Conference programme

Ricardo Motorcycle Conference 5.0
Riding Future Technologies

5 November 2018 • Milan • Italy

motorcycleconference.com
Scientific Board

Prof. Dr. Angelo Onorati  
*Department of Energy, Politecnico di Milano*

Professor at the Department of Energy of Politecnico di Milano since 2004, he is a member of SAE (Society of Automotive Engineers) and of the editorial board of the International Journal of Engine Research. In April 2011 he received the Lloyd L. Withrow distinguished speaker SAE award. Currently he coordinates the activities of the Internal Combustion Engine Group at Politecnico di Milano, working in the field of IC engine CFD modeling and simulation. During the last decade he has carried out industrial research projects with MV Agusta, Piaggio, Lafranconi Silencers, Aprilia and Husqvarna.

Paul Etheridge  
*Head of Business Development, Ricardo Motorcycle*

Paul joined Ricardo in 1978, becoming Head of Motorcycle Engineering in November 2012. Paul bought his first motorcycle at the age of 10, and since that time has owned more than 60 different road bikes, rebuilding and repairing many of them along the way. With almost 30 years’ experience in the motorcycle industry, Paul has gained particular expertise in the development of a wide range of different motorcycle powertrains, leading multiple motorcycle engineering programmes during his career. Over the past 4 years Paul has been responsible for expanding the customer base of Ricardo Motorcycle globally, including major motorcycle customers in North America, UK, Central Europe and several key regions within Asia.

Geoff Liersch  
*Head of Two-Wheeler & Powersports, Bosch Corporation*

Geoff’s career has always been within the Automotive Industry. In 2005 he joined Bosch Australia in the Body Electronic group. Having held various positions worldwide in the body electronic area he is now responsible for the Two-Wheeler & Powersports unit within BOSCH as Senior Managing Officer. He is currently located at BOSCH Corporation Japan. Geoff is also active in the Society of Automotive Engineers. Having grown up on a farm in Australia his first bike was given to him at an age of just 4 years old and he’s still a keen motorcycle rider today.

Register online: motorcycleconference.com
Welcome

On Monday 5th November 2018, the Ricardo Motorcycle Conference (5.0) will take place for the fifth time, again bringing together top global motorcycle industry experts in Milan the day before EICMA 2018 opens its doors to the industry.

The conference will pick up on several topics focusing on the current trends and future drivers of the motorcycle and urban mobility world.

Again, this year, three interactive ‘Expert Dialogues’ will complement the main conference programme. Specialists from automotive and motorcycle engineering will share their latest technologies and develop ideas in conjunction with delegates as to when and how they might be applied to future motorcycle development. Topics will be ‘Human Machine Interface for Improving Riding Experience’, ‘Industrial Design Approach on Motorcycle Development’ and ‘RIDE and DRIVE - Efficient Calibration Methodology for Motorcycles’.

The conference this year will take place at the Museo Nazionale della Scienza e della Tecnologia Leonardo Da Vinci, in Spazio Polene which is a spectacular space in the Air & Water Transport building of the museum. The Expert Dialogues as per previous years will run concurrently in the Sala Conte Biancamano, an impressive original sector of the ocean liner by this name.

We will round off the conference with an evening event at the restaurant of Deus ex Machina. You will again have the opportunity to expand your network of like-minded people, make valuable global motorcycle industry contacts and enjoy the fascinating surroundings next to the Deus showroom and shop, situated right in the heart of motorcycle customising in Milan.

I am looking forward to welcoming you to the conference!

Paul Etheridge
On behalf of the Scientific Board

Register online: motorcycleconference.com
## Ricardo Motorcycle Conference 5.0

### Conference programme

**Monday, 5 November 2018**

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<tr>
<td>08:30-10:00</td>
<td>Registration</td>
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<tr>
<td></td>
<td>Reception with coffee and tea</td>
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<tr>
<td>10:00-10:10</td>
<td>Welcome and Opening</td>
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<td>10:10-10:30</td>
<td>Keynote Speech</td>
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### Session 1. Future Powertrain Technologies

