

Dr. Sudhakar Kumarasamy

Senior Lecturer
Faculty of Mechanical & Automotive Engineering Technology
Universiti Malaysia Pahang, 26600 Pekan, Pahang, Malaysia

Telephone: (Mobile) +600197308925 | (Office) +609 424 6222

Email address: sudhakar@ump.edu.my

<https://apps.ump.edu.my/expertDirectory/profile.jsp?email=sudhakar@ump.edu.my>

Scopus ID: 57203257556

Google Scholar: KAUxj38AAAAJ&hl



Biography

Dr.K. Sudhakar is currently a Senior Lecturer at the Faculty of Mechanical and Automotive Engineering Technology, Universiti Malaysia Pahang. He obtained his B.E in Mechanical Engineering from Government College of Engineering, Salem, Madras University in 2001, and M.Tech in Energy Management from School of Energy & Environment Studies, Devi Ahilya University, Indore in 2006. He obtained his Ph.D. from the National Institute of Technology, Tiruchirappalli, India in 2013. He has received MHRD GATE and DST Senior research fellowship from the Government of India for his Doctoral Research. He is also serving as Associate Editor, Frontiers in Energy Research (Solar section), Guest Editor for International Journal of Photo energy and Editorial Board of Energy Engineering (Scopus indexed). He is also invited as Visiting Faculty/Researcher at Several other Universities in India, Russia, and Vietnam. He has been actively involved in teaching & research in the area of sustainable energy sources. He has published around 150 research papers both in SCI/Scopus indexed International journals and conference proceedings. He is a Certified Energy Manager & Auditor by Bureau of Energy Efficiency, Ministry of Power, Govt of India.

Education Background

2008 – 2013	Doctor of Philosophy <i>Department of Energy & Environment, National Institute of Technology, Tiruchirappalli, India</i>
2003 – 2006	M.Tech. in Energy Management <i>School of Energy and Environmental studies, Devi Ahilya University, Indore, India</i>
1997 – 2001	Bachelor in Mechanical Engineering <i>Government college of Engineering, Salem, Madras University, India</i>

Career/Academic Appointments

2017 – present	Senior Lecturer <i>Faculty of Mechanical and Automotive Engineering Technology, Universiti Malaysia Pahang</i> Research Fellow <i>Automotive Engineering centre, Universiti Malaysia Pahang</i>
2010-2017	Assistant Professor (on leave) <i>Energy Centre, Maulana Azad National Institute of Technology, India</i>
2008-2010	Senior Research Fellow <i>Centre for Energy and Environmental Science and Technology, National Institute of Technology, Tiruchirappalli, India</i>
2006-2008	Assistant Professor & Head <i>Department of Mechanical Engineering, Annai Teresa College of Engineering (Anna University), Tamilnadu, India</i>

Courses Taught

BTV 3224	Heating, ventilation and Airconditioning Technology
BTV 4703	Solar energy systems
MME 6154	Advanced Thermodynamics
BMM 3513	Heat transfer
BMM2683	Applied thermodynamics
BMM 3531	Engineering thermodynamics lab
BMM 3511	Engineering Thermo-fluid lab
BMM 2523	Thermodynamics II
BMM 2673	Thermodynamics I
BMM 2533	Fluid mechanics
BMM 3521	Engineering Fluid Mechanics lab
Courses Taught at MANIT-Bhopal, India	M.Tech in Green Technology & M.Tech in Renewable Energy, B.Tech in Energy
RE/GT 551	Energy Modeling and Simulation
RE/GT 537	Hydrogen energy and Fuel cell
RE 512	Renewable energy sources
RE 522	Solar energy utilization
GT 523	Carbon sequestration and sustainable development
GT 521	Environment policy and planning
EN 401	Energy modeling
EN 205	Thermodynamics
EN 342	Energy simulation lab
EN 302	New and Renewable Energy Sources
EN 391	Renewable Energy lab
EN 351	Solar energy systems
EN 353	Energy conservation and Audit
EN 441	Materials for Energy applications
EN 402	Bio-energy systems

Professional Affiliation

Board of Engineers Malaysia (BEM)	Graduate Engineer (G20993L)
Institute of Engineers (IEI), India	Chartered Engineer & Life-member
Indian society of Technical Education	Life -member
Society of Energy Managers & Energy Auditors	Life -member
Solar energy society of India	Life -member
Fluid Mechanics and Fluid Power Society	Life -member
Hong Kong Society of Mechanical Engineers	Life-member (M 20151207001)

Research Interests

Feasibility and Performance evaluation Of Clean Energy Projects, Sustainability of Energy Systems, Bioeconomy, Carbon Capture and Sequestration, Energy Modeling, Heat Transfer in Energy Systems.

Postgraduate Supervision

Level	Name	Title	Status	Role
PhD	Nida Khan	Characterization and sustainable biofuel production from marine macroalgae	Active	Main Supervisor
PhD	Dokala Janandra krishna kishore	A novel based MPPT approach for photovoltaic system under various atmospheric conditions	Active	Co-Supervisor
PhD	Madderla sandhya	Hybrid cellulose with water based Nano coolant for heat exchanger application	Active	Co-supervisor

