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Academic Titles / Tasks

Associate Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2024 - Continues

Associate Professor, Duzce University, Faculty of Engineering, Department of Mechanical Engineering, 2022 - 2024
Research Assistant, Duzce University, Faculty of Engineering, Department of Mechanical Engineering, 2017 - 2022

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Experimental investigation on utilization of Sesbania grandiflora residues through thermochemical conversion process for the production of value added chemicals and biofuels**
Janardhana K., Sowmya Dhanalakshmi C., Thilagham K., Chinnaiyan S. K., Jai Shanker Pillai H., Sathish T., AĞBULUT Ü., Palani K., De Poures M. V.
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- II. **Waste to fuel: A detailed combustion, performance, and emission characteristics of a CI engine fuelled with sustainable fish waste management augmentation with alcohols and nanoparticles**
Sathish T., AĞBULUT Ü., Ubaidullah M., Saravanan R., Giri J., Shaikh S. F.
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- III. **Waste-to-energy power plants: Multi-objective analysis and optimization of landfill heat and methane gas by recirculation of leachate**
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- IV. **Water splitting via electrocatalysis and photocatalysis: Engineering stumbling blocks and advancements**
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- V. **Impact of synthesizing surfactant-modified catalytic ceria nanoparticles on the performance and environmental behaviors of coconut oil/diesel-fueled CI engine: An optimization attempt**
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- VI. **Investigation of numerical phase transition of nano-enhanced SiC/paraffin wax PCM in solar-assisted water desalination system**
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- VII. **Artificial intelligence based-prediction of energy efficiency and tailpipe emissions of soybean methyl ester fuelled CI engine under variable compression ratios**
Rajak U., AĞBULUT Ü., Dasore A., Verma T. N.
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- VIII. **Exergetic and exergoeconomic assessments of a diesel engine fuelled with waste chicken fat**

biodiesel-diesel blends

Gad M., Uysal C., El-Shafay A., AĞBULUT Ü.

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- IX. **Advances in hydrogen storage with metal hydrides: Mechanisms, materials, and challenges**
Nivedhitha K., Beena T., Banapurmath N., Umarfarooq M., Ramasamy V., Soudagar M. E. M., AĞBULUT Ü.
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- X. **Synergistic effects of hybrid nanoparticles along with conventional fuel on engine performance, combustion, and environmental characteristics**
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- XI. **A Taguchi-based hybrid multi-criteria decision-making approach for optimization of performance characteristics of diesel engine fuelled with blends of biodiesel-diesel and cerium oxide nano-additive**
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- XII. **Improvement of worsened diesel and waste biodiesel fuelled-engine characteristics with hydrogen enrichment: A deep discussion on combustion, performance, and emission analyses**
Sarıdemir S., Polat F., AĞBULUT Ü.
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- XIII. **Parametric optimization of an impingement jet solar air heater for active green heating in buildings using hybrid CRITIC-COPRAS approach**
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- XIV. **A comprehensive review of Trinitron components: A sustainable waste heat recovery polygenerative system for diesel vehicles**
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- XV. **Machine learning for the management of biochar yield and properties of biomass sources for sustainable energy**
Nguyen V. G., Sharma P., Ağbulut Ü., Le H. S., Truong T. H., Dzida M., Tran M. H., Le H. C., Tran V. D.
Biofuels, Bioproducts and Biorefining, vol.18, no.2, pp.567-593, 2024 (SCI-Expanded)
- XVI. **Production of waste soybean oil biodiesel with various catalysts, and the catalyst role on the CI engine behaviors**
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- XVII. **Different energy storage techniques: recent advancements, applications, limitations, and efficient utilization of sustainable energy**
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- XVIII. **Analysis of bubble departure and lift-off boiling model using computational intelligence techniques and hybrid algorithms**
Quadros J. D., Mogul Y. I., Ağbulut Ü., Gürel A. E., Khan S. A., Akhtar M. N., Jilte R., Asif M.
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- XIX. **A comprehensive analysis of the emerging modern trends in research on photovoltaic systems and desalination in the era of artificial intelligence and machine learning**
Jathar L. D., Nikam K., Awasarmol U. V., Gurav R., Patil J. D., Shahapurkar K., Soudagar M. E. M., Khan T. M. Y., Kalam M., Hnydiuk-Stefan A., et al.
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- XX. **Recent advances in hydrogen production from biomass waste with a focus on pyrolysis and gasification**

