

Vienna Motor Symposium 2020

41st International Vienna Motor Symposium 22 – 24 April 2020

- ▶ New S.I. and C.I. Engines
- ▶ E-Drives | Platform / Logistics
- ▶ New & Optimized Engines
- ▶ Heavy Duty Vehicles
- ▶ Zero Impact Emission Concepts
- ▶ CO₂ Neutral Mobility
- ▶ Automotive Batteries | Hybrid / E-Drives
- ▶ Fuel Cell / H₂ Engine | E-Fuels
- ▶ View to the Future

Additional Parallel Session 2020:

- ▶ Cross-Company Cooperations
- ▶ Engineering Methods and Processes
- ▶ Innovative Testing Systems



With Exhibition, Cultural and Social Programme

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41st International Vienna Motor Symposium

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GENERAL INFORMATION

Congress with Exhibition and Social Programme

Dates:

Wednesday,	22 April 2020, 18.00 – approx. 21.00 hrs. Reception and Opening of the Exhibition
Thursday,	23 April 2020, 7.30 – 18.30 hrs. Symposium and Exhibition 23 April 2020, 20.00 hrs. Reception hosted by the Mayor of Vienna
Friday,	24 April 2020, 8.00 – 17.45 hrs. Symposium and Exhibition

Congress Venue:

Congress Center Hofburg Vienna
Heldenplatz, 1014 Vienna, Austria

Chairmen:

Univ.-Prof. Dr. B. **Geringer**

President of the Austrian Society of Automotive Engineers (ÖVK) and director of the Institute for Powertrains and Automotive Technology, Vienna University of Technology, Getreidemarkt 9, 1060 Vienna, Austria

Univ.-Prof. Dr. H. P. **Lenz**

Honorary President of the Austrian Society of Automotive Engineers (ÖVK)

Organizer:

Austrian Society of Automotive Engineers (ÖVK)

Elisabethstrasse 26, 1010 Vienna, Austria

Phone +43/1/585 27 41-0

Telefax +43/1/585 27 41-99

<https://vienna-motorsymposium.com>

info@oevk.at

Organization of the Symposium:

The International Vienna Motor Symposium is organized by the Austrian Society of Automotive Engineers (ÖVK) and the Institute for Powertrains and Automotive Technology (IFA), Vienna University of Technology.

ORGANIZATIONAL INFORMATION

Registration:

The registration is possible online at <https://vienna-motorsymposium.com>.

The General Terms and Conditions as well as the Data Protection Statement can also be found at <https://vienna-motorsymposium.com>.

Registration Fee:

€ 2.472,-- incl. 20% VAT

Registration Fee ÖVK Membership: € 2.388,-- incl. 20% VAT

The registration fee includes the admission to the lectures, the exhibition, the symposium proceedings, reception and exhibition opening, the Mayor's reception, lunch on Thursday and Friday, coffee during the breaks as well as bus transfer to the airport at the end of the symposium.

Austropa Interconvention will confirm receipt of the online registration immediately, but this is not the authorization to participate in the symposium.

A confirmation of registration (incl. invoice) or another information will follow in a few days.

Payment:

In order to guarantee the reservation, the invoice has to be settled within 2 weeks.

Booking and Cancellation Conditions Symposium Participation:

Changes and cancellations must be made in writing to Austropa Interconvention. Email: motoren2020@vb-mice.at. For cancellation after 12 March 2020, we are obliged to request full payment of complete registration fees, as all orders will have been placed.

Lecture Duration:

20 minutes each, followed by 10 minutes' discussion.

Language of Lectures:

German and English (simultaneous translation)

Conference Papers:

- Electronic versions of lectures on USB stick and printed copies (VDI volumes) on request.
- Lists of participants and exhibitors.

The conference papers will be distributed to participants at the registration counter.

App:

The symposium app provides information on the lectures, the speakers and the exhibition.

There is also the possibility to ask questions about the lectures during the symposium. You will find the symposium app at the App Store and at Google Play Store.

Student Registration:

We offer Austrian and foreign students a limited number of free student places.

Certain conditions must be met if you wish to participate in the Symposium. For more detailed information, please visit our website <https://vienna-motorsymposium.com>

where you will find the application form. The period for submitting applications will end on **28 February 2020**.

Optional Bookings:

- **Reception and Opening of the Exhibition:** Wednesday, 22 April 2020, 18.00 – approx. 21.00 hrs., registration counter will be open.
- **Reception hosted by the Mayor of Vienna in the City Hall:** Thursday, 23 April 2020, 20.00 hrs.
- **Bus Service:** Friday, 24 April 2020, 18.00 hrs. (at the end of the symposium), Congress Center Hofburg to Vienna Airport (Schwechat). Arrival at Vienna Airport approx. 18.40 hrs. Buses will be marked “Wiener Motorensymposium”.

