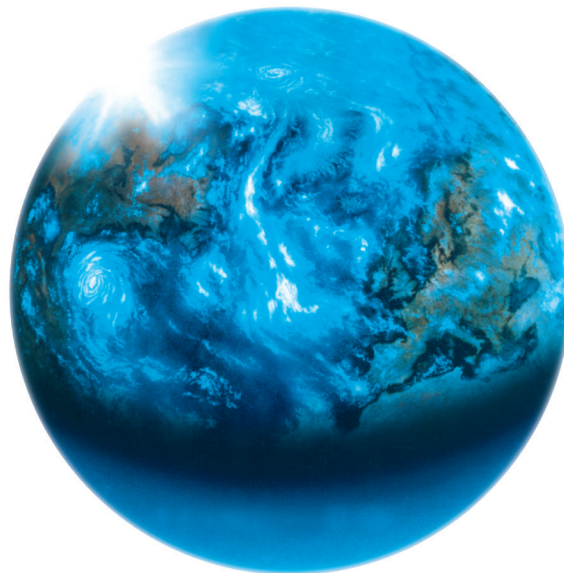


AVL



## Program

11<sup>th</sup> Int. AVL Exhaust Gas and Particulate Emissions Forum

3<sup>rd</sup> - 4<sup>th</sup> of March 2020, Forum am Schlosspark, Ludwigsburg, Germany

## FOREWORD

Since the early 2000s, the International AVL Exhaust Gas and Particulate Emissions Forum has served as one of the most important specialist conferences in the field of exhaust gas aftertreatment and the associated metrological challenges within the engine and vehicle industry.

To improve local air quality effectively, the requirements placed on internal combustion engines regarding CO<sub>2</sub> and pollutant emissions are continuously being tightened. These environmental regulations require the widespread use of efficient exhaust gas aftertreatment technologies. These technologies must achieve optimal performance values under all application-specific conditions to meet future requirements.

The automotive and engine industries are currently experiencing the deepest upheaval in their history. Electrification, digitalization, autonomous driving and flexible use are leading to major changes. To guarantee the efficiency and environmental compatibility of all internal combustion engines, existing technologies must be further developed, and new solutions must also be found for exhaust gas aftertreatment using alternative fuels. We must continue along the development path towards a pollutant-free and CO<sub>2</sub>-neutral internal combustion engine.

The 11<sup>th</sup> International AVL Exhaust Gas and Particulate Emissions Forum will take place from March 3 - 4, 2020, in the "Forum am Schlosspark" in Ludwigsburg near Stuttgart. Top-class speakers from Germany and abro-

ad will present the latest results of the enhancements of low-emission propulsions and report on current results in exhaust gas aftertreatment, CO<sub>2</sub> reduction, reduction of air pollution, regenerative fuels, hybridized propulsions, well-to-wheel considerations and new exhaust gas measurement technology. This informative conference will also include an exhibition with a presentation on the latest solutions in the field of exhaust gas measurement technology.

Similar to previous forums, we are expecting over 250 national and international guests in the "Forum am Schlosspark" in Ludwigsburg. During more than 20 exciting technical sessions, the expert audience will be presented with current solutions for the implementation of exhaust gas legislation and will also have the

opportunity to engage in technical discussions and expert talks.

On behalf of AVL Deutschland GmbH and the members of the Program Advisory Board, I wish all conference participants an interesting conference, exciting discussions and a pleasant stay in Ludwigsburg.

We look forward to welcoming you in March 2020 to the beautiful residence city of Ludwigsburg.