- Nguyen V. G., Nguyen-Thi T. X., Phong Nguyen P. Q., Tran V. D., Ağbulut Ü., Nguyen L. H., Balasubramanian D., Tarelko W., A. Bandh S., Khoa Pham N. D.
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- XXI. Waste to energy: An experimental study on hydrogen production from food waste gasification**
Koshariya A. K., Krishnan M. S., Jaisankar S., Loganathan G. B., Sathish T., Ağbulut Ü., Saravanan R., Tuan L. T., Pham N. D. K.
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- XXII. Exergetic and exergoeconomic assessments of a diesel engine operating on dual-fuel mode with biogas and diesel fuel containing boron nitride nanoparticles**
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- XXIII. Environmental, combustion, and performance investigation of low viscous biofuel in port fuel injection spark-ignition engine**
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- XXIV. Optimization of the pilot fuel injection and engine load for an algae biodiesel - hydrogen run dual fuel diesel engine using response surface methodology**
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- XXV. Experimental and numerical analysis of the thermal performance of pebble solar thermal collector**
Naik N. C. K., Priya R. K., Ağbulut Ü., Gürel A. E., Shaik S., Alzaed A. N., Alwetaishi M., Alahmadi A. A.
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- XXVI. Performance enhancement and emission control through adjustment of operating parameters of a biogas-biodiesel dual fuel diesel engine: An experimental and statistical study with biogas as a hydrogen carrier**
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- XXVII. Impact of produced oxyhydrogen gas (HHO) from dry cell electrolyzer on spark ignition engine characteristics**
Gad M., El-Shafay A., Ağbulut Ü., Panchal H.
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- XXVIII. Production of HHO gas in the water-electrolysis unit and the influences of its introduction to CI engine along with diesel-biodiesel blends at varying injection pressures**
Babu J., Kumar K. S., Kumar R. R., Ağbulut Ü., Razak A., Thakur D., Sundara V., Asif M.
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- XXIX. Hydrogen and dual fuel mode performing in engine with different combustion chamber shapes: Modelling and analysis using RSM-ANN technique**
Khandal S., Razak A., Veza I., Afzal A., Alwetaishi M., Shaik S., Ağbulut Ü., Rashedi A.
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- XXX. A hybrid RSM-GA-PSO approach on optimization of process intensification of linseed biodiesel synthesis using an ultrasonic reactor: Enhancing biodiesel properties and engine characteristics with ternary fuel blends**
Ahmad A., Yadav A. K., Singh A., Singh D. K., Ağbulut Ü.
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- XXXI. Experimental investigation of the thermal efficiency of a new cavity receiver design for concentrator solar technology**
Alkhalfaf Q., Lee D., Kumar R., Thapa S., Singh A. R., Akhtar M. N., Asif M., Ağbulut Ü.
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- XXXII. Improving the prediction of biochar production from various biomass sources through the implementation of eXplainable machine learning approaches**