PhD	Ajithgopi	Performance modeling & analysis of utility scale solar photovoltaic power plants in tropical regions: A study with reference to the Indian state of Kerala and Malaysia	Active	Main Supervisor
PhD	Sreenath Sukumaran	Energy and environmental analysis of net zero energy Malaysian airports	Active	Main Supervisor
			Ended	Main Supervisor
PhD	Ria	Modelling and performance analysis of Automated Floating and submerged photovoltaics for application in water bodies of Malaysia.	Ended	Main Supervisor
PhD	Nallapaneni manoj kumar	Techno-economic analysis, optimization and life cycle assessment of thin film PV for building applications in India and Malaysia	Ended	Main Supervisor
PhD/Masters Guidance at other university				
PhD	Anupama Khare Saxena	Stability Analysis of a Grid Connected 100KW rooftop Solar Photovoltaic Energy generation system	Active	Co-supervisor
PhD	Mouhcen elhadi dahmoun	Performance evaluation and management of the energy produced by a 24 MW photovoltaic power plant with the integration of an energy storage system	Active	Co-supervisor
PhD	Pushpendu Dwivedi,	Experimental and Simulation Studies on various cooling methods of solar PV system	Active	Supervisor
PhD	Mary Debbarma	Experimental studies on Building Integrated Photovoltaic /Thermal system in India.	Active	Supervisor
PhD	Alok Kumar Sahu	Design & development of Polymer based floating structure for Photovoltaic system	Completed	Supervisor
PhD	Ruma Arora	Experimental analysis of spirulina cultivation in open pond and Photobioreactor	Completed	Supervisor
PhD	Akask Kumar Shukla	Techno-economic analysis of Building Integrated Photovoltaic system for households in urban India	Completed	Supervisor
M.Tech	Ravi Prakash	Exergy analysis and Performance of Solar Photovoltaic Module with & without Artificial Water Cooling	Completed	Main Supervisor
M.Tech	Sudharshan K	Modelling of Solar Irradiance, Energy Requirement and Feasibility Assessment for Microalgae CO ₂ Sequestration using MATLAB-Simulink	Completed	Main Supervisor
M.Tech	Jeetendra Prasad	Green Electricity Production from Sediment and Plant Microbial Fuel Cell	Completed	Main Supervisor
M.Tech	Dayal Singh Rajput	Experimental Investigation of Dust Effect on the Performance of Solar Photovoltaic Panel	Completed	Main Supervisor
M.Tech	Tulika Srivastava	Fabrication Testing of dye sensitized solar cell and its simulation using MATLAB.	Completed	Main Supervisor
M.Tech	Saurabh Mehrotra	Experimental Analysis of Submerged and Concentrated Photovoltaics.	Completed	Main Supervisor
M.Tech	Suresh Bahadur	Ultrasonic assisted transesterification of bio-diesel production from mahua,neem and castor seed	Completed	Main Supervisor
M.Tech	Kundan Singh	Biodiesel production from waste cooking oil	Completed	Main Supervisor
M.Tech	Pratish Rawat	Energy and Exergy Analysis of Solar Photovoltaic/ Thermal (PV/T) Hybrid Water Collector	Completed	Main Supervisor

M.Tech	Noopur Jain	Assessment of Water Quality Parameters in Different Reservoirs of Bhopal and Treatment Using Solar/ Biological/Photocatalytic Method	Completed	Main Supervisor
M.Tech	Anju Katiyar	Performance Evaluation and Mathematical Modelling of Biomass Crop Dryer.	Completed	Main Supervisor
M.Tech	Mary Debbarma	Energy and Exergy Analysis of Hybrid Solar PV thermal air collector	Completed	Main Supervisor
M.Tech	Ravi Lakra	Performance Analysis of 500 MW Hasdeo Thermal Power Plant	Completed	Main Supervisor
M.Tech	Girish Thakur	Design, Development and Energy Analysis of Organic Solar Cell	Completed	Main Supervisor
M.Tech	Alok Dixit	Lighting Parameters Assessment and Energy Efficient Illumination Design for a Building	Completed	Main Supervisor
M.Tech	Saurabh Yadav	Design Development and Thermal Performance Evaluation of Double Slope Domestic Solar Still.	Completed	Main Supervisor
M.Tech	Aditi Bhawsar	Design and development of Solar PV Integrated Sustainable greenhouse	Completed	Main Supervisor
M.Tech	Shiva Kumar	Performance evaluation of 10 MW Grid connected Solar Photovoltaic Power Plant in India	Completed	Main Supervisor
M.Tech	Lohkesh Udhvani	Development of a Novel biological fuel cell	Completed	Main Supervisor
M.Tech	Naveen Kumar Lodha	Design and Simulation of Solar PV Based Automatic Pumping system	Completed	Main Supervisor
M.Tech	Sibu Sam John	Microcontroller based Solar PV Integrated Smart Green House.	Completed	Main Supervisor
M.Tech	Mukund Kumar Singh	Modelling and simulation of FC –PV Hybrid system	Completed	Main Supervisor
M.Tech	Shruti Yadav	Dynamic Modelling and Grid Integration of Solid Oxide Fuel cell	Completed	Main Supervisor
M.Tech	Elsa John	Development and Simulation of Dye Sensitized Solar cells	Completed	Main Supervisor
M.Tech	Vipinraj Suganthan	Novel approach for efficiency enhancement of Dye Sensitized Solar cells	Completed	Main Supervisor
M.Tech	Akhilesh Chandra sati	Design and Development of Smart Waste-Bins for Sustainable Solid Waste Management	Completed	Main Supervisor
M.Tech	Kaveri Markam	Optimization of Tilt Angle of Solar Farms for Maximum Power Generation	Completed	Main Supervisor
M.Tech	Kushagara Singh	Design and Development of Low-Cost Hybrid Solar Water Desalination System	Completed	Main Supervisor
M.Tech	Madhuri Gupta	Energy and Exergy Analyses of Improved Biomass Cook Stoves	Completed	Main Supervisor
M.Tech	Rohit Kumar Gupta	Experimental Analysis of Municipal Waste Water Treatment Using Spirulina	Completed	Main Supervisor
M.Tech	Vijay Kumar Manjhi	Remote Monitoring and Control of Colored Transparent Solar PV Integrated Greenhouse	Completed	Main Supervisor
M.Tech	Jay Prakash Bijarniya	Design, Performance and Economic Analysis of CSP based power generation	Completed	Main Supervisor
M.Tech	Jogi Paul	Synthesis and Characterization of Perovskite Solar Cells	Completed	Main Supervisor
M.Tech	Rishika Saxena	Novel Hole Conduction Materials for Semiconductor and Solid-State Dye-Sensitized Solar Cells	Completed	Main Supervisor
M.Tech	Neha Yadav	Performance Analysis of Floating Solar Power Plant	Completed	Field Supervisor
M.Tech	Prabhat Kumar	Thermal analysis of solar PV (c-si and a-si) system using recycle water cooling technique	Completed	Field Supervisor