Hotel Booking:

We have pre-reserved allotments in hotels of different categories in walking distance to the symposium venue. The booking can be arranged together with your registration to the symposium.

Booking and Cancellation Conditions Hotel:

Changes and cancellations must be made in writing to Austropa Interconvention. Lassallestraße 3, 1020 Vienna, Telefon +43/1/588 00/517, Telefax +43/1/588 00/520, Email: motoren2020@vb-mice.at.

For cancellation of hotel reservation between 1 March 2020 and 14 April 2020 a charge equivalent to the price of the first night at the hotel will be made. For cancellation after 14 April 2020 or non-occupancy of reserved rooms, the whole amount of the invoice will be charged from the credit card.

Evening and Social Programme:

An information for the booking of the evening and social programme you will receive together with your confirmation of registration by email.

The tickets for the evening and the social programme will be distributed at the counter of Austropa Interconvention in the Congress Center Hofburg Vienna during the symposium.

Booking and Cancellation Conditions Evening and Social Programme:

Please note that participation in the evening programme is limited. Tickets will be reserved on a first come first serve basis. If the requested price category is not available, we shall – if possible – reserve tickets in the next lower or higher price category. Prices as indicated include an advance booking fee. In case of a cancellation of reserved tickets the total amount of the booking will be charged.

Exhibition:

Approx. 60 exhibitors on over 1,400 square meters (indoor and outdoor exhibition) will complete the technical programme.

WEDNESDAY, 22 April 2020, 18:00 – 21:00 hrs.

18:00
21:00

Reception and Opening of the Exhibition in all the exhibition areas
Registration

THURSDAY, 23 April 2020, 8:45 – 10:30 hrs.

07:30 **REGISTRATION**

FESTSAAL

ZEREMONIENSAAL

SCHATZKAMMERSAAL

08:45

OFFICIAL OPENING

Univ.-Prof. Dr. B. **Geringer**,
Vienna University of Technology

PLENARY OPENING SESSION

Chairman: Univ.-Prof. Dr. B. **Geringer**,
Vienna University of Technology

09:00

Wolf-Henning **Scheider**,
Chief Executive Officer,
ZF Friedrichshafen AG, Friedrichshafen:
**Quick, Efficient and Pragmatic:
ZF's Solutions for Electric Mobility**

LIVESTREAM
of the Plenary Opening Session
from the Festsaal

09:20

Dipl.-Kfm. Andreas **Wolf**, CEO,
Vitesco Technologies GmbH, Regensburg:
**Vitesco Technologies – Building an
Electrification Powerhouse**

09:40

Don **Walker**, CEO,
Magna International Inc., Aurora, Canada:
**A Vision for the Global Automotive Industry –
Efficient, Clean, Profitable, Relevant**

10:00

Discussion of the lectures in this session

10:30

Coffee Break

FESTSAAL

ZEREMONIENSAAL

SCHATZKAMMERSAAL

E-DRIVES

Chairman: Assoc. Prof. Dr. P. **Hofmann**,
Vienna University of Technology

PLATFORM / LOGISTICS

Chairman: Univ.-Prof. Dr. L. **Eckstein**,
RWTH Aachen University

CROSS-COMPANY COOPERATIONS 1

Chairman: L. **Ciferri**,
Automotive News Europe

11:15

Dr.-Ing. J. **Doerr**, Dr.-Ing. N. **Ardey**,
Dr.-Ing. G. **Mendl**, Dipl.-Ing. G. **Fröhlich**,
Dipl.-Ing. R. **Straßer**, Dipl.-Ing. T. **Laudenbach**,
Dipl.-Ing. S. **Pint**, AUDI AG, Ingolstadt;
Dipl.-Ing. G. **Gulyas**, Dipl.-Ing. A. **Stroh**,
Audi Hungaria, Győr:
**The Electric Drivetrain with 3-Motor-Layout
of the Audi e-tron Top Model**

Wirt.-Ing. M. **Kollmeier**, BENTELER
Automobiltechnik GmbH, Paderborn;
Dipl.-Ing. U. **Schulmeister**,
Robert Bosch GmbH, Stuttgart:
**Modular and Scalable System Integration for
Electric Vehicles – BENTELER and BOSCH
further Develop Electromobility Platform**

Dr. Thomas **Sedran**, CEO, Volkswagen
Commercial Vehicles, Hannover:
**Competitors, Partners – or Both? Why Car
Manufacturers Enter into Cooperations
Today, and How to Manage Them**

11:45

Dipl.-Ing. O. **Bitsche**, Dipl.-Ing. C. **Hauck**,
Dipl.-Ing. J. **Kramer**, Dipl.-Ing. H. **Mayer**,
Dr. Ing. h.c. F. Porsche AG, Weissach:
**Porsche Taycan, 800V Technology for High
Performance Charging and Driving**