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 International Journal of Green Energy, 2024 (SCI-Expanded)
- XXXIII. **Waste bull bone based reusable and biodegradable heterogeneous catalyst for alternate fuel production from WCO, and investigation of its usability as fuel substitute**
 Saravanan R., Sathish T., Ağbulut Ü., Sathyamurthy R., Sharma P., Linul E., Asif M.
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- XXXIV. **Optimizing soybean biofuel blends for sustainable urban medium-duty commercial vehicles in India: an AI-driven approach**
 Rajak U., Chaurasiya P. K., Verma T. N., Dasore A., AĞBULUT Ü., Meshram K., Saleel C., Saboor S., CÜCE E., Mian Z.
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- XXXV. **Use of modern algorithms for multi-parameter optimization and intelligent modelling of sustainable battery performance**
 Afzal A., Buradi A., Jilte R., Sundara V., Shaik S., Ağbulut Ü., Alwetaishi M., Saleel C. A.
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- XXXVI. **Influences of various metal oxide-based nanosized particles-added algae biodiesel on engine characteristics**
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- XXXVII. **Performance analysis of biofuel-ethanol blends in diesel engine and its validation with computational fluid dynamics**
 Kolhe A. V., Malwe P. D., Chopkar Y., Panchal H., Ağbulut Ü., Mubarak N. M., Chowdhury S., Amesho K. T.
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- XXXVIII. **Technological solutions for boosting hydrogen role in decarbonization strategies and net-zero goals of world shipping: Challenges and perspectives**
 Hoang A. T., Pandey A., Martinez De Osés F. J., Chen W., Said Z., Ng K. H., Ağbulut Ü., Tarełko W., Ölcer A. I., Nguyen X. P.
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- XXXIX. **Energy recovery from waste animal fats and detailed testing on combustion, performance, and emission analysis of IC engine fueled with their blends enriched with metal oxide nanoparticles**
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- XL. **PCM embedded square channel receiver for effective operation of Net Zero Emission/Energy PDC building heating system**
 Sathish T., Saravanan R., Esther Jeyanthi C., Sabariraj R., Hemachandu P., Ağbulut Ü., Ahamed Saleel C., Soudagar M. E. M.
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- XLI. **Battery thermal management of a novel helical channeled cylindrical Li-ion battery with nanofluid and hybrid nanoparticle-enhanced phase change material**
 Jilte R., Afzal A., Ağbulut Ü., Shaik S., Khan S. A., Linul E., Asif M.
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- XLII. **Investigations on biomass gasification derived producer gas and algal biodiesel to power a dual-fuel engines: Application of neural networks optimized with Bayesian approach and K-cross fold**
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- XLIII. **Single- and combined-source typical metrological year solar energy data modelling**
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- XLIV. **Sustainable nano-added biofuel production from borassus flabellifer oil for conventional internal combustion engines**
 Sivasankar G., Moorthy C. B., Kaliappan S., Sathyamurthy R., Sathish T., Saravanan R., Ağbulut Ü.

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- XLV. Maximizing sustainable hydrogen and ZnO nanoparticles production from Goshala wastes with nanoparticles of ZnSO₄ and NaBH₄**
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- XLVI. Melting numerical simulation of hydrated salt phase change material in thermal management of cylindrical battery cells using enthalpy-porosity model**
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- XLVII. Steam explosion as sustainable biomass pretreatment technique for biofuel production: Characteristics and challenges**
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- XLVIII. Combustion, performance and emission discussion of soapberry seed oil methyl ester blends and exhaust gas recirculation in common rail direct fuel injection system**
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- XLIX. Investigation of nano composite heat exchanger annular pipeline flow using CFD analysis for crude oil and water characteristics**
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- L. Production of oxy-hydrogen gas and the impact of its usability on CI engine combustion, performance, and emission behaviors**
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- LI. Analysis of CRDI diesel engine characteristics operated on dual fuel mode fueled with biodiesel-hydrogen enriched producer gas under the single and multi-injection scheme**
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- LII. Investigations on a novel fuel water hyacinth biodiesel and Hydrogen-Powered engine in Dual-Fuel Model: Optimization with I-optimal design and desirability**
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- LIII. A critical review on renewable battery thermal management system using heat pipes**
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- LIV. Experimental analysis on the impacts of soil deposition and bird droppings on the thermal performance of photovoltaic panels**
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- LV. Pore size variation of nano-porous material fixer on the engine bowl and its combined effects on hybrid nano-fuelled CI engine characteristics**
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- LVI. Modifying diesel fuel with nanoparticles of zinc oxide to investigate its influences on engine behaviors**
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- LVII. Energy recovery from waste plastic oils as an alternative fuel source and comparative assessment of**

