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Academic Titles / Tasks

Associate Professor, California State University, Los Angeles, 2024 - Continues

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

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Waste to energy: Enhancing biogas utilization in dual-fuel engines using machine learning based prognostic analysis**
Paramasivam P., Alruqi M., AĞBULUT Ü.
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- II. **Flashback control in supplying onboard-produced HHO to enrich gasoline-fueled motorcycle engines**
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- III. **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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- IV. **Decoding the performance of a blend of metal-oxide nanoparticles in Eichhornia crassipes biodiesel at varying injection timing through the routes of thermodynamic analysis and statistical optimization**
Jain A., Bora B. J., Kumar R., Sharma P., Paramasivam P., AĞBULUT Ü.
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- V. **Enhancing performance, and combustion efficiency, and reducing tailpipe emissions of an engine fuelled with hydrogen-enriched diesel and ethanol blends at varying CRs using RSM**
Rajak U., Apparao K. C., Verma T. N., AĞBULUT Ü.
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- VI. **Comparative analysis of machine learning and artificial intelligence models for optimizing mixed refrigerant characteristics in a hydrogen pre-cooling storage system**
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- VII. **Maximizing the hydrogen content for methanol steam reforming processes by using the novel pareto-based multi-objective evolutionary algorithms**
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- VIII. **Impacts of novel calotropis gigantea seed biodiesel usage as a fuel substitute along with various metal-oxide nanoparticles on the DIC engine characteristics**

Sathish T., AĞBULUT Ü., Kumar P. S., Uma Mageswari S., Stalin N., Pandian R., Ubaidullah M., Giri J., Shaikh S. F.
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- IX. **Co-pyrolysis of furniture wood with mixed plastics and waste tyres: assessment of synergistic effect on biofuel yield and product characterization under different blend ratio**
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- X. **Artificial intelligence-based forecasting of dual-fuel mode CI engine behaviors powered with the hydrogen-diesel blends**
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- XI. **Energy, exergy, environmental, and economic (4E) analyses of the usability of various nano-sized particles added lubricant in a heat pump system**
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- XII. **Energy, exergy, environment and economic (4E) analysis of PV/T module assisted vapor compression refrigeration system: An experimental study**
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- XIII. **Combustion, environmental, and efficiency assessment of multi-walled carbon nanotubes enriched biodiesel-diesel binary blends in varying injection timing**
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- XIV. **Enhancing diesel engine performance, combustion, and emissions reductions under the effect of cerium oxide nanoparticles with hydrogen addition to biodiesel fuel**
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- XV. **From nickel-metal hydride batteries to advanced engines: A comprehensive review of hydrogen's role in the future energy landscape**
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- XVI. **K-means clustering optimization of various quantum dots and nanoparticles-added biofuels for engine performance, emission, vibration, and noise characteristics**
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- XVII. **Role of hydrogen-enrichment for in-direct diesel engine behaviours fuelled with the diesel-waste biodiesel blends**
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- XVIII. **A detailed thermohydraulic performance assessment of surface-modified silver nanofluids in turbulent convective heat transfer**
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- XIX. **Enhancing thermal efficiency in flat plate solar collectors through internal barrier optimization**
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- XX. **Exploring the performance of biodiesel-hydrogen blends with diverse nanoparticles in diesel engine: A hybrid machine learning K-means clustering approach with weighted performance metrics**
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- XXI. **Evaluation of RCCI engine combustion, performance, and emissions using spirulina micro-algae biodiesel with methane-enriched hydrogen**
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- XXII. **Improved performance evaluation of a dual passage solar thermal collector using staggered turbulators**
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- XXVI. **Investigation on the combined effect of the hydrogen premixing and nanoparticle mixed pyrolysed oil of transformer oil waste in engine characteristics**
Karthikeyan S., Ravishankar S., Rajaram K., Kumar S. S., Kumar P. S., Sathish T., AĞBULUT Ü.
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- XXVII. **Computational and experimental investigations on liquid-based battery thermal management systems for electric vehicle applications under various discharge rates with different flow speeds**
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- XXX. **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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- XXXI. **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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- XXXII. **Investigation of numerical phase transition of nano-enhanced SiC/paraffin wax PCM in solar-assisted water desalination system**
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- XXXIII. **Optimizing soybean biofuel blends for sustainable urban medium-duty commercial vehicles in India: an AI-driven approach**
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- XXXV. **Advances in hydrogen storage with metal hydrides: Mechanisms, materials, and challenges**
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- XXXVII. **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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- XXXVIII. **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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- XXXIX. **Parametric optimization of an impingement jet solar air heater for active green heating in buildings using hybrid CRITIC-COPRAS approach**
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- XL. **A comprehensive review of Trinitor components: A sustainable waste heat recovery polygenerative system for diesel vehicles**
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- XLI. **Machine learning for the management of biochar yield and properties of biomass sources for sustainable energy**
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- XLII. **Production of waste soybean oil biodiesel with various catalysts, and the catalyst role on the CI engine behaviors**
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- XLIII. **Different energy storage techniques: recent advancements, applications, limitations, and efficient utilization of sustainable energy**
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- XLIV. **Analysis of bubble departure and lift-off boiling model using computational intelligence techniques and hybrid algorithms**
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- XLV. **A comprehensive analysis of the emerging modern trends in research on photovoltaic systems and desalination in the era of artificial intelligence and machine learning**
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- XLIX. **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**
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- L. **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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- LI. **Environmental, combustion, and performance investigation of low viscous biofuel in port fuel injection spark-ignition engine**
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- LII. **Experimental and numerical analysis of the thermal performance of pebble solar thermal collector**
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- LIII. **Impact of produced oxyhydrogen gas (HHO) from dry cell electrolyzer on spark ignition engine characteristics**
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- LIV. **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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- LV. **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**
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- LIX. **Waste bull bone based reusable and biodegradable heterogeneous catalyst for alternate fuel production from WCO, and investigation of its usability as fuel substitute**
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- LX. **Detailed experimental investigation and optimization of oxygenated diglyme–diesel–n-pentanol ternary blends on compression ignition engine behaviors**
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- LXI. **Improving the prediction of biochar production from various biomass sources through the implementation of eXplainable machine learning approaches**
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- LXIV. **Waste to Energy: Combustion, Performance, and Emission Characteristics of Waste Animal Fats/Diesel Blends Premixed with Various Alcohols as Port Fuels**
Sathish T., Giri J., Saravanan R., AĞBULUT Ü.
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- LXV. **Green agro storage and electric vehicle integrated nano grid for rural livelihood improvement: a detailed**