M.Tech	Sreenath Sukumaran	Solar Potential and Energy Performance Assessment of Solar Powered Airports	Completed	Main Supervisor
M.Tech	Nagesh Choudhary	Design and analysis of a large-scale algae cultivation system for maximum biomass yield.	Completed	Main Supervisor
M.Tech	Akashay Baitule	Techno-economic feasibility analysis of 5MW solar PV and CSP technology for MANIT Bhopal	Completed	Main Supervisor
M.Tech	Deepak Bishoyi	Design and Performance Analysis of Various CSP Technologies in India	Completed	Main Supervisor
M.Tech	Soni Kumari	Energy Analysis of Building Integrated Photovoltaic System for a Hot humid sub-tropical climatic conditions	Completed	Field Supervisor

Research Grants

Title	Type of Grant	Role	Amount (RM)	Status
Design, Performance and Environmental Analysis of Solar PV Plant in Malaysian Airport	PGRS	Leader	4150	Active
Performance Analysis of Floating and Submerged Photovoltaics System	RDU	Member	33,500	Ended
Advanced Biodiesel Production from Various Bioresources And Waste Oil Blends	FLAGSHIP UMP	Leader	25000	Ended
Characterization and Technology Assessment of Sustainable Biofuel Production from Seaweed for Automotive Application	RDU	Leader	26,000	Ended
Techno-Economic Analysis, Optimization and Life Cycle Assessment of Thin Film PV For Building Application In Malaysia	PGRS	Leader	3500	Ended
Modelling and Performance Analysis of Automated Floating and Submerged Photovoltaics for Application in Water Bodies of Malaysia	PGRS	Leader	3500	Ended
Development for Renewable Biofuel from Seaweed for Automotive Industry Application	Seed Money	Leader	5500	Ended
A New Mechanism of Double-Negative Metamaterial-Based Anti-Reflective Coating Towards Vis-Light and Near-Infrared (Nir) Solar Energy	FRGS	Member	122,450.00	Active
Optimization and Performance Evaluation of Mxene Nanomaterial	FLAGSHIP UMP	Member	74,500.00	Active
Investigation on Stability of Waste Plastics into Oil and Its Emulsion To Control The Performance, Combustion And Emission In Di Diesel Engine	RDU	Member	31500	Active
Solar Visible Light (VI) Harvesting of Metamaterial Organic Photovoltaic Cell for Iot Ecosystems	RDU	Member	33000	Active
A Study on Data-Driven Approach for Rotating Machinery Fault Diagnosis Using Machine Learning Technique	FRGS	Member	91500	Active
Experimental Studies on The Effect of Current Density and Magnetic Field on The Growth of Ni Nanowires During Electrodeposition	RDU	Member	36500	Active
Improved Oxygenated Combustion Through Alcohol Additive Dilution Approach on A Diesel Engine for Performance and Emission Enhancement	RDU	Member	33615	Ended
Diesel Engine Performance with Emulsified Water-Diesel Fuel	RDU	Member	38784	Ended

Consultation Projects (please delete this section if you don't have consultation projects)

Project Title	Customer	Amount (RM)
A Preparation of Detailed Project Report of 50 MW Floating Solar Power Plant at West Kallada, Kollam District Kerala	National Hydro Electric Power Corporation (NHPC, India)	5,50,000(INR)
Preparation of Detailed Project Report of 70 MW Solar Power Plant at Ghutari, Kolaras, Shivpuri Dt, Madhya Pradesh	NHDC, India	5,50,000(INR)

Book/book chapter/module Publications

- [1] **K. Sudhakar**, K.K.S.Gautam (2015): Renewable Energy and Green Technology for sustainable development. October 2015 1st Edition 10/2015; BS Publications., ISBN: 978-93-83635-95-5
- [2] **K. Sudhakar**, Anil Kumar (2014), Advanced Internal Combustion Engines. BS Publications/BSP Books., ISBN: 9789383635061.
- [3] Suresh Sundaramurthy, **Sudhakar K** (2013): *Global Scenario in Environment and Energy*.; BS Publisher (India), Pvt. Ltd., ISBN: 978-81-7800-286-6
- [4] Anil Kumar, **K. Sudhakar** (2012). Fundamentals of Mechanical Engineering. BS Publications/BSP Books., ISBN: 9789381075586
- [5] Anil Kumar, **K. Sudhakar** (2010): *Energy, Environment, Ecology and Society*. BS Publications/BSP Books., ISBN: 9788178002576
- [6] **K Sudhakar**, R Mamat, (2019). Artificial leaves: towards bio-inspired solar energy converters, Elsevier,
- [7] AC Sati, **K Sudhakar**, (2018). Smart Dustbins: An Approach for Sustainable Solid Waste Management in Smart Cities, Water Quality Management, 483-492,
- [8] **K. Sudhakar**, Ruma Arora Soni (2017) *Carbon Sequestration Through Solar Bioreactors: Industrial Strategies*. Carbon Utilization, pages 143-155; ISBN: 978-981-10-3351-3, DOI:10.1007/978-981-10-3352-0_10
- [9] Soni R.A., **Sudhakar K.**, Rana R.S., Baredar P. (2021) Food Supplements Formulated with *Spirulina*. In: Mandotra S.K., Upadhyay A.K., Ahluwalia A.S. (eds) *Algae*. Springer, Singapore. https://doi.org/10.1007/978-981-15-7518-1_9
- [10] M Premalatha, KK Vasumathi, **K Sudhakar**: (2010) *.CO2 Sequestration and Biofuel Production using Microalgae Technology*. CO2 Sequestration Technologies for Clean Energy: Awareness and Capacity Building, Edited by Qasim SZ, Malti Goel, pages 85-93; Daya Publishing House, New Delhi., ISBN: 9788170356608

