

KARPAGA VINAYAGA

COLLEGE OF ENGINEERING AND TECHNOLOGY

Accredited by NAAC and affiliated with Anna University, Chennai.

AUTO Dashboard - 2023 | Bi Annual Newsletter

DEPARTMENT OF AUTOMOBILE ENGINEERING

From the HOD's Desk

The Department of Automobile Engineering was established in the year 2011 with a vision of becoming the preferred destination and Centre of Excellence in Automobile Engineering. The Department offers an undergraduate program B.E. Automobile Engineering, affiliated to the Anna University and Approved by AICTE. Outcome based Education is practiced to impart technical knowledge blended with human values to the students. The department has reinforced with excellent infrastructure, laboratories and committed faculty members to enhance competency of students. The department has evolved a comprehensive student-centric learning approach designed to add significant values to the learner's understanding in an integrated manner through lab sessions, assignments, training, seminars, workshops, projects, extracurricular activities and independent study. We have signed various MoU to provide opportunities for the students to work with industry projects, interns and collaborative research and there by bridging the industry institute gap.



Dr. M. Karthigairajan
Associate Professor & Head
Dept. of Automobile Engineering

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KVCET



INSTITUTION VISION

Imparting innovative higher education with a greater emphasis on high-value systems and shaping personnel for nation-building.

INSTITUTION MISSION

Offering superior technical education through advanced infrastructure and dedicated faculty.

Meeting global industry and research needs with modern education.

Facilitating socio-economic transformation by instilling human values and social responsibilities.

DEPARTMENT VISION

To become the preferred destination and Centre of Excellence in Automobile Engineering.

DEPARTMENT MISSION

To provide state-of-the-art infrastructure to impart quality education in Automobile Engineering.

To develop employable and industry ready engineers capable of solving real time problems in automobile industries.

To inculcate the social values, ethics, and leadership qualities among the students.

PROGRAMME EDUCATIONAL OBJECTIVES

PEO1: Graduates of the program will have successful career in automobile or allied engineering industries or research organizations.

PEO2: Graduates of the program will exhibit lifelong learning by engaging themselves in current technological advancement throughout their career

PEO3: Graduates of the program will work effectively in teams by discharging professional responsibilities and following ethical practices.

PROGRAMME OUTCOMES

PO1: Engineering Knowledge: Apply math, science, and engineering expertise to solve complex engineering problems.

PO2: Problem Analysis: Identify, formulate, and analyse intricate engineering problems using first principles.

PO3: Design/Development Solutions: Design solutions and components considering health, safety, and environmental factors.

PO4: Conduct Investigations: Use research-based knowledge and methods to investigate and draw valid conclusions from complex problems.

PO5: Modern Tool Usage: Apply appropriate techniques, resources, and modern engineering tools to complex activities, understanding limitations.

PO6: Engineer and Society: Assess societal, health, safety, legal, and cultural issues relevant to professional engineering practice.



DEPARTMENT OF AUTOMOBILE ENGINEERING

AUTO Dashboard - 2023 : Bi Annual Newsletter

EVENTS



Industrial Visit

36 students gained practical Knowledge about the process doing in automobile engineering. The industrial visit is held on 11.10.2023 at Schwing Stetter India Pvt Ltd, Chennai.



Chengalpattu, Tamil Nadu, India

HWR7+7FF, Karpaga vinayaga college of engineering and technology, GST road, Chinna kolambakkam, Maduranthagam (TK), Tamil Nadu 603308, India
Lat 12.590481°

Long 79.913905°

07/09/23 10:40 AM GMT +05:30

PO7: Environment and Sustainability: Understand the impact of engineering solutions on society and the environment, emphasizing sustainable development.

PO8: Ethics: Apply ethical principles and commit to professional ethics in engineering practice.

PO9: Individual and Teamwork: Function effectively in diverse teams and multidisciplinary settings as an individual or leader.

PO10: Communication: Effectively communicate complex engineering activities to the engineering community and society.

PO11: Project Management and Finance: Demonstrate knowledge of engineering and management principles in team leadership and project management.

PO12: Life-long Learning: Recognize and engage in independent, life-long learning amid technological changes.

