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Professional Summary

I am a Mechanical Engineer (93 percentile in GATE 2009) turned Energy Researcher of IIT Bombay with double full-time complementary specializations, viz. M.B.A (Finance) and MTech (Thermal Energy). My research keywords are: Energy, Exergy, Economic (3E) analysis, Thermo-economics/Exergo-economics, Energy management & Audit, Levelized cost of energy, Energy economics~planning~policy etc. I teach subjects like: Thermodynamics, Power cycles and Exergy analysis, Energy engineering and economics, Power plant Engineering and Economics, Energy Management and Audit. My research philosophy is based upon five principles which I call as the principle of ISTCS: I (Identify| the hidden issue), S (research outcome should benefit the |Society), T (To solve any problem the orientation should be |Transdisciplinary), C (Research Finding should be implementable in a |Cost-effective manner), S (The proposed solution should be |Sustainable). I have authored nine papers in international energy journals and few more are under review; moreover, authored one book, two book chapters; delivered talk as an energy expert in two workshops. I have 4.5 years of pre-PhD experience including academia (3.5), and corporate job (1).

Academic qualification || B. E (Mechanical) | MBA (Finance) | M.Tech (Thermal) | Ph.D. (Energy Engg.)

Degree	Institute/University	Nature of institute	Duration	Specialization	% ge
Ph.D.	IIT Bombay	QS rank = 152	2017-2021	**Energy Engg.**	8.7
PhD Thesis title: Analyzing the Reliability and Economic Viability of Electrification under Sustainable Development Goal: A case study of India **Description:** Techno-economic assessment of conventional grid electrification and 3E (Energy, exergy, economic) analysis of off-grid solar polygeneration technology (electricity, hot water, hot air) (Supervisor: Prof. Suneet Singh (H.O.D), Prof. Chetan Singh Solanki: Department of Energy Science and Engineering, IIT Bombay and Prof. Brijesh Mainali, Department of Built Environment & Energy Technology, Linnaeus University, Sweden)					
M.Tech	CET	Govt. Engineering college	2014-2016	**Thermal**	8.7
M.B.A	KIIT	Institute of Eminence	2010-2012	**Finance**	7.7
B.E	Utkal Now its Siksha O Anusandhan (Deemed)	NIRF = 34 (Engineering)	2002-2006	**Mechanical**	66.2
+2	CHSE	Govt.	1999-2001	Science	78.4
10th	BSE	Govt.	1998-1999	-	83.4

Pre-PhD experience details || Teaching (3.5) | Corporate (1) | Total (4.5 years)

Designation	University/Organization	Duration	years
Assistant Professor (Mechanical)	CEB, Bhubaneswar	Jan, 2013 to Aug, 2014	1.5
Lecturer (Mechanical)	SOA University (NIRF 2020 ranking = 34), Bhubaneswar	March, 2008 to Feb, 2010	2
Project Engineer	Tata Consulting Engineering, Bangalore	Aug, 2006 to June 2007	1

List of publications in Energy journals || 7 SCI papers as 1st author | 3 in Q1 Elsevier

Google Scholar (66 citations, h index=5) link to Research profile: https://bit.ly/3eYxiuG

No	Year	Title	Journal Name	Publisher (Impact factor)
1	2021	Energy, Exergy, and Economic (3E) analysis of an off-grid Solar Polygeneration system https://doi.org/10.1016/j.enconman.2021.114177	Energy Conversion and Management	**Elsevier (9.7)** (SCI-E)
2	2021	An index based generic framework for tracking the quality of supplied electricity http://dx.doi.org/10.1080/15567249.2021.1922955	Energy Sources, Part B: Economics, Planning, and Policy	Taylor & Francis (3.2) (SCI)
3	2021	Assessing the financial sustainability of rural grid electrification pathway: A case study of India https://doi.org/10.1016/j.spc.2020.08.001	Sustainable Production and Consumption	**Elsevier (5.03)** (SCI-E)
4	2021	Effect of Tropical Climatic Conditions on Energy and Entropy Generation Analysis of Hydrological Cycle **(4th Author)** 10.1504/IJEX.2021.115899	International journal of exergy	Inderscience (0.95) (SCI)
5	2020	A Monte Carlo based approach for exergo-economic modeling of solar water heater https://doi.org/10.1080/15567036.2020.1822955	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects	Taylor & Francis (1.18) (SCI)
6	2018	Risk modeling of domestic solar water heater using Monte Carlo simulation for East Coastal region of India	Energy **(part of M. Tech)**	**Elsevier (7.14)** (SCI-E)
7	2018	A service-based business model for rapid diffusion of solar water heaters in India https://doi.org/10.1504/ijetp.2018.10010092	International Journal of Energy Technology & Policy **(part of M. Tech)**	Inderscience (0.9) (Scopus)
8	2017	Development of customized formulae for feasibility and break-even analysis of domestic solar water https://goo.gl/d5a23c	International Journal of Renewable Energy Research **(part of M. Tech)**	Gazi University Turkey (6.17) (ESCI)
9	2017	Soft computing techniques for a solar collector using solar radiation data **(2nd Author)** Link: https://doi.org/10.1016/j.egypro.2017.03.059	Energy Procedia	Elsevier (1.15) (Scopus)

Book

Year	Book title	Publisher
2020	Hot water as a service: A Techno-economic assessment of solar water heater Link: https://bit.ly/2C5GDCc https://amzn.to/2Bo31qN ISBN 365995215X, 9783659952159	Lambert publication

Book chapters

No.	Year	Chapter Title	Book title	Publisher
1	2021	Benefit-Cost analysis and parametric optimization using Taguchi Method for a solar water heater Link: https://doi.org/10.1016/B978-0-12-821602-6.00008-0	Design and Performance Optimization of Renewable Energy Systems	eBook ISBN: 9780128232323 Elsevier
2	2021	Conjugate Heat Transfer analysis of Solar Cooker cavity using CFD approach Link: https://doi.org/10.1007/978-981-15-7831-1_56	Lecture Notes in Mechanical Engineering	Springer

Teaching expertise

Thermodynamics and Power cycles | Energy Engineering | Power plant engineering & economics | Energy management & audit | Energy resources, economic, planning

Talks delivered as invited speaker

Organization	Year	Type of Programme	Title of Programme	Title of my talk
IGIT Sarang (Govt. Engineering College)	July 2016	DST Odisha sponsored STC	"Emerging trends on Energy Management & their Application"	A Thermo-economic assessment framework for solar water heater
IIT Bombay	December 7-8, 2018	Workshop	International Workshop on Decentralizing Solar Solutions: Attaining and Sustaining Electricity Access for all	A perspective on conventional grid electrification pathway for universal electricity access

Short term courses

Organization	From	To	Details
IIT Guwahati	23.05.2016	27.05.2016	Short term course on "Energy Management and Energy Efficiency"
CET (Govt. Engineering college), Odisha	19.09.2016	23.09.2016	MHRD Sponsored Short term course on "Energy Conservation and Management"