Journal Publications

- [1] Bahadur, S., P. Goyal, and **K. Sudhakar**. 2015. "Ultrasonic Assisted Transesterification of Neem Oil for Biodiesel Production." *Energy Sources, Part A: Recovery, Utilization and Environmental Effects* 37 (17). <https://doi.org/10.1080/15567036.2014.911783>.
- [2] Bahadur, S., P. Goyal, **K. Sudhakar**, and J.P. Bijarniya. 2015. "A Comparative Study of Ultrasonic and Conventional Methods of Biodiesel Production from Mahua Oil." *Biofuels* 6 (1–2). <https://doi.org/10.1080/17597269.2015.1057790>.
- [3] Baitule, A.S., and **K. Sudhakar**. 2017. "Solar Powered Green Campus: A Simulation Study." *International Journal of Low-Carbon Technologies* 12 (4). <https://doi.org/10.1093/ijlct/ctx011>.
- [4] Baranitharan, S., S. Dhanushkodi, and **K. Sudhakar**. 2018. "Exergy Loss Analysis of Forced Convection Solar Dryer." *International Journal of Mechanical Engineering and Technology* 9 (6).
- [5] Bijarniya, J.P., **K. Sudhakar**, and P. Baredar. 2016. "Concentrated Solar Power Technology in India: A

- Review." *Renewable and Sustainable Energy Reviews* 63. <https://doi.org/10.1016/j.rser.2016.05.064>.
- [6] Bishoyi, D., and **K. Sudhakar**. 2017a. "Experimental Performance of a Direct Evaporative Cooler in Composite Climate of India." *Energy and Buildings* 153. <https://doi.org/10.1016/j.enbuild.2017.08.014>.
 - [7] Bishoyi, D., and **K. Sudhakar**. 2017b. "Modeling and Performance Simulation of 100 MW PTC Based Solar Thermal Power Plant in Udaipur India." *Case Studies in Thermal Engineering* 10. <https://doi.org/10.1016/j.csite.2017.05.005>.
 - [8] Debbarma, M., P. Rawat, and **K. Sudhakar**. 2013. "Thermal Performance of Low Cost Solar Bamboo Dryer." *International Journal of ChemTech Research* 5 (2).
 - [9] Debbarma, M., **K. Sudhakar**, and P. Baredar. 2017. "Thermal Modeling, Exergy Analysis, Performance of BIPV and BIPVT: A Review." *Renewable and Sustainable Energy Reviews* 73. <https://doi.org/10.1016/j.rser.2017.02.035>.
 - [10] Dhanushkodi, S., V.H. Wilson, and **K. Sudhakar**. 2015. "Life Cycle Cost of Solar Biomass Hybrid Dryer Systems for Cashew Drying of Nuts in India." *Environmental and Climate Technologies* 15 (1). <https://doi.org/10.1515/rtuct-2015-0003>.
 - [11] Dhanushkodi, S., V.H. Wilson, and **K. Sudhakar**. 2016. "Energy Analysis of Cashew Nut Processing Agro Industries: A Case Study." *Bulgarian Journal of Agricultural Science* 22 (4).
 - [12] Dixit, A., and **K. Sudhakar**. 2014. "Lighting Parameters Assessment and Energy Efficient Illumination Design for a Classroom." *Advanced Science Letters* 20 (7–9). <https://doi.org/10.1166/asl.2014.5506>.
 - [13] Dondariya, C., D. Porwal, A. Awasthi, A.K. Shukla, **K. Sudhakar**, M.M. S.R., and A. Bhimte. 2018. "Performance Simulation of Grid-Connected Rooftop Solar PV System for Small Households: A Case Study of Ujjain, India." *Energy Reports* 4. <https://doi.org/10.1016/j.egyr.2018.08.002>.
 - [14] Duraisamy, S., S. Dhanushkodi, K. Paneerselvam, and **K. Sudhakar**. 2019. "Thermal Performance of Natural Convection Solar Dryer for Drying Chilli." *International Journal on Emerging Technologies* 10 (1).
 - [15] Dwivedi, Pushpendu, **K. Sudhakar**, Archana Soni, and E Solomin. 2020. "Case Studies in Thermal Engineering Advanced Cooling Techniques of P . V . Modules : A State of Art." *Case Studies in Thermal Engineering* 21 (December 2019): 100674. <https://doi.org/10.1016/j.csite.2020.100674>.
 - [16] Elavarasan, R., S. Dhanushkodi, and **K. Sudhakar**. 2018. "Energy and Exergy Analysis of a Natural Convection Solar Dryer." *International Journal of Mechanical Engineering and Technology* 9 (6).
 - [17] Anupama Khare Saxena, Saxena and **K. Sudhakar**, 2020. "Solar Energy Policy of India: An Overview," 1–32. <https://doi.org/10.17775/CSEJPES.2020.03080>.
 - [18] Erdiwansyah, R. Mamat, M.S.M. Sani, and **K. Sudhakar**. 2019. "Renewable Energy in Southeast Asia: Policies and Recommendations." *Science of the Total Environment* 670. <https://doi.org/10.1016/j.scitotenv.2019.03.273>.
 - [19] Erdiwansyah, R. Mamat, M.S.M. Sani, **K. Sudhakar**, A. Kadarohman, and R.E. Sardjono. 2019. "An Overview of Higher Alcohol and Biodiesel as Alternative Fuels in Engines." *Energy Reports* 5. <https://doi.org/10.1016/j.egyr.2019.04.009>.
 - [20] Hyder, F., P. Baredar, **K. Sudhakar**, and R. Mamat. 2018. "Performance and Land Footprint Analysis of a Solar Photovoltaic Tree." *Journal of Cleaner Production* 187. <https://doi.org/10.1016/j.jclepro.2018.03.249>.
 - [21] Hyder, F., **K. Sudhakar**, and R. Mamat. 2018. "Solar PV Tree Design: A Review." *Renewable and Sustainable Energy Reviews* 82. <https://doi.org/10.1016/j.rser.2017.09.025>.
 - [22] Janardhan, K., T. Srivastava, G. Satpathy, and **K. Sudhakar**. 2013. "Hybrid Solar PV and Biomass System for Rural Electrification." *International Journal of ChemTech Research* 5 (2).
 - [23] Karthick, A., K. Kalidasa Murugavel, A. Ghosh, **K. Sudhakar**, and P. Ramanan. 2020. "Investigation of a Binary Eutectic Mixture of Phase Change Material for Building Integrated Photovoltaic (BIPV) System." *Solar Energy Materials and Solar Cells* 207. <https://doi.org/10.1016/j.solmat.2019.110360>.
 - [24] Karthick, A, K Kalidasa Murugavel, Aritra Ghosh, K Sudhakar, and P Ramanan. 2020. "Solar Energy

