

SPEAKER



Mr. A. V. Mannikar :

Sr. Dy. Director & Head, Safety & Homologation Laboratory and Passive Safety Laboratory, ARAI, Pune. He has more than 28 years of experience in Automotive R&D mainly in Data Acquisition, Analysis & System Evaluation for Safety & Reliability. He represents India on Passive Safety at UNECE. He was responsible for building state of the art Bungee Sled Facility at ARAI for evaluation of Seats & Safety Belts. He has keen interest in structure for Injury Prevention, Anthropometry (Size India) & its influence in Safety and Conflicts in Harmonization of Safety Standards.



Mr. Sumit Sharma :

He is Director of IICAE (Indore Institute of Computer Aided Engineering), Indore. He has done MS, Impact Biomechanics from Wayne State University, Detroit, MI, USA. He has more than 8 years of experience. Earlier he has worked with Ford Motors, USA, Detroit Engineering Products (DEP), Troy, USA, Advanced Human Modeling Laboratory, Wayne State University, Detroit, USA and VE Commercial Vehicles, Pithampur (Indore) MP, India. He has more than 20 national and international Publications.



2 Day Proficiency Improvement Programme on

Impact Biomechanics and Injury Criteria for the Assessment of Advanced Automotive Safety Systems

9th - 10th August 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	

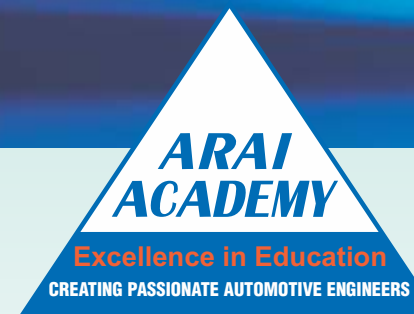
Please fax/email/post duly filled-in registration form on or before 7th August 2017 to:

Dr. K. C. Vora, Sr. Dy. Director & Head, ARAI Academy

ARAI Post Box 832, Pune 411004 / S. No. 102, Vetral 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

2 Day Proficiency Improvement Programme on Impact Biomechanics and Injury Criteria for the Assessment of Advanced Automotive Safety Systems



at

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

9th - 10th August 2017

Jointly Organized by



BACKGROUND & OBJECTIVES

The field of Impact Biomechanics seeks to understand the response of the human body to high-rate loading, and the prediction of injury potential, leading to the development of improved protection for the human body. Tools used in this research include advanced human numerical models, experimental testing and high-rate materials characterization. Applications include occupant simulation for automotive crashworthiness and the improvement of sports and other protection devices. Research in Impact Biomechanics uses laboratory experiments with human surrogates and volunteers to study the mechanical response of the human body to dynamic loading and to study the mechanisms and tolerances of the different body regions to injury. The results are used to develop new injury criteria and injury assessment tools that can be used to evaluate the effectiveness of new restraint technologies and design countermeasures. Injury assessment tools include improved anthropomorphic test devices (crash dummies), test procedures, and computer models that simulate occupant kinematics and dynamics.

The aim of this module is to elaborate on the basic and advanced concepts related to occupant safety. Injury Biomechanics is an essential element in the prevention of fatal injuries. Injury Biomechanics study interventions help prevent unintentional injuries by innovating schemes and designs that reduce impact. This interactive programme will explain how injury biomechanics research uses methodologies such as computational mechanics and laboratory testing to help prevent unintentional injuries.

INTENDED LEARNING OUTCOMES

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

- Understand Impact Injury Biomechanics
- Demonstrate how engineering Interventions compliment Injury Prevention schemes.
- Understand why Primary Prevention is better than Secondary Prevention
- Lead multi-disciplinary teams
- Demonstrate independent learning ability necessary for conducting professional development
- Become self-disciplined self-motivated, demonstrating personal responsibility in the pursuit of studies

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

PROGRAMME

Day One

- 8.30 – Registration & Breakfast
- 9.30 – Inauguration & Welcome Address
- 10.00 – History of Motor Vehicle Safety
Epidemiology of Motor Vehicle Accidents
- 11.00 – Tea Break
- 11.15 – Biomechanics Testing
AIS, Injury Scaling, Injury Criteria
Crash Dummies
- 13.00 – Lunch
- 14.00 – Demo on Dummy Calibration
- 17.00 – Conclusion

Day Two

- 9.00 – Federal Motor Vehicle Regulations
- 10.00 – Injury – Frontal Impact
- 11.00 – Tea Break
- 11.15 – Injury – Side Impact
Head Injury
Neck Injury
Thoracic Injury
Blast Induced Head Injuries
GHBMC (Global Human Body Models Consortium)
- 13.00 – Lunch
- 14.00 – Industry Testing for Frontal
- 15.00 – Written Test
- 15.30 – Summary, Discussion and Feedback
- 16.00 – Valedictory Function
- 17.00 – Conclusion



ARAI

WHO SHOULD ATTEND ?

- Organizations involved in Vehicle Safety Engineering & Testing
- Vehicle Manufacturers
- Seat, Seatbelt, Airbags & Helmet manufacturers
- Safety related component manufacturers
- Simulation Software Suppliers
- Safety Engineers from Automobile / Aircraft Engineering
- Engineers who are interested in pursuing further studies on part time / full time basis.
- Engineering / consulting companies.
- Medical Practitioners & Surgeons
- 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 Improvement

REGISTRATION FEES

Category	Registration Fees (Rs.) (per participant)	Total Fees including Tax of 18% (Rs.)* (per participant)
Engineers & Professionals	10,000.00	11,800.00
Teaching Faculty	6,000.00	7,080.00
Engineering College Students	4,000.00	4,720.00

* Tax is as applicable at the time of program.

Registration fees include:

- Breakfast
- Lunch
- Delegate Kit

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.

INDORE INSTITUTE OF COMPUTER AIDED ENGINEERING (IICAE) is an Altair Engineering authorized Design Centre, established in 2013. IICAE is an automotive CAD & CAE consultancy firm focused on providing high quality CAD models of automotive components, CAE design optimization, homologation and certification activities. The major activities of IICAE include: Designing of Commercial Vehicle, Cowl, Front and Rear FRP surface modeling, Hat-rack, Doors, Plastic Grab Handles, Hand Holds, Dashboard, Seats, Stanchion Pipes, Bumper as per government regulations like AIS052.

Please visit <http://www.iicae.in> for more information.