Dr. M. **Alt**, F. **Gouzonnat**,
Dr. P. **Ramminger**, R. **Matthé**, L. K. **Cloos**,
Opel Automobile GmbH, Rüsselsheim:
**The Multi Energy Platform of the Opel Corsa:
Pure Electric, Gasoline or Diesel Propulsion**

H. **Kleene**,
PwC Legal, Düsseldorf / Hannover:
**Cooperations and Competition:
Do's and Don'ts under EU Antitrust Law**

12:15

Dipl.-Ing. C. **Helbing**,
Dr. rer. nat. K. **Bennewitz**, Dipl.-Ing. P. **Lück**,
Dr.-Ing. J. **Tousen**, Dr.-Ing. J. **Peter**,
Volkswagen AG, Wolfsburg:
**The Powertrain of the ID.4 – Volkswagen
Expands the Portfolio of the MEB**

Dipl.-Ing. M. **Lohmeier**,
Deutsche Post DHL Group, Bonn;
Dipl.-Ing. R. **Meyer**, Dipl.-Wirt.-Ing. M. **Dörr**,
Streetscooter GmbH, Aachen:
**EV Technology, Battery and Charging
Solutions for Last Mile Logistics**

Univ.-Prof. Dr. W. H. **Hoffmann**, Dr. T. **Knoll**,
Vienna University of Economics and Business;
Dr. R. **Wörner**, Contrast Ernst & Young
Management Consulting GmbH, Vienna:
**The Organizational Design of the Alliance
Management System: A Holistic Perspective**

Session in Cooperation with:

Automotive News Europe

12:45

Lunch at Congress Center

FESTSAAL

NEW & OPTIMIZED ENGINES 1

Chairman: Univ.-Prof. Dr. H. **Eichlseder**,
Graz University of Technology

14:30

Dr.-Ing. H. **Ruhland**, Dr.-Ing. M. **Wirth**,
Dipl.-Ing. R. **Friedfeld**, Dipl.-Ing. J. **Linsel**,
Dipl.-Ing. C. **Weber**, Dr.-Ing. F. **Krämer**,
Ford Werke GmbH, Cologne; F. **Abkenar** MSc,
Ford Motor Company, Dearborn, USA:
**EcoBoost 500: Taking Award Winning
Technology to the Next Level**

15:00

H. **Kitadani**, R. **Kaneda**, S. **Mizoguchi**,
Y. **Shinohara**, J. **Takeuchi**,
Toyota Motor Corporation, Toyota, Japan:
**The New 1.5 Liter Gasoline Engine from
the TNGA Series**

15:30

Dr. P. **Kapus**, Dr. R. **Ellinger**, Dipl.-Ing. E. **Bogner**,
Dipl.-Ing. (FH) G. **Teuschl**, Dipl.-Ing. C. **Sams**,
Dr. G. **Fraidl**, AVL List GmbH, Graz:
**Passenger Car Powertrain 4.x – from Vehicle
Level to a Cost Optimized Powertrain System**

16:00

K. **Hwang** BSc, J. **Chun** MSc, B. **Min** PhD,
Y. **Kim** BSc, D. **Lee** BSc, K. **Ha** PhD, D. **Chae** PhD,
C. **Park** MSc, C. **Yu** MSc, Hyundai-Kia Motor
Group, Namyang, South Korea:
**The New Hyundai-Kia's Smartstream 1.0L
Turbo GDi Engine**

ZEREMONIENSAAL

ZERO IMPACT EMISSION CONCEPTS

Chairman: Univ.-Prof. Dr. M. **Bargende**,
University of Stuttgart

Dr.-Ing. J. **Walther**, Dr.-Ing. T. **Pauer**,
Dipl.-Ing. H. **Weller**, Dr.-Ing. E. **Schünemann**,
Dipl.-Ing. A. **Hassdenteufel**,
Dr.-Ing. V. **Neubert**, Robert Bosch GmbH,
Schwieberdingen:
**Gasoline Powertrain with Near-Zero Impact
on Air Quality**

Dr. M. **Elicker**, Dr. M. **Scheidt**, Schaeffler Technologies
AG & Co. KG, Herzogenaurach; Dr. M. **Brauer**,
R. **Pohlke**, IAV GmbH, Berlin; J. **Geddes**, J. **Kiyanni**,
Jaguar Land Rover, Coventry:
**Innovative Concept in Diesel Low Load Emission
Compliance for EU7 and Beyond**