Materials and Solar Cells Investigation of a Binary Eutectic Mixture of Phase Change Material for Building Integrated Photovoltaic (BIPV) System.” *Solar Energy Materials and Solar Cells* 207 (December 2019): 110360. <https://doi.org/10.1016/j.solmat.2019.110360>.

- [25]Kumar, Nallapaneni Manoj, K **Sudhakar**, and M Samykano 2018b. “Performance of Thin-Film BIPV as Double Sloped Pitched Roof in Buildings of Malaysia.” *Energy Sources, Part A: Recovery, Utilization and Environmental Effects* 40 (20). <https://doi.org/10.1080/15567036.2018.1502847>.
- [26]Kumar, Nallapaneni Manoj, K **Sudhakar**, and M Samykano 2019. “Performance Comparison of BAPV and BIPV Systems with C-Si, CIS and CdTe Photovoltaic Technologies under Tropical Weather Conditions.” *Case Studies in Thermal Engineering* 13. <https://doi.org/10.1016/j.csite.2018.100374>.
- [27]Kumar, Nallapaneni Manoj, K **Sudhakar**, and M Samykano 2020. “Performance Evaluation of CdTe BIPV Roof and Façades in Tropical Weather Conditions.” *Energy Sources, Part A: Recovery, Utilization and Environmental Effects* 42 (9). <https://doi.org/10.1080/15567036.2019.1602216>.
- [28]Kumar, Nallapaneni Manoj, K **Sudhakar**, and M Samykano. 2019. “Environmental Effects Performance Evaluation of CdTe BIPV Roof and Façades in Tropical Weather Conditions.” *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* 0 (0): 1–15. <https://doi.org/10.1080/15567036.2019.1602216>.
- [29]Kumar, P., A.K. Shukla, K. **Sudhakar**, and R. Mamat. 2017. “Experimental Exergy Analysis of Water-Cooled PV Module.” *International Journal of Exergy* 23 (3). <https://doi.org/10.1504/IJEX.2017.085768>.
- [30]Kumar, P Manoj, K Mysamy, Karthick Alagar, and K **Sudhakar**. 2020. “Investigations on an Evacuated Tube Solar Water Heater Using Hybrid-Nano Based Organic Phase Change Material.” *International Journal of Green Energy* 17 (13): 872–83. <https://doi.org/10.1080/15435075.2020.1809426>.
- [31]Kumari, K., S. Suresh, S. Arisutha, and K. **Sudhakar**. 2018. “Anaerobic Co-Digestion of Different Wastes in a UASB Reactor.” *Waste Management* 77. <https://doi.org/10.1016/j.wasman.2018.05.007>.
- [32]Manoj Kumar, N., K. **Sudhakar**, and M. Samykano. 2019. “Techno-Economic Analysis of 1 MWp Grid Connected Solar PV Plant in Malaysia.” *International Journal of Ambient Energy* 40 (4). <https://doi.org/10.1080/01430750.2017.1410226>.
- [33]Nandakumar, A., S. Dhanushkodi, K. Panner Selvam, and K. **Sudhakar**. 2018. “Performance Study of Forced Convection Solar Dryer with Reflector.” *International Journal of Mechanical Engineering and Technology* 9 (6).
- [34]Patil, N., K. Gopalakrishna, B. Sangmesh, K. **Sudhakar**, and G.C. Vijaykumar. 2018. “Performance Studies on Cryogenic Treated Carbide Cutting Tool for Turning of AISI304 Steel.” *Journal of Mechanical Engineering and Sciences* 12 (3). <https://doi.org/10.15282/jmes.12.3.2018.12.0343>.
- [35]Patware, P., G. Thakur, P. Rawat, and K. **Sudhakar**. 2013. “A Roadmap for ‘Carbon Capture and Sequestration’ in the Indian Context: A Critical Review.” *International Journal of ChemTech Research* 5 (2).
- [36]Praveen Kumar, T., S. Dhanushkodi, and K. **Sudhakar**. 2018. “First and Second Law Efficiencies of a Solar Biomass Hybrid Dryer.” *International Journal of Mechanical Engineering and Technology* 9 (6).
- [37]Praveen Raj, V., S. Dhanushkodi, D. George Oliver, K. **Sudhakar**, and K. Sudhakar. 2018. “Performance of a Biomass Drier Based on Exergy Analysis.” *International Journal of Mechanical Engineering and Technology* 9 (6).
- [38]Rajput, D.S., and K. Sudhakar. 2013. “Effect of Dust on the Performance of Solar PV Panel.” *International Journal of ChemTech Research* 5 (2).
- [39]Ramanan, P., K. Kalidasa Murugavel, A. Karthick, and K. **Sudhakar**. 2019. “Performance Evaluation of Building-Integrated Photovoltaic Systems for Residential Buildings in Southern India.” *Building Services Engineering Research and Technology*. <https://doi.org/10.1177/0143624419881740>.
- [40]Ramyashree, M S, S Shanmuga Priya, Norman Carl, K **Sudhakar**, and Muhammad Tahir. 2021. “Metal-Organic Framework-Based Photocatalysts for Carbon Dioxide Reduction to Methanol : A Review on Progress and Application.” *Journal of CO2 Utilization* 43 (November 2020): 101374. <https://doi.org/10.1016/j.jcou.2020.101374>.

