

SPEAKERS



Dr. Raja Munusamy : Head, Advanced Technology, Engineering Research Centre, Tata Motors Ltd. He has done his graduation, post-graduation & Phd from Indian Institute of Technology, Madras & Post-Doctoral Researcher from National Taiwan University. He has guided almost a batch of more than 30 students in the area of Design and development of fuel cell power system, CAE Analysis of fuel cell power system, Hybrid power train modelling and simulation. His areas of interest are Fuel cell power system, Batteries, Fuel cell power train, Hybrid power train, Redox batteries.



Dr. S. S. Thipse: Dy. Director, Powertrain Engineering, ARAI, Pune. He did his Masters in Thermal Sciences from Bradley University, USA and Ph.D. from New Jersey Institute of Technology in the field of Alternative Fuels Combustion. Presently, he is at ARAI, working on the development of Hydrogen, CNG & LPG engines at Powertrain Engineering Department. He is an active faculty at ARAI Academy and serves as a core member in the expert committee on Alternative fuels of DST as a nominee of Director, ARAI. He is a Governing Board member of SAEINDIA Western Section, life member of Combustion Institute, ISTD and member of ISO TC 22&BIS TED-26.



Mr Vikrant Bhalerao : Project Manager, Research and Innovation in Cummins India Ltd. His work profile involves Technology sensing and assessment for Blue Oceans strategies and environmental challenges, develop strategy for Business oriented Innovation, identification of critical innovation area. His prior experience involves natural gas, biogas and producer gas engine development and emissionization strategy.



Mr. S. D. Rairikar: Dy. General Manager, Powertrain Engineering at ARAI, Pune. He is mainly responsible for engine performance up-gradation, gaseous fuel injection system, combustion tuning, combustion optimization & analysis and emission reduction techniques. He has 25 years' experience in ARAI and 4 years' experience in one of the major OEM. His expertise is in the area of alternate fuel (i.e. CNG, LPG and HCNG) engine development, engine optimization for different type of application to meet a stringent emission norms for automotive application.



Mr Aatmesh Jain: Engineer, ARAI Academy, Pune. He has done B. Tech in Automobile Engineering from SRM University and M Tech in I. C. Engines from Veltech University collaborated with ARAI. His expertise is in the field of Alternative Fuels, Engine Emission and their Control strategies. He has published many national and international papers in technical and non-technical domain. He has also filed one patent in the area of biodiesel.



3 Day Proficiency Improvement Programme on

Advanced Fuels-Technology & Regulations

26th - 28th September 2017 at ARAI, Kothrud, Pune

REGISTRATION FORM

Name, Designation, Dept., Office No., Mobile No. & Email ID :	
Delegate - 1	
Delegate - 2	
Delegate - 3	
Company Name & Address	
Co-ordinator's Name, Designation, Contact No., Email ID	
100% Advance Payment Details	

Please fax/email/post duly filled-in registration form on or before 22nd September 2017 to:

Dr. K. C. Vora, Sr. Dy. Director & Head, ARAI Academy
 ARAI Post Box 832, Pune 411004 / S. No. 102, Vetel Hill, Off Paud Road, Kothrud, Pune 411038
 Tel: 020-3023 1248/ 1245 /1111, Fax: 020-3023 1104
 Email: training.pga@araiindia.com; morgaonkar.pga@araiindia.com; patil.pga@araiindia.com



2015



2011

**3 Day Proficiency Improvement Programme on
 Advanced Fuels-Technology & Regulations**



at **ARAI, Kothrud, Pune**
 (The Automotive Research Association of India)

26th - 28th September 2017

Organized by



BACKGROUND & OBJECTIVES

With the ever increasing crude oil prices and the alarming environmental crisis, use of alternative fuels is no longer a matter of future: it is a realistic issue of present. Conventional fuel sources are getting a lot harder to extract and the environment is also being heavily polluted by emissions produced by burning petroleum products. It's time now to reduce degrading the environment further and the obvious way ahead is through use of alternative fuels. Addressing these issues, this program is designed to give an in-depth analysis of fuel products, quality, policy & storage including alternate energy like Fuel Cells.

INTENDED LEARNING OUTCOMES

On completion of the module, the delegates should be able to:

- Understand CNG & LPG / LNG & Biogas technologies.
- Understand regulatory trends for natural gas vehicles.
- Understand & see demo on biodiesel extraction & transesterification
- Understand synthetic fuels & futuristic technologies on bio fuels
- Understand hydrogen technology & HCNG engine development
- Understand fuel cell technology
- Understand recent trends in auto gaseous fuel cylinder
- Understand dual fuel technology
- Understand Bioethanol Technologies and ED 95 / Flex Fuel Vehicle Technology
- Lead multi disciplinary teams
- Demonstrate independent learning ability necessary for conducting professional development
- Become self-disciplined and self-motivated, demonstrating personal responsibility in the pursuit of studies and professional practice

Note : ARAI reserves the right to change the dates, schedule, contents, speakers, venue etc. for the programme without any notice.