On behalf of the Program Advisory Board

Prof. Dr.-Ing. Gennadi Zikoridse

## CONFERENCE PROGRAM – TUESDAY, 3<sup>rd</sup> OF MARCH 2020

09.00 Welcome and Opening of the 11<sup>th</sup> International AVL Exhaust Gas and Particulate Emissions Forum  
Prof. H. List – AVL List GmbH

### Session 1: Keynotes, Chairman: Prof. G. Zikoridse – Dresden University of Applied Sciences

09.15 Fine dust in ambient air – still an issue?  
Prof. A. Dittler – Karlsruhe Institute of Technology (KIT)

09.45 N. N.

10.15 Sustainable and cost-efficient cars  
Dr. H. Pengg – Audi AG; M. Zapf, Prof. Chr. Weindl – Coburg University; Dr. Th. Bütler, Dr. Chr. Bach,  
– Swiss Federal Laboratories for Materials Science and Technology, Switzerland

10.45 Coffee break

### Session 2: Air-Quality, Chairman: Prof. U. Gärtner – Daimler AG

11.15 Low-Emission Zones and Diesel Bans – the Way Into the Electric Car Future  
Prof. M. Klingner, E. Sähn – Fraunhofer Institute for Transportation and Infrastructure Systems IVI

11.45 How can the Stuttgarter Straßenbahnen AG obey the laws for air pollution control  
M. Wiedemann – Stuttgarter Straßenbahnen AG

12.15 Comparative study of brake particle emissions  
Prof. K. Augsburg – Ilmenau University of Technology

12.45 Update on IMO regulations for international shipping with particular focus on GHG and Black Carbon emissions  
P. Lauer – MAN Energy Solutions SE

13.15 Lunch

### Session 3: Future Emission Concepts I, Chairman: Prof. P. Eilts – University of Braunschweig – Institute of Technology

14.45 Increasing challenges in calibration and particulate filter technologies of gasoline direct injection engines on the European market  
A. Hochnetz, P. Götschl, Dr. C. Martin – AVL List GmbH, Austria

15.15 Challenges for the Gasoline Exhaust Aftertreatment System beyond EU6 legislation  
D. Thier, J. Goja, Y. Ito, F. Gaermer dit Richter, D. Waters, Dr. F. Striebel, C. D. Vogt – NGK EUROPE GmbH; K. Kato, F. Yoshioka, T. Shimoda, T. Aoki, M. Yamashita – NGK INSULATORS Ltd., Japan

15.45 Exhaust-gas treatment of natural gas engines  
Prof. O. Deutschmann, Dr. P. Lott – Karlsruhe Institute of Technology (KIT)

16.45 Coffee break

### Session 4: Future Emission Concepts II, Chairman: M. Grubmüller – AVL List GmbH

16.45 Numerical Design of a Pre-Turbo SCR Exhaust Aftertreatment System  
D. Knaf – BIN Boysen Innovationszentrum Nagold GmbH & Co. KG; J. Hipp, Prof. C. Beidl – Darmstadt University of Technology

17:15 Innovative SCR Systems for upcoming commercial vehicle emission legislation  
Prof. J. Hammer – Robert Bosch GmbH

17:45 CatVap® - Exhaust aftertreatment systems of the future require efficient heating measures, results  
R. Szolak, P. Beutel – Fraunhofer Institute for Solar Energy Systems ISE; B. Danckert – ICCL - Integrated Consulting Company Ltd.

18:30 Welcome Cocktail followed by Dinner  
Roland Jeutter – AVL Deutschland GmbH

## CONFERENCE PROGRAM – WEDNESDAY, 4<sup>th</sup> OF MARCH 2020

### Session 5: Test Equipment for RDE Applications, Chairman: Dr. D. Florian – AVL List GmbH

- 08:30 Influence of renewable fuels on specific real world driving car emissions (RDE)  
M. Kortschack, A. Singer, Dr. O. Schröder, Prof. M. Jakob – Coburg University Technology Transfer Center for Automotive Technology; Prof. J. Krahl – University of Applied Sciences Ostwestfalen-Lippe
- 09:00 PEMS Performance Standard – Status and Implication for Emission Measurement Instrumentation  
Prof. A. Bergmann – Institute of Electronic Sensor Systems, Austria
- 09:30 Emission reduction of a hybridized heavy-duty truck through SCR temperature management  
N. Hummel, M. Thiem, Prof. C. Beidl – Darmstadt University of Technology
- 10:00 Coffee break