- [41]Sahu, A., N. Yadav, and **K. Sudhakar**. 2016. "Floating Photovoltaic Power Plant: A Review." *Renewable and Sustainable Energy Reviews* 66. <https://doi.org/10.1016/j.rser.2016.08.051>.
- [42]Sahu, A.K., and **K. Sudhakar**. 2019. "Effect of UV Exposure on Bimodal HDPE Floats for Floating Solar Application." *Journal of Materials Research and Technology* 8 (1). <https://doi.org/10.1016/j.jmrt.2017.10.002>.
- [43]Sahu, A.K., **K. Sudhakar**, and R.M. Sarviya. 2019a. "Effect of Seawater on Properties of Hdpe Material Used for Floating Solar Applications." *International Journal of Mechanical and Production Engineering Research and Development* 9 (4). <https://doi.org/10.24247/ijimperdaug201926>.
- [44]Sahu, A.K., **K. Sudhakar**, and R.M. Sarviya. 2019b. "Influence of U.V Light on the Thermal Properties of HDPE/Carbon Black Composites." *Case Studies in Thermal Engineering* 15. <https://doi.org/10.1016/j.csite.2019.100534>.
- [45]Salikandi, Mohammad, Benyamin Ranjbar, Elahe Shirkhan, S Shanmuga Priya, I Thirunavukkarasu, and **K Sudhakar**. 2021. "Recent Trends in Liquid Desiccant Materials and Cooling Systems: Application , Performance and Regeneration Characteristics." *Journal of Building Engineering* 33 (March 2020): 101579. <https://doi.org/10.1016/j.jobee.2020.101579>.
- [46]Samyano, M., S.K. Selvamani, K. Kadirgama, W.K. Ngui, G. Kanagaraj, and **K. Sudhakar**. 2019. "Mechanical Property of FDM Printed ABS: Influence of Printing Parameters." *International Journal of Advanced Manufacturing Technology* 102 (9–12). <https://doi.org/10.1007/s00170-019-03313-0>.
- [47]Selvam, D., S. Dhanushkodi, D. George Oliver, and **K. Sudhakar**. 2018. "Performance Enhancement of a Hybrid Dryer with a Reflector." *International Journal of Mechanical Engineering and Technology* 9 (6).
- [48]Shiva Kumar, B., and **K. Sudhakar**. 2015. "Performance Evaluation of 10 MW Grid Connected Solar Photovoltaic Power Plant in India." *Energy Reports* 1. <https://doi.org/10.1016/j.egyr.2015.10.001>.
- [49]Shukla, A.K., **K. Sudhakar**, and P. Baredar. 2016a. "A Comprehensive Review on Design of Building Integrated Photovoltaic System." *Energy and Buildings* 128. <https://doi.org/10.1016/j.enbuild.2016.06.077>.
- [50]Shukla, A.K., **K. Sudhakar**, and P. Baredar. 2016b. "Design, Simulation and Economic Analysis of Standalone Roof Top Solar PV System in India." *Solar Energy* 136. <https://doi.org/10.1016/j.solener.2016.07.009>.
- [51]Shukla, A.K., **K. Sudhakar**, and P. Baredar. 2016c. "Exergetic Analysis of Building Integrated Semitransparent Photovoltaic Module in Clear Sky Condition at Bhopal India." *Case Studies in Thermal Engineering* 8. <https://doi.org/10.1016/j.csite.2016.06.009>.
- [52]Shukla, A.K., **K. Sudhakar**, and P. Baredar. 2016d. "Exergetic Assessment of BIPV Module Using Parametric and Photonic Energy Methods: A Review." *Energy and Buildings* 119. <https://doi.org/10.1016/j.enbuild.2016.03.022>.
- [53]Shukla, A.K., **K. Sudhakar**, and P. Baredar. 2016e. "Simulation and Performance Analysis of 110 KW.Grid-Connected Photovoltaic System for Residential Building in India: A Comparative Analysis of Various PV Technology." *Energy Reports* 2. <https://doi.org/10.1016/j.egyr.2016.04.001>.
- [54]Shukla, A.K., **K. Sudhakar**, and P. Baredar. 2017. "Recent Advancement in BIPV Product Technologies: A Review." *Energy and Buildings* 140. <https://doi.org/10.1016/j.enbuild.2017.02.015>.
- [55]Shukla, A.K., **K. Sudhakar**, P. Baredar, and R. Mamat. 2017. "BIPV in Southeast Asian Countries – Opportunities and Challenges." *Renewable Energy Focus* 21. <https://doi.org/10.1016/j.ref.2017.07.001>.
- [56]Shukla, A.K., **K. Sudhakar**, and P. Baredar. 2018a. "BIPV Based Sustainable Building in South Asian Countries." *Solar Energy* 170. <https://doi.org/10.1016/j.solener.2018.06.026>.
- [57]Shukla, A.K., **K. Sudhakar**, and P. Baredar. 2018b. "Solar PV and BIPV System: Barrier, Challenges and Policy Recommendation in India." *Renewable and Sustainable Energy Reviews* 82. <https://doi.org/10.1016/j.rser.2017.10.013>.
- [58]Shukla, K.N., S. Rangnekar, and **K. Sudhakar**. 2015a. "A Comparative Study of Exergetic Performance of Amorphous and Polycrystalline Solar PV Modules." *International Journal of Exergy* 17 (4).