Dipl.-Ing. N. **Andrisani**, Dipl.-Ing. F. **Contarin**, Dipl.-Ing.
A. **Lorenzon**, Eaton s.r.l., Torino; Dr.-Ing. F. **Mallamo**,
Dipl.-Ing. M. **Nencioni**, FEV Italia s.r.l., Torino; Dr.-Ing.
H. **Busch**, Dipl.-Ing. T. **Körfer**, FEV Group GmbH, Aachen:
**Novel Valve Train Design as Enabler for Compliance
with Upcoming Stringent Emission Demands in Urban
Operation**

E. **Jean**, Dr. C. **Herbers**, M. **Capirchia**,
E. **Barrieu**, Faurecia Clean Mobility,
Bavans / Augsburg:
**Electrically Heated Catalyst: Requirements,
Controls and Key Parameters**

SCHATZKAMMERSAAL

CROSS-COMPANY COOPERATIONS 2

Chairman: L. **Ciferri**,
Automotive News Europe

Dipl.-Ing. R. **Lokner** MBA,
Microsoft Corporation, Redmond, USA:
**Empowering the Automotive Industry –
The New Road ahead for Connected and
Autonomous Vehicles**

AUTONOMOUS DRIVING PANEL:

M. **Siemann**, AUDI AG, Ingolstadt:
**Legislation Needed: What is Missing to
Make Level 3 Autonomous Driving Legal?**

J. **Liebermann** MSc,
Wiener Linien GmbH & Co KG, Vienna:
**10 Months of Testing Autonomous
Driving – a Field Report from the
Research Project auto.Bus - Seestadt**

Dr. D. **Nobelius**, Zenuity, Gothenburg:
**What's the Rush? How the Auto Industry Over-
Promised on Autonomous Driving and What
it Must Do Now to Make Sure it Does not Lose
Consumers Trust**

Discussion of the Panel lectures

Session in Cooperation with:
Automotive News Europe

16:30

Coffee Break

THURSDAY, 23 April 2020, 17:00 – 18:30 hrs.

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FESTSAAL

CO₂ NEUTRAL MOBILITY

Chairman: Univ.-Prof. Dr. S. **Pischinger**,
RWTH Aachen University

17:00

Dr.-Ing. M. **Brauer**, Dr.-Ing. C. **Danzer**,
Dipl.-Ing. M. **Kratzsch**, Dr.-Ing. M. **Leesch**,
Dipl.-Ing. E. **Schneider**, Dipl.-Ing. M. **Sens**,
Dipl.-Ing. W. **Wukisiewitsch**,
IAV GmbH, Berlin / Chemnitz:
Powertrain Concepts on the Path to CO₂ Neutral Mobility

17:30

E. **Kimura**, K. **Aikawa**, D. **Yasuda**, Honda R&D Co., Ltd. Automobile Centre, Tochigi, Japan;
H. **Saeki**, T. **Brachmann**, S. **Barth**, Honda R&D Europe (Deutschland) GmbH, Offenbach:
Challenge for Sustainable Carbon Free Mobility and Society: Honda's Multi-Pathways Approaching Concept with Electrified Power Unit Technologies

18:00

Dr. M. **Bell**, S. **Kollamthodi**, N. **Hill**,
A. **Greaney**, Ricardo plc, Shoreham-by-Sea:
The Net Zero Challenge – Life Cycle Impacts on Propulsion System Technologies, Supply Chains & the Regulatory Landscape

18:30

End of Programme

20:00

Reception given by the Mayor of Vienna at the Vienna City Hall
Please bring your invitation (please see Social Programme)

ZEREMONIENSAAL

AUTOMOTIVE BATTERIES

Chairman: Univ.-Prof. Dr. G. **Brasseur**,
Graz University of Technology

Dr.-Ing. S. **Dehn**, Dipl.-Ing. G. **Paul**,
Dipl.-Ing. (BA) F. **Cornelius**,
Mercedes-Benz AG, Kirchheim unter Teck:
The High Voltage Battery System of the New Mercedes-Benz EQC

Dipl.-Ing. M. **Liebl**, Miba Friction Holding GmbH, Laakirchen; Dipl.-Ing. (FH) S. **Gaigg**, Miba eMobility GmbH, Vorchdorf / Voltlabor GmbH, Bad Leonfelden; T. **Haidwagner** MSc, Dipl.-Ing. F. **Pöhn**, Dipl.-Ing. Dr. A. **Sonnleitner**, Miba eMobility GmbH, Vorchdorf:
Miba FLEXcooler® – The Innovative Battery Thermal Management Technology

Dipl.-Ing. M. **Lenz**, A. **Sauer** MSc, RWTH Aachen University; Dr.-Ing. F.-W. **Speckens**, Dipl.-Ing. J. **Ogrzewalla**, Dr.-Ing. M. **Stapelbroek**, FEV Europe GmbH, Aachen:
High-Performance Battery for Premium Hybrid Vehicles