review and case analysis

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- LXVI. **Use of modern algorithms for multi-parameter optimization and intelligent modelling of sustainable battery performance**
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- LXVIII. **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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- LXXI. **Influences of various metal oxide-based nanosized particles-added algae biodiesel on engine characteristics**
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- LXXIII. **Sustainable nano-added biofuel production from borassus flabellifer oil for conventional internal combustion engines**
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- LXXIV. **Single- and combined-source typical metrological year solar energy data modelling**
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- LXXV. **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**
Alruqi M., Sharma P., Ağbulut Ü.
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- LXXVI. **Steam explosion as sustainable biomass pretreatment technique for biofuel production: Characteristics and challenges**
Hoang A. T., Nguyen X. P., Duong X. Q., Ağbulut Ü., Len C., Nguyen P. Q. P., Kchaou M., Chen W.
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- LXXVII. **Maximizing sustainable hydrogen and ZnO nanoparticles production from Goshala wastes with nanoparticles of ZnSO₄ and NaBH₄**
Vijayalakshmi A., Meena R. S., Domakonda V. K., Rao A. V., Sathish T., Ağbulut Ü., Rajasimman M., Joo S., Vasseghian Y.
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- LXXVIII. **Melting numerical simulation of hydrated salt phase change material in thermal management of cylindrical battery cells using enthalpy-porosity model**
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- LXXIX. **Production of oxy-hydrogen gas and the impact of its usability on CI engine combustion, performance, and emission behaviors**

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- LXXX. **Investigation of nano composite heat exchanger annular pipeline flow using CFD analysis for crude oil and water characteristics**
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