<https://doi.org/10.1504/IJEX.2015.071559>.

- [59]Shukla, K.N., S. Rangnekar, and **K. Sudhakar**. 2015b. "Comparative Study of Isotropic and Anisotropic Sky Models to Estimate Solar Radiation Incident on Tilted Surface: A Case Study for Bhopal, India." *Energy Reports* 1. <https://doi.org/10.1016/j.egyr.2015.03.003>.
- [60]Shukla, K.N., S. Rangnekar, and **K. Sudhakar**. 2016. "Mathematical Modelling of Solar Radiation Incident on Tilted Surface for Photovoltaic Application at Bhopal, M.P., India." *International Journal of Ambient Energy* 37 (6). <https://doi.org/10.1080/01430750.2015.1023834>.
- [61]Sivasundar, S., S. Dhanushkodi, K. Panner Selvam, and **K. Sudhakar**. 2018. "Experimental Analysis of a Natural Convection Solar Dryer with a Reflector." *International Journal of Mechanical Engineering and Technology* 9 (6).
- [62]Soni, R.A., **K. Sudhakar**, and R.S. Rana. 2016. "Biophotovoltaics and Biohydrogen through Artificial Photosynthesis: An Overview." *International Journal of Environment and Sustainable Development* 15 (3). <https://doi.org/10.1504/IJESD.2016.077391>.
- [63]Soni, R.A., **K. Sudhakar**, and R.S. Rana. 2017. "Spirulina – From Growth to Nutritional Product: A Review." *Trends in Food Science and Technology* 69. <https://doi.org/10.1016/j.tifs.2017.09.010>.
- [64]Soni, R.A., **K. Sudhakar**, and R.S. Rana. 2019a. "Comparative Study on the Growth Performance of Spirulina Platensis on Modifying Culture Media." *Energy Reports* 5. <https://doi.org/10.1016/j.egyr.2019.02.009>.
- [65]Soni, R.A., **K. Sudhakar**, and R.S. Rana. 2019b. "Influence of Temperature and Light Intensity on the Growth Performance of Spirulina Platensis." *International Journal on Emerging Technologies* 10 (2).
- [66]Sreenath, S., **K. Sudhakar**, and A.F. Yusop. 2019a. "Carbon Mitigation Potential of the Airport-Based Solar PV Plants in the Indian Context." *International Journal of Ambient Energy*. <https://doi.org/10.1080/01430750.2019.1696888>.
- [67]Sreenath, S., **K. Sudhakar**, and A.F. Yusop. 2019b. "SWOT Analysis of Solar PV Systems in Airport Environment." *International Journal on Emerging Technologies* 10 (2).
- [68]Sreenath, S., **K. Sudhakar**, and A.F. Yusop. 2020a. "Airport-Based Photovoltaic Applications." *Progress in Photovoltaics: Research and Applications*. <https://doi.org/10.1002/pip.3265>.
- [69]Sreenath, S., **K. Sudhakar**, and A.F. Yusop. 2020b. "Technical Assessment of Captive Solar Power Plant: A Case Study of Senai Airport, Malaysia." *Renewable Energy* 152. <https://doi.org/10.1016/j.renene.2020.01.111>.
- [70]Sreenath, S., **K. Sudhakar**, A.F. Yusop, E. Cuce, and E. Solomin. 2020a. "Analysis of Solar PV Glare in Airport Environment: Potential Solutions." *Results in Engineering* 5. <https://doi.org/10.1016/j.rineng.2019.100079>.
- [71]Sreenath, S., **K. Sudhakar**, A.F. Yusop, E. Solomin, and I.M. Kirpichnikova. 2020. "Solar PV Energy System in Malaysian Airport: Glare Analysis, General Design and Performance Assessment." *Energy Reports* 6. <https://doi.org/10.1016/j.egyr.2020.03.015>.
- [72]Sreenath, S., **K. Sudhakar**, and Yusop Af. 2021. "7E Analysis of a Conceptual Utility-Scale Land-Based Solar Photovoltaic Power Plant." *Energy* 219: 119610. <https://doi.org/10.1016/j.energy.2020.119610>.
- [73]Sreenath, S., **K. Sudhakar**, and A F Yusop. 2020c. "Solar Photovoltaics in Airport : Risk Assessment and Mitigation Strategies." *Environmental Impact Assessment Review* 84 (April): 106418. <https://doi.org/10.1016/j.eiar.2020.106418>.
- [74]Sreenath, S., **K. Sudhakar**, A F Yusop, Erdem Cuce, and Evgeny Solomin. 2020b. "Results in Engineering Analysis of Solar PV Glare in Airport Environment : Potential Solutions." *Results in Engineering* 5 (November 2019): 100079. <https://doi.org/10.1016/j.rineng.2019.100079>.
- [75]**Sudhakar**, K., T. Anand, T. Srivastava, and M. Premalatha. 2013. "Assessment of Carbon Mitigation Potential of Various Biofuels in Indian Context." *International Journal of ChemTech Research* 5 (5).
- [76]**Sudhakar**, K., R. Ananthakrishnan, A. Goyal, and H.K. Darji. 2013. "A Novel Design of Multi-Chambered Biomass Battery." *International Journal of Renewable Energy Development* 2 (1).

<https://doi.org/10.14710/ijred.2.1.31-34>.

