Advance Tyre & Vehicle Dynamics Course

22nd & 23rd November 2022

Prof. Dr. Saied Taheri
Virginia Tech. University, USA

Dr. Stephen Koehne
TS Group GmbH, Aachen

IRC 2022

INTERNATIONAL RUBBER CONFERENCE

Sheraton Grand Bengaluru Whitefield
Hotel & Convention Center, Karnataka, India.

IRC International Rubber Conference Organisation

IRI Indian Rubber Institute

MESSAGE

Dear Sir / Madam,

We are pleased to inform you that the Indian Rubber Institute (IRI) is organizing International Rubber Conference & Expo (IRC2022) in association with International Rubber Conference Organization (IRCO) from 24th to 26th November 2022 at Sheraton Grand Bengaluru Whitefield Hotel & Convention Center, Karnataka, India. The theme of the conference is "Sustainable technology, innovation, and Mobility"
The present members of the IRCO are Australia, Brazil, China, Czech Republic, France, Germany, India, Japan, Korea, Malaysia, the Netherlands, NGTR, Slovak Republic, Thailand, Turkey, UK, and the USA. The International conference is being held on a rotation basis in all these countries. As a part of this mega event, the Indian Rubber Institute (IRI) is organizing a two-day **Advanced Tyre and Vehicle dynamics course** with the support of Virginia Tech University, The USA, and TS Testing Service GmbH, Germany.
Prof. Dr. Saied Tahari, from Virginia The USA, and Dr. Stephen Koehne, owner and managing director of TS Group GmbH in Aachen, Germany will be delivering the lectures. The programme will be held on 22nd and 23rd Nov. 2022, at Sheraton Grand Bengaluru Whitefield Hotel & Convention Center, Karnataka, India. The participation fee for a two days programme is Rs.50,000/- + GST for Indian participants and USD 900 for international participants. This will be a great opportunity for budding tyre technologists to enhance their knowledge to perform better in their careers. Requesting participation from your organization in this programme to make it a great success.

Thanking you for your support.

P.K.Mohamed
Chief Convener
IRC2022, Bengaluru, India

International Rubber Conference Organization (IRCO)

The International Rubber Conference Organization (IRCO) is an association of rubber societies around the world which plan the calendar for the main international rubber conferences. By careful selection of conference proposals and monitoring of events, the IRCO ensures that all conferences run by its member societies meet the very demanding requirements dictated by the IRCO and thus provide delegates with first-class conferences.

Indian Rubber Institute (IRI)

Indian Rubber Institute (IRI) is a professional body of Technologists, Engineers, Scientists, Academicians, and Professionals associated with the Indian Rubber industry. It was registered on 25th May 1987 under West Bengal Societies Act XXVI of 1961 and is the successor in India of Plastics and Rubber Institute (PRI), London, U.K. IRI is a non-profit organization engaged in the development of diverse areas of technological education, training and skill development in Rubber sector. Affiliated with American Chemical Society (ACS), Rubber Division Member of International Rubber Conference Organization (IRCO), UK. IRI is also an approved Training Provider of Rubber, Chemical & Petro Chemical Skill Development Council (RCPSDC), under the National Skill Development Corporation (NSDC), Govt. of India

Prof. Dr. Saied Taheri

Saied Taheri is a Professor of Mechanical Engineering at Virginia Polytechnic Institute and State University, known as Virginia Tech (VT). He has been the founding director of the NSF I/UCRC Center for Tire Research (CenTiRe) since 2012 and the director of the Intelligent Transportation Laboratory since 2008. He was also the co-founder of the National Tire Research Center in 2009. He has 30 years of academic and industrial experience in automotive engineering (tire and vehicle dynamic modeling and design), dynamics and control, and intelligent systems, with applications in intelligent tires and vehicles, vehicle dynamics and control, automotive and transportation safety, and railroads. Prior to joining VT in 2007, he worked at Goodyear Tire and Rubber Company and an the University of Akron (1998-2007) and earlier worked as an assistant professor at Tehran Polytechnic Institute (1991-1998).