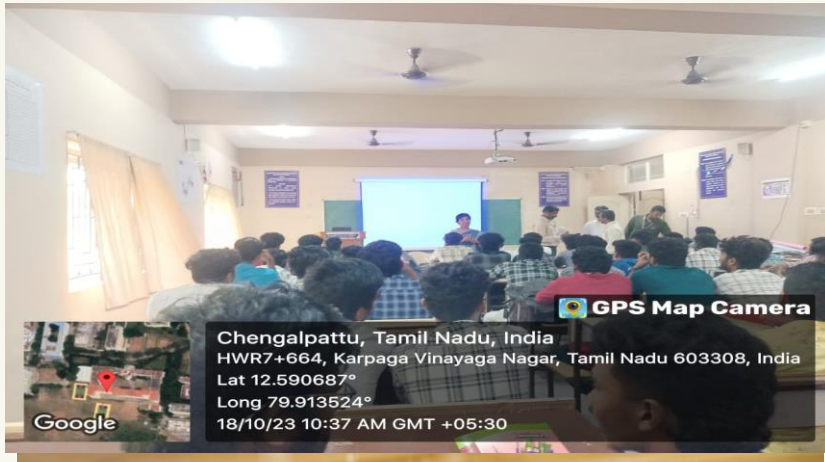
PROGRAMME SPECIFIC OUTCOMES

PSO1: Our graduates will be able to Apply knowledge of automotive design, Automotive materials and Hybrid vehicle technology to solve complex problems in automobile engineering and its allied areas.

PSO2: Our graduates will be able to Analyze, design and evaluate Automobile components and systems with the help of modern CAD/CAM/CAE tools while ensuring best engineering practices.

Guest Lecture - 1

Department of Automobile Engineering has conduct a guest lecture the topic on "Future Mobility – Autonomous Vehicle" the guest speaker Dr. A. Ragothaman – R&D, Ashok Leyland. The guest speaker has talk about a autonomous vehicle in the world. The event was conducted on 07.09.2023 at Mechanical Seminar Hall.

DEPARTMENT OF AUTOMOBILE ENGINEERING
AUTO Dashboard - 2023: Bi Annual Newsletter
EVENTS

Guest Lecture - 2

The department of automobile engineering has conducted a Guest lecture about "Industrial Internet of Things (IoT)" by Dr. G. Velmathi, Professor, Vellore Institute of Technology, Chennai. She has discussed about the IoT in the automobile industry.


Guest Lecture - 3

The Department of Automobile Engineering has conducted a guest lecture on "Process Planning and cost estimation". The resource person is Mr. Er. Kannan Amirthalingam, CEO, GKP Engineering Solutions India. This event has successfully completed on 03.11.2023 on Seminar hall at seminar hall in mechanical science block.

Home > All Journals > Energy Sources, Part A: Recovery, Utilization, and Environmental Effects > List of Issues > Volume 45, Issue 4 > Effect of steam gasification parameters on hydrogen extraction from indirect land use change crops

Energy Sources, Part A: Recovery, Utilization, and Environmental Effects
Volume 45, 2023 - Issue 4

44 0 0
Views CrossRef citations to date Altmetric Research Article

Effect of steam gasification parameters on hydrogen extraction from indirect land use change crops

Venkatesh Rathinavelu , Ramakrishnan Hariharan, **Karthigairajan Marimuthu**, Subramaniam Prabakaran, Priya Chathapuram Balasubramanian, Melvin Victor Die Pourous,

Pages 12263-12276 | Received 21 Aug 2023, Accepted 08 Oct 2023, Published online: 02 Nov 2023

[Cite this article](#) <https://doi.org/10.1080/15637931.2023.2273661> [Check for updates](#)

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ABSTRACT

Biomass green energy is becoming indispensable in worldwide applications and meets their energy demand. The extraction of hydrogen from bio-mass via coal gasification technique found higher carbon monoxide content and low hydrogen yield. This study aims to increase the production of green hydrogen energy from indirect land use change (ILUC) crops such as *Cynara cardunculus L.*, *Helianthus annuus L.*, *Miscanthus × giganteus*, and *Linum usitatissimum* (Lva steam gasification process with varied gasification temperature (500°C, 550°C, 600°C, 650°C, 700°C, and 750°C), and steam/biomass ratio (0.2, 0.4, 0.6, 0.8, 1.0, and 1.2) under Alkaline and Dolomite catalysts. The effect of gasification process parameters on gas concentration, gasification efficiency (ECE), and higher heating value (HHV) was studied, and it found that *Miscanthus × giganteus* crop yield 57.8 mol% of hydrogen, 80%, and 14.8 MJ/m³at

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Journal of Polymer Research

01-09-2023 | Original Paper

Enhancement of high density polyethylene (HDPE) composite behavior by using TiO₂ and Al₂O₃ bio ceramic fillers