- [77] **Sudhakar, K.**, M.S. Jenkins, S. Mangal, and S.S. Priya. 2019. "Modelling of a Solar Desiccant Cooling System Using a TRNSYS-MATLAB Co-Simulator: A Review." *Journal of Building Engineering* 24. <https://doi.org/10.1016/j.jobbe.2019.100749>.
- [78] **Sudhakar, K.**, R. Mamat, M. Samykano, W.H. Azmi, W.F.W. Ishak, and T. Yusaf. 2018. "An Overview of Marine Macroalgae as Bioresource." *Renewable and Sustainable Energy Reviews* 91. <https://doi.org/10.1016/j.rser.2018.03.100>.
- [79] **Sudhakar, K.**, and M. Premalatha. 2012. "Techno Economic Analysis of Micro Algal Carbon Sequestration and Oil Production." *International Journal of ChemTech Research* 4 (4).
- [80] **Sudhakar, K.**, and M. Premalatha 2015. "Characterization of Micro Algal Biomass through FTIR/TGA /CHN Analysis: Application to *Scenedesmus* Sp." *Energy Sources, Part A: Recovery, Utilization and Environmental Effects* 37 (21). <https://doi.org/10.1080/15567036.2013.825661>.
- [81] **Sudhakar, K.**, M. Premalatha, and M. Rajesh. 2014. "Large-Scale Open Pond Algae Biomass Yield Analysis in India: A Case Study." *International Journal of Sustainable Energy* 33 (2). <https://doi.org/10.1080/14786451.2012.710617>.
- [82] **Sudhakar, K.**, M. Rajesh, and M. Premalatha. 2012. "A Mathematical Model to Assess the Potential of Algal Bio-Fuels in India." *Energy Sources, Part A: Recovery, Utilization and Environmental Effects* 34 (12). <https://doi.org/10.1080/15567036.2011.645121>.
- [83] **Sudhakar, K.**, and T. Srivastava. 2014. "Energy and Exergy Analysis of 36 W Solar Photovoltaic Module." *International Journal of Ambient Energy* 35 (1). <https://doi.org/10.1080/01430750.2013.770799>.
- [84] **Sudhakar, K.**, T. Srivastava, G. Satpathy, and M. Premalatha. 2013. "Modelling and Estimation of Photosynthetically Active Incident Radiation Based on Global Irradiance in Indian Latitudes." *International Journal of Energy and Environmental Engineering* 4 (1). <https://doi.org/10.1186/2251-6832-4-21>.
- [85] **Sudhakar, K.**, M. Winderla, and S.S. Priya. 2019. "Net-Zero Building Designs in Hot and Humid Climates: A State-of-Art." *Case Studies in Thermal Engineering* 13. <https://doi.org/10.1016/j.csite.2019.100400>.
- [86] **Sudharshan, K.**, and K. Sudhakar. 2015. "Modeling of Solar Irradiance, Energy Requirement for Microalgae CO₂ Sequestration Using MATLAB-Simulink." *International Journal of ChemTech Research* 8 (11).
- [87] Sugathan, V., E. John, and **K. Sudhakar**. 2015. "Recent Improvements in Dye Sensitized Solar Cells: A Review." *Renewable and Sustainable Energy Reviews* 52. <https://doi.org/10.1016/j.rser.2015.07.076>.
- [88] Sukumaran, S., and **K. Sudhakar**. 2017. "Fully Solar Powered Airport: A Case Study of Cochin International Airport." *Journal of Air Transport Management* 62. <https://doi.org/10.1016/j.jairtraman.2017.04.004>.
- [89] Sukumaran, S., and **K. Sudhakar**. 2018. "Performance Analysis of Solar Powered Airport Based on Energy and Exergy Analysis." *Energy* 149. <https://doi.org/10.1016/j.energy.2018.02.095>.
- [90] Veerendra, A.S., M.R. Mohamed, M.H. Sulaiman, K. Peddakapu, **K. Sudhakar**, and S. Sukumaran. 2019. "Speed Regulation Enhancement for SRM Drive in Phev Applications by Using Hybrid Fuzzy Logic Controller." *International Journal of Recent Technology and Engineering* 8 (2). <https://doi.org/10.35940/ijrte.B1590.078219>.
- [91] Veerendra, A.S., M.R. Mohamed, M.H. Sulaiman, **K. Sudhakar**, and K. Peddakapu. 2020a. "Modelling and Simulation of Dual Sourced Front-End Converter for Hybrid Electric Vehicles." *International Journal of Ambient Energy*. <https://doi.org/10.1080/01430750.2020.1712245>.
- [92] Veerendra, A S, M R Mohamed, M H Sulaiman, **K Sudhakar**, and K Peddakapu. 2020b. "Modeling and Simulation of Dual Sourced Front- End Converter for Hybrid Electric Vehicles." *International Journal of Ambient Energy* 0 (0): 1–16. <https://doi.org/10.1080/01430750.2020.1712245>.
- [93] Vignesh, P, A R Pradeep Kumar, N Shankar Ganesh, V Jayaseelan, and **K Sudhakar**. 2020. "A Review of Conventional and Renewable Biodiesel Production." *Chinese Journal of Chemical Engineering*. <https://doi.org/10.1016/j.cjche.2020.10.025>.
- [94] Vignesh, Palani, Arockiyasamy Remigious, Pradeep Kumar, and Narayanan Shankar Ganesh. **K.Sudhakar**

[95]Yadav, Bharosh Kumar, **K.Sudhakar** and Tri Ratna Bajracharya. 2020. "Sustainable Green Campus in NEPAL : 3E Analysis," no. November. <https://doi.org/10.1093/ijlct/ctaa088>.

[96]Yadav, S., and **K. Sudhakar**. 2015. "Different Domestic Designs of Solar Stills: A Review." *Renewable and Sustainable Energy Reviews* 47. <https://doi.org/10.1016/j.rser.2015.03.064>.