Dr. Taheri has been instrumental in the establishment of a new and unique undergraduate major in Robotics and Mechatronics at VT-ME and is currently working on establishing an undergraduate major and a graduate program in Automotive Engineering. He has published 163 refereed (journal and conference) articles, delivered 76 abstracts in presentations, seminars, and invited talks, and is currently finishing a book in Vehicle Dynamics. At Virginia Tech, he has directed 8 post-docs/visiting scholars, 16 doctoral dissertations, 19 master theses, and 76 undergraduate student projects, and served as reader/examiner of 46 additional theses and dissertations. His sponsored research has reached $15.2M. He is an associate editor of two journals, and was the President of the Tire Society (2014-2016). He received his B.S., M.S., and Ph.D. degrees in Mechanical Engineering from Clemson University in 1984, 1986, and 1990, respectively.

Dr. Stephen Koehne

Stephen Korine is an engineering graduate from the university of RWTH and obtained a doctorate degree from the university of KIT. Owner and managing director of TS Group GmbH in Aachen (150 employees)Holding of several companies in the field of CO2-free production of Iron, Concrete, and Methanol. He was the owner and managing director of TS Testing Service GmbH in Aachen (45 employees) from 2004 – 2022. More than 15 years experience in building world-leading test equipment (Tire and automotive test machine) More than 12 years experience in operating Tire Testing Lab

Program overview

Even though the pneumatic tyre was invented by John Boyd in the year 1888, it took several years to recognize the importance of the tyre as the source of vehicle control forces for the safety, braking and handling of the vehicle. This understanding led to several investigations and confirmed that the vehicle handling performance is significantly influenced by the dynamics at the tire-road contact. The tires transfer the horizontal and vertical forces acting on the vehicle because of steering, braking, and driving in combination with possible road disturbances. Forces acting on the vehicle are also induced by external disturbances such as aerodynamics due to crosswinds. Tyres being the only links of the vehicle with the road, there exists a strong relationship between vehicle behaviour and the tyre-road contact forces which depend on the specific tyre design, tyre condition variables like slip and tyre load, the road surface, and weather conditions.

Tyre design parameters are linked to its geometry, tread pattern, structure and material design which play vital roles in the behaviour of the tyre with respect to vehicle performance as mentioned above which makes it necessary to have an in-depth understanding of tyre properties and their influence on vehicle behaviour. It is also important how the same is measured using the latest testing equipment and how the data is interpreted.

In this lecture series, two experts**, Prof. Dr. Saied Taheri from Virginia Tech** and **Dr. Stephen Koehne from TS group** will deliver a series of lectures on subjects related to tyre properties, vehicle dynamics, force & moments, high-speed uniformity & durability, etc. The subject covered in these programmes are;

- Tyre force and moments generation mechanism and its effect on vehicle
- Handling performance of tyres
- Ride dynamics
- Tyre properties such as noise, traction, and RR
- Vehicle Dynamics Ride simulation
- Vehicle dynamics software in loop simulation capabilities with one real-world problem
- Tyre Testing and its significance
    - Tyre footprint mechanics
    - Tyre high-speed uniformity and durability
    - Tyre Rolling resistance
    - Tyre force and moments
    - Tyre wear

COURSE FEE	INR 50,000 + 18% GST	Indian Participants
	USD 900	International Participants

For further details/registration, please contact IRC2022 Workshop Convener Mr. Jiby Isaac
Jiby.Isaac@apollotyres.com

CONFERENCE & EXPO SECRETARIAT - IRC 2022
C/o. Helar Marketing & Consultants Pvt. Ltd.
No.10, 20th East Street, Kamaraj Nagar, Thiruvanmiyur, Chennai, India – 600041
Website: www.irc2022.com **Email:** secretariat@irc2022.com