PROGRAMME**Day One**

- 08.30 - Registration
- 09.30 - Inauguration & Welcome Address
- 10.00 - Regulations and Certification for Alternative Fuels
- 12.00 - CNG/LPG Technology
- 13.00 - Lunch
- 14.00 - LNG and Producer Gas
- 16.00 - Bio-CNG

Day Two

- 09.00 - Biodiesel
- 11.00 - Biodiesel Demo
- 12.00 - Hydrogen / Fuel Cell Technology
- 13.00 - LUNCH
- 14.00 - Hydrogen / Fuel Cell Technology
- 14.30 - Dual Fuel Technology with Case Study
- 16.00 - HCNG

Day Three

- 09.00 - Alcohol (SI and CI)
- 11.15 - Bioethanol Technologies and ED 95 / Flex Fuel Vehicle Technology
- 13.00 - Lunch
- 14.00 - Synthetic Fuels (DME, GTL, P-Series, Pyrolysis Oil)
- 15.00 - Non-Automotive Alternate Fuels (Off road/ Genset/ Railway /CEV)
- 16.00 - Written Test
- 17.00 - Summary, Discussion and Feedback

WHO SHOULD ATTEND ?

- Vehicle / Engine Manufactures
- Organizations involved in Automotive Research, Design & Development, Testing & Certification
- Calibration Engineers
- Petroleum & Refinery personnel
- Alternate Fuel Device Manufacturers
- Engineers working on Alternate Energy including Fuel Cell & Hybrid vehicles
- RTO / Environmentalist
- Engineering / consulting companies
- Engineers who are interested in pursuing further studies on part time / full time basis
- Professors / engineering college students

MODE OF PAYMENT

At Par / Multicity cheque or demand draft in favour of

The Automotive Research Association of India

payable at Pune.

ARAI, over five decades, has provided its design and development expertise to the Indian automotive industry, focusing on the testing and evaluation of components and systems to meet national and international standards. ARAI strives to achieve international recognition in these areas. In keeping with the globalization of economy and business, ARAI continues to enlarge its scope of services to meet the requirements of automotive industries around the world. In addition to utilizing state-of-the-art technology, laboratories and highly-trained personnel, ARAI recognizes the need to develop a new generation of engineers to meet the demands of the automotive industry, not just in India but across the globe.

ARAI ACADEMY is classified into three divisions:

LEARNING CENTRE has embarked upon a programme of building up human resources by commencing educational programme (Graduate, Post graduate & Doctoral) with specialization in Automotive Engineering. It has tied up with VIT University (Vellore), Veltech University (Chennai), College of Engineering (Pune), Christ University (Bangalore), University of Alabama (USA), Tennessee Tech University (USA), Loughborough University (UK) and University of Braunschweig (Germany).

KNOWLEDGE CENTRE It has collection of around 23,000 books, standards, project reports, seminar/conference proceedings and around 75,000 SAE technical papers. It also has 237 eBooks. It subscribes to 40 national and international journals. It regularly publishes a monthly magazine 'Automotive Abstracts'. It also conducts literature / patent search for customer's projects.

TRAINING CENTRE: In line with Post Graduate and Doctoral Programs conducted by various universities abroad, ARAI Academy has devised various Proficiency

REGISTRATION FEES

Category	Registration Fees (Rs.) (per participant)	Total Fees including Tax of 18% (Rs.)* (per participant)
Engineers & Professionals	15,000.00	17,700.00
Teaching Faculty	10,000.00	11,800.00
Engineering College Students	5,000.00	5,900.00

*GST is as applicable at the time of program.

Registration fees include:

- Breakfast
- Lunch
- Delegate Kit

Improvement Programmes (PIPs), to be taught by ARAI, Academia & Industry Experts. PIP gives engineers, faculty and student's knowledge and technical expertise in a wide range of automotive disciplines. It helps in understanding system's view point for automotive design and manufacture, with specific skills in formulating automotive engineering solutions in terms of their function and performance, through optional modules. Based on the present system in universities, credits are proposed for each module, so that the graduate engineers can attend various modules and sum-up the credits required for Master's or Doctoral Programs. Participants also get chance to visit related laboratories of ARAI and get hands on experience. Certificates are issued on the basis of attendance & written test conducted at the end of the programme. We also conduct Training Programmes through WEBEX and Domain Training Programmes for Automotive Industry.

Please visit www.araiindia.com for more information.



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