**Moderator:** Geoff Liersch

- **10:30-11:00** Virtual development of a crank mechanism for a MotoGP engine using latest modelling techniques
  - Gianluca Calli - Ducati Motor Holding S.p.A.
- **11:00-11:30** A methodical approach to electric vehicle design/specification incorporating advanced technologies
  - Gavin White, Connor McShane and Darryl Doyle - Queen’s University Belfast
- **11:30-12:00** Spray targeting and injection timing optimization by means of 1D-3D coupled simulation of the fuel spray propagation Inside the airbox of a high performance motorbike
  - Dr. Gianluca Montenegro, Dr. Angelo Onorati, Dr. Tarcisio Cerri, Filippo Pavirani and Marco Fiocco - Department of Energy, Politecnico di Milano
- **12:00-12:30** Applying engineering tools and techniques developed for passenger cars to the benefit motorcycles
  - Philip Williams - Ricardo

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<td>12:30-14:00</td>
<td>Lunch</td>
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### Session 2. Future Vehicle Technologies

**Moderator:** Prof. Dr. Angelo Onorati

- **14:00-14:30** Advanced rider assistance systems for motorcycles
  - Dr. Thomas Maurer - Bosch Corporation
- **14:30-15:00** A new concept of light mobility – The RESOLVE Project
  - Dr.-Ing. Martin Perterer - KTM Technologies GmbH; Dr. Marco Pieve - Piaggio & C. S.p.A.
- **15:00-15:30** On motorcycle stability design
  - Dr. Marco E. Pezzola, Niccolò Taroni and Giulia Morandin - Soluzioni Ingegneria; Federico Cheli and Dr. Elisabetta Leo - Department of Mechanic, Politecnico di Milano
- **15:30-16:00** Evaluation of the potential of cornering ABS for single vehicle accidents: an experiment-based approach
  - Alessio Sevarin, Michael Gruber and Dr. Ernst Tomasch - Graz University of Technology; Christian Rathgeb – KTM AG; Dr. Ralf Risser, Karin Ausserer and Lukas Hartwig - FACTUM

Register online: [motorcycleconference.com](http://motorcycleconference.com)
16:00-16:45 Coffee Break

SECTION 3. MOTORCYCLE MARKET DRIVERS
Moderator: Paul Etheridge

16:45-17:15 Customer usage profiles
Christian Gorges and Dr.-Ing. Kemal Öztürk - BMW Group

17:15-17:45 Life Outside the Tribe – The fate of motorcycling depends on the future of mobility
Sébastien Stassin - KISKA

17:45-18:15 Connected EV Two-Wheelers – Penetration of electric scooters and connectivity
Stephane Fosso - Ricardo

18:15 Closing Remarks

Transfer to Deus ex machina

19:30 Dinner and Evening Event

Register online: motorcycleconference.com
About the conference

Each year in November, motorcycle developers from all over the globe travel to Milan to take part in EICMA, the world’s largest motorcycle exhibition. Ricardo contributes its expertise and its passion for motorcycling throughout that industry, year on year, and was driven to create a focused forum where experts and others passionate about integrated motorcycle development could come together to share knowledge and new ideas. The Motorcycle Conference was born from the idea of Ricardo’s motorcycle enthusiasts to provide a means of bringing together global engineering capabilities.

The inaugural conference took place in 2014, with a clear remit to connect like-minded individuals from all over the world in an open forum not biased by sales agendas.

During the one-day conference, we discuss the challenges, directions and trends of future two wheelers, and learn more about local legislative restrictions. The meeting gives participants the opportunity to develop their personal and professional networks in small and more intimate surroundings, prior to EICMA.

Due to the full programme, ‘Expert Dialogues’ will run in parallel to the main conference, bringing together automotive engineering experts and motorcycle and urban mobility developers.

Register online: motorcycleconference.com
Ricardo has a long history in motorcycle engineering, dating back to the 1920s. Its earliest associations include Triumph (4 valves cylinder head in 1921), Vauxhall (complete motorcycle in 1922) and Harley Davidson (combustion system in 1934). The Ricardo motorcycle group was formalised in 1992 to provide a dedicated, specialist technical resource and to grow the business. Ricardo now has a global breadth and our clients benefit from our knowledge and experience not only in motorcycle design and development, but across a very broad spectrum of domestic, commercial and industrial vehicle projects.

Ricardo provides its clients with the right balance of styling, design, technical, strategic and manufacturing support to enable successful navigation of this highly competitive and regulated global marketplace. Drawing on a vast knowledge of full-vehicle design and engine, transmission, driveline and electric/hybrid motorcycle technology, we offer our clients accelerated, uncompromised delivery of uniquely designed motorcycle products.

With an unprecedented full-product development capability, we help our clients to plan, design and deliver world-class motorcycles, scooters and other two, three and small four-wheel vehicles.