- engine characteristics at varying fuel injection timings**
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- LVIII. Optimization of performance and emission outputs of a CI engine powered with waste fat biodiesel: A detailed RSM, fuzzy multi-objective and MCDM application**
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- LIX. Waste to fuel: Synergetic effect of hybrid nanoparticle usage for the improvement of CI engine characteristics fuelled with waste fish oils**
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- LX. Performance improvement and CO and HC emission reduction of variable compression ratio spark-ignition engine using n-pentanol as a fuel additive**
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- LXI. Multi-objective optimization based grey relational analysis and investigation of using the waste animal fat biodiesel on the engine characteristics**
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- LXII. Application of modern approaches to the synthesis of biohydrogen from organic waste**
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- LXIII. A study on a milk chiller latent storage system with phase change material encapsulated spherical balls**
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- LXIV. Microalgae bio-oil production by pyrolysis and hydrothermal liquefaction: Mechanism and characteristics**
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- LXV. Impact of injector nozzle diameter and hole number on performance and emission characteristics of CI engine powered by nanoparticles**
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- LXVI. Poultry fat biodiesel as a fuel substitute in diesel-ethanol blends for DI-CI engine: Experimental, modeling and optimization**
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- LXVII. A comprehensive review on the usage of the nano-sized particles along with diesel/biofuel blends and their impacts on engine behaviors**
Gad M., Ağbulut Ü., Afzal A., Panchal H., Jayaraj S., Qasem N. A., El-Shafay A.
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- LXVIII. Collective influence and optimization of 1-hexanol, fuel injection timing, and EGR to control toxic emissions from a light-duty agricultural diesel engine fueled with diesel/waste cooking oil methyl ester blends**
De Poures M. V., Dillikannan D., Kaliyaperumal G., Thanikodi S., Ağbulut Ü., Hoang A. T., Mahmoud Z., Shaik S., Saleel C. A., Afzal A.
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- LXIX. Thermodynamic analyses of a novel hybrid photovoltaic-thermal (PV/T) module assisted vapor compression refrigeration system**
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- LXX. **Waste to fuel: Pyrolysis of waste transformer oil and its evaluation as alternative fuel along with different nanoparticles in CI engine with exhaust gas recirculation**
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- LXXI. **Investigation of the effect of magnetic field on the PEC and exergy of heat exchanger filled with two-phase hybrid nanofluid, equipped with an edged twisted tape**
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- LXXII. **Current practices, potentials, challenges, future opportunities, environmental and economic assumptions for Türkiye's clean and sustainable energy policy: A comprehensive assessment**
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- LXXIII. **Enhancement of R600a vapour compression refrigeration system with MWCNT/TiO₂ hybrid nano lubricants for net zero emissions building**
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- LXXIV. **Numerical and experimental investigation of the influence of various metal-oxide-based nanoparticles on performance, combustion, and emissions of CI engine fuelled with tamarind seed oil methyl ester**
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- LXXV. **Alternative fuel production from waste plastics and their usability in light duty diesel engine: Combustion, energy, and environmental analysis**
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- LXXVI. **A state of art review on estimation of solar radiation with various models**
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- LXXVII. **Hydrogen Production by Water Splitting with Support of Metal and Carbon-Based Photocatalysts**
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- LXXVIII. **Precise prognostics of biochar yield from various biomass sources by Bayesian approach with supervised machine learning and ensemble methods**
 Nguyen V. G., Sharma P., Ağbulut Ü., Le H. S., Tran V. D., Cao D. N. International Journal of Green Energy, 2023 (SCI-Expanded)
- LXXIX. **Waste to energy: Production of poultry-based fat biodiesel and experimental assessment of its usability on engine behaviors**
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- LXXX. **Effect of injection timing and duration on the performance of diesel engine fueled with port injection of oxygenated fuels**
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- LXXXI. **Exergetic, exergoeconomic, and sustainability analyses of diesel-biodiesel fuel blends including synthesized graphene oxide nanoparticles**
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- LXXXII. **Hydrothermal carbonization of food waste as sustainable energy conversion path**

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Metrics

Publication: 139
Citation (Scopus): 3507
H-Index (Scopus): 33