SCHATZKAMMERSAAL

CROSS-COMPANY COOPERATIONS 3

Chairman: L. **Ciferri**,
Automotive News Europe

Dr. M. **Hajesch**, IONITY GmbH, Munich:
IONITY – Customer Satisfaction Facilitated by Industry Collaboration

Dipl.-Ing. (BA) F. **Klein**, Magna Steyr Fahrzeugtechnik AG & Co KG, Graz:
Cooperation as a Growing Success Factor in the Magna Steyr Business Model

Dr.-Ing. J. **Kolling**, BMW Group, Munich:
The Role of Cooperations for the BMW Group

Session in Cooperation with:
Automotive News Europe

FESTSAAL

ZEREMONIENSAAL

SCHATZKAMMERSAAL

HYBRID / E-DRIVES

Chairman: Univ.-Prof. Dr. W. **Eichlseder**,
Montanuniversitaet Leoben

NEW & OPTIMIZED ENGINES 2

Chairman: Univ.-Prof. Dr. C. **Beidl**,
Darmstadt University of Technology

INNOVATIVE TESTING SYSTEMS

Chairman: Univ.-Prof. Dr. G. **Hohenberg**,
Darmstadt University of Technology

08:00

Dr. G. **Rösel**, P. **Mönius**, W. **Hackmann**,
N. **Daun**, B. **Schmitt**, A. **Reich**,
Vitesco Technologies,
Regensburg / Nuremberg / Berlin:
**Increased System Efficiency by an 800 V Axle
Drive Concept**

Ing. R. **Golisano**, Ing. V. **Rampino**,
Dr.-Ing. A. **Vassallo**, Ing. N. P. **Sacco**, L. **Magro**,
Ing. G. **D'Aurizio**, Ing. S. **Trimboli**,
Ing. A. **Marino**, Ing. V. **Biasin**, Ing. I. **Zallio**,
Ing. R. **Vernassa**, General Motors GPS, Torino;
Dr.-Ing. J. **Wartha**, Dipl.-Ing. D. **Kaminski**,
Opel Automobile GmbH, Rüsselsheim:
**The New General Motors 1.5 Liter Diesel
3-Cylinder Engine**

Dr. P. **Ebner**, M. **Ivarson**, Dr. R. **Luz**,
Dipl.-Ing. (FH) M. **Walcher**,
AVL List GmbH, Graz:
**High Voltage Integration Testbed –
Tailored for BEV Development**

08:30

T. **Hamatani**, T. **Uehara**, T. **Hayashi**,
H. **Kitadani**, T. **Aoki**, K. **Yamanaka**,
Y. **Nishikawa**, T. **Okochi**, M. **Kanehara**,
Toyota Motor Corporation, Toyota, Japan:
**New Development of Hybrid System for
Compact Car**

D. **Song**, HYCET E-CHUANG /
Great Wall Motor, Hebei, China;
W. **Happenhofer**, Great Wall Motor,
Hebei, China:
**1.5T High Thermal Efficiency Modular
Engine Platform**

H. **Karacali** MSc, Ö. **Sentürk** MSc,
Delphi Technologies, Izmir:
Remote Test Automation System

09:00

Dr. H. **Sandquist**, P. **Frejinger** MSc,
Dr. S. **Klacar**, China Euro Vehicle
Technology, Gothenburg;
I. **Scholten**, S. **Li** MSc,
GEELY Powertrain Research Institute,
Hangzhou, China:
**Systems Engineering Methodology Applied
for Hybrid Propulsion System Development**

Dipl.-Ing. B. **Burger**, Prof. Dr.-Ing. M. **Bargende**,
University of Stuttgart; Dr.-Ing. U. **Philipp**,
Research Institute of Automotive Engineering
and Vehicle Engines Stuttgart:
**Technical Implementation of a Constant
Volume Combustion in a Real Engine**

Dr. M. **Wipfler**, Dr. W. **Rossegger**,
Dipl.-Ing. B. **Pressl**, Dr. T. **Haidinger**,
Dr. R. **Bauer**,
Kristl, Seibt & Co GesmbH, Graz:
**R2R – Model Based Testing for E-Mobility
Applications**

09:30

Coffee Break

FRIDAY, 24 April 2020, 10:15 – 12:15 hrs.