### Session 6: Future Measuring Concepts, Chairman: Dr. H. Beck – MAN Truck & Bus SE

- 10:30 On-road remote sensing for monitoring of vehicle emissions  
Dr. J. Borken-Kleefeld – International Institute for Applied Systems Analysis, Austria
- 11:00 Overview of the H2020 sub-23nm PN Measurement Research Programmes  
J. Andersson – Ricardo Automotive & Industrial, United Kingdom
- 11:30 Monitoring of a Particulate Filter for Gasoline Direct Injection Engines with a High-Frequency-Antenna  
P. Schwanzer, J. Mieslinger – Ostbayerische Technische Hochschule Regensburg; M. Dietrich, G. Haft – CPT Group GmbH; M. Gaderer – TUM Campus for Biotechnology and Sustainability; S. Walter, G. Hagen, R. Moos – University of Bayreuth
- 12:00 Lunch

### Session 7: Fuels, Chairman: Prof. J. Krahl – University of Applied Sciences Ostwestfalen-Lippe

- 13:00 How to choose the right energy carrier for sustainable mobility?  
S. Dörr – Lubtrading GmbH, Luxembourg; Prof. Th. Schulte – University of Applied Sciences Ostwestfalen-Lippe
- 13:30 Lowest emissions with OME at the diesel engine – implementation and potential for reduction of immission loads  
T. Steinhaus, A. Mokros, M. Thiem, M. Münz, Prof. C. Beidl
- 14:00 “ElectroFuels” - Organic electrosynthesis as a strategy for the production of regenerative fuels?  
Prof. U. Schröder, M. Guschakowski, Dr. W. Sauter – University of Braunschweig – Institute of Technology
- 14:30 Coffee break

### Session 8: Well-to-Wheel, Chairman: Dr. S. Schmerbeck – Volkswagen AG

- 15:00 Real driving emissions of commercial vehicles in the spectrum of a holistic ecological assessment against the “EU Clean Vehicles Directive” in the bus sector  
Prof. R. Pütz – Landshut University of Applied Sciences / BELICON
- 15:30 Carbon footprint of different powertrains  
Dr. M. Gernuks, Dr. G. Bäuml – Volkswagen AG
- 16:00 Options to meet the future EU CO<sub>2</sub> reduction targets for medium duty vehicle  
Dr. K. Wilbrand, Dr. Chr. Balzer, Dr. A. Kolbeck – Shell Global Solutions (Deutschland) GmbH
- 16:30 Closing Remarks  
R. Jeutter – AVL Deutschland GmbH
- 16:45 End of Forum

## GENERAL INFORMATION

### DATE & VENUE

3<sup>rd</sup> - 4<sup>th</sup> of March 2020, Forum am Schlosspark, Ludwigsburg, Germany

### FEE

Registration fee	1.050,- Euro
University members	500,- Euro
Students	210,- Euro

Fees include proceedings, catering and evening event (plus 19 % VAT).

### CONFERENCE LANGUAGES

German and English (simultaneous translation)

### HOTEL RESERVATION

We have negotiated some attractive prices with a number of hotels in Ludwigsburg. You find the hotel list at [www.avl.com/emissionsforum](http://www.avl.com/emissionsforum). Please book your accommodation directly at the hotel and settle your hotel bill at departure.

### REGISTRATION AND FURTHER INFORMATION

[www.avl.com/emissionsforum](http://www.avl.com/emissionsforum)

### CONTACT

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## STUDENT SPONSORSHIP

There is the possibility for students to apply for sponsored places by Daimler, MAN, Umicore, VW and AVL which are free of charge. Information on this topic is available online at [www.avl.com/emissionsforum](http://www.avl.com/emissionsforum).

Many thanks to our sponsors!

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## Further Information

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