

SCOPE AND OBJECTIVE

The main objective of the short term programme is to provide exposure on materials , methods processes and techniques for bio fuel ,fuel cell and battery powered automobiles .

As India is facing crisis of environmental degradation in major metropolitan cities and towns across India, the emission from transportation sectors is under the lens. The emission from the automobiles is the major contributor for many health and environmental issues. Hence it is the duty of academicians and technocrats from industry to come together, discuss, deliberate and device means to reduce these emissions. One of the attractive alternate is biofuel and fuel cell / battery powered automobiles. But the technology extracting the materials for battery and fuel cell are again is environmentally hazardous. Also the technologies for producing electric power from fuel cell is not matured enough to be used commercially in automobiles. The workshop will be a forum for academics, researches from the research laboratories and experts from

industry to discuss and deliberate the prospects of using electric / fuel cell powered automobiles for transportation. The workshop will attempt to discuss the following topics.

- New techniques for biodiesel production
- New materials for battery and fuel cells.
- Environmentally friendly techniques for processing the synthesis of fuel cells
- Material characterization and testing
- Fuel cells and types
- Application of bio fuel and fuel cell in automobiles
- Technological issues facing fuel cell introduction in automobiles
- Recycling and recharging of fuel cells
- Electronics for battery vehicles.

This National workshop intends to bring together the expertise of scientists, engineers, academicians, industrialists and entrepreneurs for discussing the recent advances in biofuels and fuel cell and how they can be applied to the benefit. Advances in the areas of fuel cell development, biodiesel production and fuel cell materials will be presented by eminent speakers and discussed. Participants will have an opportunity to interact with top notch professionals in this field and benefit through the interaction.

FACULTY

The programme will be conducted by the faculty members in departments of Mechanical Engineering and Chemical Engineering, Annamalai University, relevant field experts from industries, research institutions like IIT, NIT and educational institutions.

ELGIBILITY

This course is open to teachers and students of engineering colleges approved by the AICTE offering degree in Mechanical/Automobile /Chemical Engineering. Those who are studying and working with physics and chemistry background also eligible for the above programme. Interested candidates may please send the enclosed application form duly filled in and sponsored by their institution.



REGISTRATION FORM

DST-SERB Sponsored National Level short term programme on "Biofuels and Fuel Cell – Fundamentals and Applications"

December 3--9,2018

Organized by
Centre for IC Engines and Automotive
Research /Department of Mechanical
Engineering and Department of
Chemical Engineering,
Annamalai University,
Annamalainagar-608 002

Name (in block letters) :
Designation :
Organization :
Mailing address :
Details of field exposure (years) :
Phone: [O]..... [R]
Fax
e-mail
Please tick **the relevant**
Area of specialization:
No. of summer school attended:
Experience (years)
Teaching: Research:
Industrial:

attend the course for the entire duration.

Date: Place:

Signature of participant:

SPONSORSHIP CERTIFICATE

Mr/Ms/Dr.....
.....i
s an employee of our institute
and is sponsored to attend the
workshop, on selection.

Date:

Place:

Signature and Seal of

Sponsoring Authority

DECLARATION BY THE APPLICANT

The above mentioned information is true to the best of my knowledge and belief. I shall

ADDRESS FOR CORRESPONDENCE

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Registration

Candidate shall Fax/E-mail the registration form duly filled in to the coordinator on or before November 20th 2018. The selection results will be intimated on 25th November 2018. On the receipt of acceptance mail, participants are requested to register in advance by sending the form duly filled in along with the bank draft for Rs. 2000/- (academic institutions) or Rs. 3000/- (Industry and research laboratories) drawn in favour of 'The Registrar, Annamalai University' payable at Annamalainagar/Chidambaram. Registration fee includes accommodation, proceedings and lunch.

Chidambaram

Chidambaram popularly known as 'temple' for Saivites, an abode of cosmic dance by Nataraja, is along the east coast 240 km from Chennai and is well connected by road. Buses ply from the terminus at Koyambedu, Chennai.

Annamalainagar is 2 km east of this temple town Chidambaram. Temperature and relative humidity in February at Annamalainagar are $\approx 35^{\circ}\text{C}$ and 80% respectively. Pichavaram (10 km) estuary with the collection of rare mangroves and Poombuhar (45 km) & Gangaikondacholapuram (45 km) (Chola regime) places of historical importance are the nearby tourist spots.

Annamalai University

In the early 1920s Rajah Sir S. R. M. Annamalai Chettiar founded Sri Minakshi college, Sri Minakshi Tamil College and Sri Minakshi Sanskrit College at Chidambaram. In 1928, Rajah Sir S. R. M. Annamalai Chettiar agreed with the local Government to handover the above said institution for establishing a University. Thus, on 01.01.1929 Annamalai University was established as per Annamalai University Act 1928 (Tamil Nadu Act 1 of 1929).

One of the most significant developments is the enactment of the Annamalai University Act, 2013 (Tamil Nadu Act 20 of 2013), which has come into force from September 25, 2013. Annamalai University is accredited with 'A' Grade by NAAC in 2014. "The NIRF-2018" by the Ministry of Human Resource Development (MHRD) has ranked the University in the band 101 - 150 in the overall category as well as the University Category. In the Pharmacy Category the ranking is 20th in India. In the Medical Category the ranking is 24th. "The Times Higher Education World University Ranking - 2019" has ranked Annamalai University in 1000+ for Overall category. "The CWTS Leiden Ranking 2018", on scientific impact of universities and on universities' involvement in scientific collaboration & scientific performance, has ranked the University at 20th based on the number of publications and 4 th based on the proportion of publications that, compared with other publications in the same field and in the same year, belong to the top 10% most frequently cited. "The MDRA - India Today Ranking" (2018) has ranked Annamalai

University 13 th among the best Government Universities in India. Among the top 197 ranked institutions for Higher Education in India the "SCImago Institutional Ranking (2018)" has ranked Annamalai University as 7 th in Tamil Nadu and 32nd in India.

Annamalai University is one of the largest unitary, teaching, and residential Universities in Southern Asia comprising of 10 Faculties and 49 departments of study. This University has played a pivotal role in providing access to higher education to thousands of youth cutting across the social spectrum, especially from economically and socially disadvantaged classes. In this respect, this University's service to the nation is tremendous.

Department of Mechanical Engineering

The Mechanical Engineering Department of the Annamalai University made pioneering and significant contributions in the thrust areas of alternative fuels, IC engine emission control, heat transfer, solar energy and refrigeration. Many summer schools, STTP, FDP, national level seminars and workshop have been organised in the field of I.C. engines. Various R&D project works are under progress in the IC Engines laboratory in the field of bio fuels, fuel additives and hydrogen fuel with financial aid from UGC, DST, DRDO and AICTE. Well-equipped laboratories are offering practical courses and experimental facilities for research. The department offers under graduate, post graduate, post diploma and doctoral programs The Department has been awarded funding from DST-FIST programme for advanced research in internal combustion engines.