6

FESTSAAL

NEW S.I. AND C.I. ENGINES

Chairman: Univ.-Prof. Dr. B. **Geringer**,
Vienna University of Technology

10:15

Ing. F. **Steinparzer**, Dipl.-Ing. D. **Hiemesch**,
Dr.-Ing. E. **Kranawetter**, Dipl.-Ing. M. **Salmansberger**,
Dipl.-Ing. W. **Stütz**, BMW Motoren GmbH, Steyr:
**The Technical Concept of the New BMW 6-Cylinder
2nd Generation Modular Diesel Engines**

10:45

Dr. T. **Schell**,
Mercedes-Benz AG, Stuttgart:
**M254 – the Future of the 4-Cylinder Gasoline
Engine**

11:15

Dipl.-Ing. R. **Illenberger**, Dipl.-Ing. H. **Saß**,
Dr.-Ing. M. **Stockmeier**, Dipl.-Ing. J. **Feustel**,
Dipl.-Kfm. techn. M. **Karres**, Dipl.-Ing. H. **Lohrmann**,
Dipl.-Ing. N. **Bausewein**, T. **Wüllner** MSc,
Dipl.-Ing. M. **Noack**, Mercedes-AMG GmbH, Affalterbach:
**Super Sports Cars in the Compact Class; the Strongest Mass-
Produced Four-Cylinder in the World, Made in Affalterbach**

11:45

Dipl.-Ing. C. **Helbing**, Dipl.-Ing. M. **Köhne**,
Dr.-Ing. T. **Kassel**, Dipl.-Ing. B. **Wietholt**,
Dipl.-Ing. A. **Krause**, Dr.-Ing. L. **Lohre**,
Dipl.-Ing. N. **Gerhardt**, Dr.-Ing. C. **Eiglmeier**,
Volkswagen AG, Wolfsburg:
**Volkswagen's TDI-Engines for Euro 6d –
Clean Efficiency for Modern Mobility**

12:15

ZEREMONIENSAAL

FUEL CELL / H2 ENGINE

Chairman: Univ.-Prof. Dr. H. **Eichlseder**,
Graz University of Technology

Dipl.-Ing. J. **Rechberger**, Dipl.-Wirt.-Ing. F. **Berg**,
Dipl.-Ing. H. **Schreier**, AVL List GmbH, Graz;
W. **Resende** BSc, AVL Deutschland GmbH, Munich:
**Fuel Cell: System Integration Based on In-Depth
Cell Know-How**

S. **Kweon** BA, Hyundai Motor Company,
Gyeonggi-do, South Korea:
**The Hydrogen-Powered Bus and Truck from
Hyundai Motor Company**

Dr.-Ing. T. **Pauer**, Dipl.-Ing. H. **Weller**,
Dr.-Ing. E. **Schünemann**, Robert Bosch GmbH,
Schwieberdingen; Univ.-Prof. Dr. H. **Eichlseder**,
Dr. P. **Grabner**, Dr. K. **Schaffer**,
Graz University of Technology:
**H₂ ICE for Future Passenger Cars and Light
Commercial Vehicles**

Dipl.-Ing. T. **Korn**, KEYOU GmbH,
Unterschleißheim:
**The Most Efficient Way for CO₂ Reduction:
the New Generation of Hydrogen Internal
Combustion Engines**

SCHATZKAMMERSAAL

ENGINEERING METHODS AND PROCESSES 1

Chairman: Prof. Dr. L. **Mikulic**,
Vienna University of Technology

J. **Schrof** MSc, Prof. Dr.-Ing. K. **Paetzold**,
Bundeswehr University, Neubiberg:
**Agile Product Development in an Increasingly
Dynamic Automotive Industry: Potentials and
Limits**

Dr. H. **Skirde**, ID-Consult GmbH, Munich:
**The Functional V-Cycle-Model: Addressing Today's
Challenges in the Development of Complex
Systems across Multiple Disciplines**

H. **Petzold**, Mercedes-Benz AG, Sindelfingen:
**The Future Belongs to the Digital Twin – How
Mercedes-Benz Creates the Digital Twins in
an Agile Mode**

N. **Molden**, J. **Hobday**, R. **Lofthouse**,
Emissions Analytics Ltd, Winchester:
**Managing Reputation and Emissions
Compliance through Independent Testing**

Lunch at Congress Center

FRIDAY, 24 April 2020, 14:00 – 15:30 hrs.

10

FESTSAAL

ZEREMONIENSAAL

SCHATZKAMMERSAAL

E-FUELS

Chairman: Univ.-Prof. Dr. S. **Pischinger**,
RWTH Aachen University

HEAVY DUTY VEHICLES

Chairman: Univ.-Prof. Dr. W. **Eichlseder**,
Montanuniversitaet Leoben

ENGINEERING METHODS AND PROCESSES 2

Chairman: Univ.-Prof. Dr. C. **Beidl**,
Darmstadt University of Technology

14:00

Prof. Dr. R. **Schlögl**, Fritz Haber Institute of
the Max Planck Society, Berlin / Max Planck
Institute for Chemical Energy Conversion,
Mülheim a. d. Ruhr:
Carbon as a Future Energy Carrier

L. **Farrell** PhD, T. **Frazier** PhD,
Cummins Inc., Columbus, USA;
M. **Younkins** PhD, J. **Fuerst**, MBA BSME,
Tula Technology Inc., San Jose, USA:
**Diesel Dynamic Skip Fire (dDSF®):
Simultaneous CO₂ and NO_x Emissions
Reduction**

