CHAIR

YEAR_2024

- ✓ Invited as **Session Chair** for the 1st International Conference on Innovative Sustainable Technologies for Energy, Mechatronics, and Smart Systems (ISTEMS-2024) held at Graphic Era (Deemed to be University), India from April 26 - 27, 2024.

YEAR_2023

- ✓ Invited as **Session Chair** for the 10th International and 50th (Golden Jubilee) National Conference on Fluid Mechanics and Fluid Power, (FMFP 2023)" held at Indian Institute of Technology Jodhpur, India from 20-22 December 2023.
- ✓ Invited as **Session Chair** for the *3rd International Conference on. Innovative Sustainable Computational Technologies (CISCT 2023)"* held at Graphic Era (Deemed to be University), India from *8-9 September 2023*.
- ✓ Invited as **Session Chair** for the *2nd International Conference on "Innovations in Clean Energy Technologies (ICET 2023)*" held at Energy Centre, Maulana Azad National Institute of Technology, Bhopal, India during April 8-10, 2023.

YEAR_2022

- ✓ Invited lecture on '***Hydrokinetic Energy: An Emerging Technology to Harness the Hydropower potential'*** five-day online Faculty Development Programme on "Non-conventional Energy", organized by the Department of Mechanical Engineering, Dr. B C Roy Engineering College (BCREC), Durgapur, West Bengal, during Nov. 14-18, 2022.
- ✓ Invited lecture on '***Ethics in Research publications: A Prerequisite'*** at a one-week workshop on "*Research Ethics in Engineering*", organized by Maulana Azad National Institute of Technology Bhopal during Nov. 14-20, 2022.

YEAR_2020

- ✓ Invited lecture on '***Hydrokinetic Energy- Resource Assessment and Site Selection'*** in a Faculty Development Program with the theme of 'Clean Energy Technologies For Sustainable Growth-Current R&D' organized by Academic Staff College (ASC) and School of Mechanical Engineering (SMEC), Vellore Institute of Technology during December 14-18, 2020.

YEAR_2019

- ✓ Invited lecture on '***Technologies to Harness the Hydrokinetic Energy'*** at International Workshop on Hydrokinetic Energy, organized by Department of Hydro and Renewable Energy, Indian Institute of Technology Roorkee during Oct. 10-11, 2019.

EDITOR EXPERIENCE

- ✓ Guest Editor for the Book on '*Smart Cities: Concepts, Practices, and Applications'* for *CRC Press* under Taylor and Francis Group.
- ✓ Guest Editor for the Book on '*Solar Energy: Advancements and Challenges'* for River Publishers under IEEE.
- ✓ Guest Editor for the Book on '*Enabling Methodologies for Renewable and Sustainable Energy*' for CRC Press under Taylor and Francis Group.

INDUSTRIAL INVOLVEMENTS

INDUSTRY	ROLE/PARTICIPATION	WEBPAGE
Maclec Technical Project Laboratory Private Limited	➢ Computational investigations of the developed rotor. ➢ Manufacturing, and deployment of the hydrokinetic turbine in the Upper Ganga Canal for performance evaluation.	https://www.maclec.com/

	➢ Report preparation on the performance update to the funding agency.	
Powerzest Energy Solutions Private Limited	➢ Development of the Drag-based wind turbine model. ➢ Numerical flow visualization to understand the flow physics and development of drag forces. ➢ Testing of the model in real conditions for performance evaluation.	https://www.powerzest.in/
Maini Renewables	➢ Involvement in the setting up of the project for the hydrokinetic energy harvesting. ➢ Computational Investigations to understand the flow behavior across the turbine blades and optimize the turbine parameters.	https://www.mainirenewables.com/
Baud Resources	➢ Involvement as the Independent Technical Observer (ITO) for the SKODA, NTPC and UPNEDA. ➢ Review Committee member for the Vivek22 Gravity Demo Project at IIT Kanpur.	http://www.baudresources.com/

REVIEWER EXPERIENCE

Journal	**Publisher**
Energy	Elsevier
Ocean Engineering	Elsevier
Applied Ocean Research	Elsevier
Renewable Energy	Elsevier
Materials Today- Proceedings	Elsevier
Journal of Sustainable Energy Technologies and Assessments	Elsevier
Arabian Journal for Science and Engineering	Elsevier
Journal of Energy Research	Wiley
Structural Concrete	Wiley
IET Renewable Power Generation	Wiley
Progress in Energy and Environment	Akademia Baru Publishing (M) Sdn Bhd
International Energy Journal	Asian Institute of Technology
Journal of Applied Research and Technology	Universidad Nacional Autónoma de México
Journal of Engineering and Technological Sciences	Institut Teknologi Bandung

ONLINE PROFILES

Google Scholar: **https://scholar.google.com/citations?hl=en&user=gpMz9EoAAAAJ**
Scopus: **https://www.scopus.com/authid/detail.uri?authorId=57204239337**
LinkedIn: **https://www.linkedin.com/in/gaurav-saini-ph-d-a84b31b4/**
Orcid: **https://orcid.org/0000-0001-9593-5180**