Authors: K. Periasamy, **Karthigairajan M.**, Venkatesh, S. Padmavathy

Published in: Journal of Polymer Research | Issue 9/2023

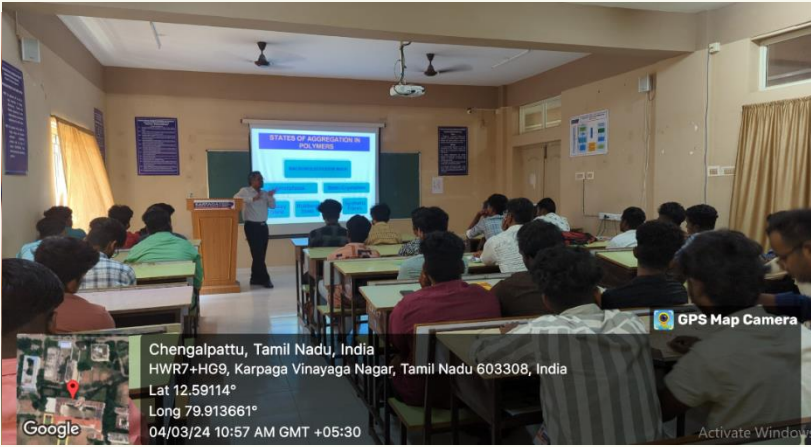
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Our Department faculty Dr.M.Karthigairajan, has published two journals "Enhancement of High Density polyethylene (HDPE) Composite behaviour by using TiO_{2f} and Al₂O_{3f} Bio Ceramic Fillers, Journal of Polmer Research, Volume 30:339, 2023. "Effect of Steam gasification parameters on hydrogen extraction from indirect land use change crops" Energy Sources part A (Taylor and Francis) Volume 45, Page No 12263 – 12276, 2023.

DEPARTMENT OF AUTOMOBILE ENGINEERING AUTO Dashboard - 2023: Bi Annual Newsletter

EVENTS



Guest Lecture – 4

The department of Automobile Engineering has organized a one day guest lecture on “Innovative Methodology in Plastic Engineering” on 04.03.2024 by Dr. N. Natchimuthu, Professor, MIT Campus, Anna University, Chrompet, Chennai – 600044.



Industrial Visit

57 students gained practical Knowledge about the process doing in the Indian Cost Guard Air Stations. The industrial visit is held on 20.03.2024 at Indian Cost Guard Air station Chennai.

Author's Profile

FUNDAMENTALS OF HEAT TRANSFER

Dr. M. KARTHIKAJAN
Dr. M. MOHITHA
Dr. RAJESH CHARABORTY
Dr. S. D. SENAR

Effect of steam gasification parameters on hydrogen extraction from indirect land use change crops

Venkatesh Rathinavelar, Ramakrishnan Hariharan, Karthigaigan Marimuthu, Sultanmaniam Prabhakaran, Praga Chathiravaram Balasubramanian, Mohan Victor De Pounser, Sumail Hossain, Asif Hossain Selim, and Md Abdul Kalam

ABSTRACT

Biomass, green energy is becoming indispensable in worldwide applications and meets their energy demand. The extraction of hydrogen from biomass via steam gasification technique found higher carbon conversion capacity and low hydrogen yield. This study aims to increase the production of green hydrogen energy from indirect land use change (ILUC) crops such as Crotalaria retusa, Crotalaria retusa, Crotalaria retusa, and Crotalaria retusa. The study also aims to increase the production of green hydrogen energy from indirect land use change (ILUC) crops such as Crotalaria retusa, Crotalaria retusa, Crotalaria retusa, and Crotalaria retusa. The study also aims to increase the production of green hydrogen energy from indirect land use change (ILUC) crops such as Crotalaria retusa, Crotalaria retusa, Crotalaria retusa, and Crotalaria retusa.

Introduction

The extraction of the energy crisis due to environmental degradation allied with fossil fuel usage and the use of hydrogen as a renewable, sustainable, and clean energy transporter is becoming indispensable in energy applications (Ali, Salem, and Pahlavan 2022) and derived via catalytic reaction (Loren et al. 2020), enzymatic green-oxo system (Fu et al. 2022). A biomass gasification technique is a significant method for hydrogen production (Valladao and Park 2022). It was classified into three major categories: tar, oxygen, and steam gasification (Chatter, Tsvetanov, and Sadi 2022a), and steam gasification performed with water hydrogen yield (Carman 2022). The production of hydrogen from the source of biomass via

Our department faculties Published 7 – Journals and 4 – Books