Dr. D. **Höfler**, Dipl.-Ing. S. **Maxl**,
tectos gmbh, Graz:
**Frontload in the Development Process:
Road to Rig Method through Innovative
Measurement Technology**

14:30

Dr. W. **Warnecke**, Dr. J. **Adolf**, Dr. C. **Balzer**,
M. **Blieske**, P. **Karzel**, Dr. A. **Kolbeck**,
Dr. A. **van der Made**, Dr. J. **Powell**,
Dr. K. **Wilbrand**, L. **Zimmermann**, Shell:
**On Route to CO₂ Free Fuels: Hydrogen –
Latest Developments in its Supply Chain
and Applications in Transport**

Dipl.-Ing. A. **Lozanovski**, A. **Geß** MSc,
University of Stuttgart;
Dipl.-Ing. O. **Dingel**, Dipl.-Ing. (FH) T. **Semper**,
IAV GmbH, Chemnitz:
**Technical Evaluation and Life Cycle
Assessment of Potential Long Haul Heavy
Duty Vehicles for the Year 2050**

Dr.-Ing. J. **Ewald**, Dr.-Ing. P. **Orth**,
FEV Europe GmbH, Aachen;
C. **Granrath** MSc, Prof. Dr.-Ing. J. **Andert**,
RWTH Aachen University:
**Model Based Systems Engineering for
Standardized Simulation Frameworks: Case
Study Development of Electrical Vehicles**

15:00

Dr. E. **Jacob**, Emissionskonzepte Motoren,
Bodman-Ludwigshafen;
I. **Bogatikh**, Dr.-Ing. P. **Seidenspinner**,
T. **Gorall**, Dr. T. **Wilharm**,
ASG Analytik-Service GmbH, Neusäß:
**Synthetic Fuels against Climate Change
and Air Pollution**

Prof. Dr.-Ing. S. **Pischinger**,
RWTH Aachen University;
Dipl.-Ing. (FH) D. **van der Put**,
Dr.-Ing. P. **Heuser**, FEV Group GmbH, Aachen;
Dipl.-Ing. B. **Lindemann**,
Dr.-Ing. M. **Müther**, Dr.-Ing. M. **Schönen**,
FEV Europe GmbH, Aachen:
**Efficient Commercial Powertrains – How to
Achieve a 30% GHG Reduction in 2030**

J. A. **Tschorn** MSc, Dipl.-Ing. C. **Wetzel**,
Bugatti Engineering GmbH, Wolfsburg;
Prof. Dr.-Ing. T. **Vietor**,
TU Braunschweig:
**Optimization Strategies for Lap Time as
Objective Function in Vehicle Development**

15:30

Coffee Break

FRIDAY, 24 April 2020, 16:00 – 17:45 hrs.

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FESTSAAL

ZEREMONIENSAAL

SCHATZKAMMERSAAL

PLENARY CLOSING SESSION: VIEW TO THE FUTURE

Chairman: Univ.-Prof. Dr. B. **Geringer**,
Vienna University of Technology

16:00

Toshihiro **Hirai**, Corporate Vice President,
Nissan Motor Co., Ltd., Kanagawa, Japan:
**Nissan's Challenge as Carbon Neutral
Leader**

16:20

Günter **Butschek**,
CEO & Managing Director,
Tata Motors Ltd., Mumbai, India:
**Mobility in India – Inclusive, Sustainable
and Transformational**

16:40

Dr. Stefan **Hartung**, Member of the Board of
Management, Chairman Business Sector Mobility
Solutions, Robert Bosch GmbH, Stuttgart:
**Powertrains of the Future – Sustainable,
Safe, Exciting**

17:00

Discussion of the lectures in this session

17:30

CLOSING ADDRESS:
Univ.-Prof. Dr. B. **Geringer**,
Vienna University of Technology

17:45

End of Programme

18:00

Bus Transfer from Heldenplatz (Congress Center Hofburg) to Vienna Airport (Schwechat)

POSTER PRESENTATIONS

In addition to the lecture programme, the International Vienna Motor Symposium also offers a poster session on selected topics. Participants will find the poster presentations in the exhibition area. Printed versions will be included in the lecture books (VDI volumes), and the electronic versions can be found on the USB stick as well as online (participant area, app).

Dr. K. **Hatamura**,

Hiroshima University, Japan:

Conditions for Reducing WTW CO₂ Emissions from Automobiles through the Spread of Electric Vehicles (EVs) – Identification of the Marginal Power Source for EV Charging and Calculating CO₂ Emissions from EVs

V. **Schallhart** MSc, M. **Hohensinner** MSc, T. **Steiner** MSc,

PD Dipl.-Ing. Dr.techn. L. **Möltner**,

Management Center Innsbruck;

Dipl.-Ing. L. **Flicker**,

Vienna University of Technology:

A Comparative Study of Fresh and Aged Catalytic Converters in Diesel Exhaust Gas Systems and the Impact of NO₂ on the Overall NO_x Conversion

Dr. K. **Togai**,

Osaka Sangyo University, Japan:

Behavior of Closed Loop Control System Consisting of a Powertrain and a Human Controller and HMI Point of View

Dipl.-Ing. P. **Rumplmayr**, Dipl.-Ing. Dr.techn. E. **Schutting**,

Univ.-Prof. Dipl.-Ing. Dr.techn. H. **Eichlseder**,

Graz University of Technology;

Dipl.-Ing. (FH) H. **Mitterecker**,

AVL List GmbH, Graz:

Experimental Investigation of PEO Coatings to Reduce Wall Heat Losses on a Diesel Engine

Prof. Z. J. **Sroka**,

Wroclaw University of Science and Technology;

Z. **Sadlak**,

IngenieurBüro Sadlak, Munich:

CO₂ Emission Standards as a Challenge for the Thermal Activation of Combustion Chambers in Internal Combustion Engines



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SOCIAL PROGRAMME

THURSDAY, 23 April 2020, 9.00 – approx. 12.30 / 12.45 hrs.

Half-day tour:

“Klosterneuburg – Former Residence of the Babenberger”



Monastery Klosterneuburg

© Stift Klosterneuburg, Foto: Michael Zechany

The Augustiner Chorherrenstift in Klosterneuburg (Klosterneuburg Monastery) is the focus of our tour. It is known for its beautiful location, its treasures and eventful history, and is therefore of particular importance.

The bus leads up the Danube to Klosterneuburg to the monastery, whose domes are visible from far away. The tour will start with a visit of the church.

The very famous Verduner altar is to be found in the Leopold chapel. This chapel also houses the tomb of Leopold III (1073 – 1136), founder of the abbey and the most important representative of the Babenberger ruling family. He was canonized in 1485 and is the patron saint of Lower Austria.

The tour ends with a visit to the Treasury, where the “Erzherzogshut” (Archduke’s hat), donated by Maximilian III (1558 – 1618), is kept. The “Erzherzogshut” should not be removed from the Treasury for more than 30 days, except for the “inheritance homage”, the assumption of office of the new Archduke.

On the way back the bus drives along the extensive vineyards of the monastery to Kahlenberg’s panoramic terrace in order to enjoy a wonderful view over Vienna.

For further details, please see enclosed brochure “SOCIAL PROGRAMME – guided tours and evening events” or online on <https://vienna-motorsymposium.com>.

SOCIAL PROGRAMME

FRIDAY, 24 April 2020 9.15 – approx. 12.15 / 12.30 hrs.
Half-day tour:
“Treasures of the Hofburg”



Monument of Emperor Franz I. of Austria

The Hofburg was the residence of the Habsburgs until the end of the First World War in 1918. When the Habsburgs came to Vienna in 1278 after a victorious battle against Przemysl Ottokar II, the oldest part of the Hofburg already existed – today it is called Schweizerhof. It was a castle on the city wall with four towers that can still be guessed. For centuries more buildings have been added, and today the Hofburg consists of about 2500 rooms.

The Schatzkammer (Treasury) is housed in the oldest part of the Hofburg and displays the Austrian Imperial Crown as well as the Crown and the Imperial Insignia of the Holy Roman Empire.

The walk will be continued passing the stables of the Lipizzaner, the white horses, which are housed in the Stallburg. There are about 50 to 55 stallions here in Vienna, who train in the hall of the Riding School and show their skills during the weekend.

In the Court Silver and Table Room, one of eight museums in the Hofburg, the imperial crockery is shown that the Habsburgs collected for centuries or received as gifts.

For further details, please see enclosed brochure “SOCIAL PROGRAMME – guided tours and evening events” or online on <https://vienna-motorsymposium.com>.

EVENING PROGRAMME

FRIDAY, 24 April 2020

- Performance at the Vienna State Opera “Madama Butterfly” by Giacomo Puccini
- Performance at the Vienna Volksoper “The Bat” by Johann Strauß
- Musical at the Ronacher “Cats” by Andrew Lloyd Webber

SATURDAY, 25 April 2020

- Performance at the Vienna State Opera “Fidelio” by Ludwig van Beethoven
- Performance at the Vienna Volksoper “Vivaldi – The Fifth Season” (Musical by Christian Kolonovits)
- Concert at Vienna Musikverein – Great Hall
Vienna Symphony Orchestra: Pyotr Ilyich Tchaikovsky, Modest Mussorgsky
- Musical at the Ronacher “Cats” by Andrew Lloyd Webber

Tentative schedule



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