



INFORMATION SESSIONS
Engines | Turbomachinery

FVV Spring Conference

22–23 March 2018

Dorint Parkhotel Bad Neuenahr



Planning Groups

2018 Overview

ENGINES

System Dr Peter Riegger (MTU Friedrichshafen)	1
Combustion SI Dr Bodo Durst (BMW)	2
Combustion CI Dr Christian Weiskirch (Volkswagen Truck & Bus)	3
Strength & Tribology Dr Dieter Eppinger (SEG Automotive)	4
Engine Dynamics & Acoustics Prof Dr Christoph Brands (Schaeffler Technologies)	5
Emissions & Immissions Prof Dr Uwe Gärtner (Daimler)	6
Fuel Cells Dr Michael Bauer (BMW)	7

TURBOMACHINERY

Turbomachinery Dr Dirk Goldschmidt (Siemens)	T
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Chairmen of the FVV Scientific Advisory Committee

Dr Tobias Lösche-ter Horst (Volkswagen) and
Dr Dirk Goldschmidt (Siemens)



Information Sessions

22 March 2018 | Schedule (CET)

ENGINES

09:30–17:30 | Information Sessions of the Engine Planning Groups (1–7)

11:00–11:30 Coffee Break | 13:00–14:00 Lunch Break | 15:30–16:00 Coffee Break

Venue: Dorint Parkhotel Bad Neuenahr | Room Kongress-Saal

Session Programme

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TURBOMACHINERY

10:30–17:30 | Information Session of the Turbomachinery Planning Group (T)

12:45–14:00 Lunch Break | 15:30–16:00 Coffee Break

Venue: The Westin Leipzig Hotel | Room Rhein/Mosel

Session Programme

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Start 19:00 | Networking dinner for all conference participants

Meeting point at the hotel lobby, Dorint Parkhotel Bad Neuenahr | At 19:00 eight shuttle buses leave from the conference hotel to Winzergenossenschaft Mayschoss

Ahr-Rotweinstrasse 42 | 53508 Mayschoss | www.wg-mayschoss.de

The return transfer to the hotel starts at 22:00. There is a bus every 30 minutes. The last bus leaves at 23:30.

FVV Committee Meetings

23 March 2018 | Schedule (CET)

The Friday sessions are exclusively reserved for internal FVV committee meetings. FVV members will receive the related agendas and documents fifteen days prior to the meeting.

09:30–16:30 | Turbomachinery Planning Group (T)

09:30–15:00 | Engine Planning Groups (1–7)

15:00–18:00 | Engine Research Committee

Session Programme

22 March 2018 | Engines (CET)



ENGINES | ROOM KONGRESS-SAAL

09:30 » Fretting Corrosion III « | No 1237

Integration of an universal fretting fatigue damage parameter at an standardized strength assessment

PRESENTER: Sven Hauschild (IKAT | TU Chemnitz)

RTD: Prof Dr-Ing Erhard Leidich (IKAT | TU Chemnitz)

CHAIRPERSON: Dr Reiner Bösch (MTU Friedrichshafen)

DURATION: 01/10/2016 – 31/12/2018 (Interim Report)

10:00 » TMF Weld Seam « | No 1224

Thermo-mechanical fatigue of welded sheet metal structures - Analysis and design guideline for welded sheet metal under cyclic thermal and mechanical loading

PRESENTER: Dr-Ing Falk Müller (IfW | TU Darmstadt)

RTDs: Prof Dr-Ing Matthias Oechsner (IfW | TU Darmstadt),
Prof Dr-Ing Michael Vormwald (IFSW | TU Darmstadt)

CHAIRPERSON: Frank Schilling (MTU Friedrichshafen)

DURATION: 01/04/2016 – 30/09/2018 (Interim Report)

10:30 » Gas-Diesel Combustion « | No 1236

Experimental and numerical investigations of the mixture formation from high pressure gas injections

PRESENTERS: Dr Walter Vera-Tudela (IET-LAV | ETH Zurich),
Matthias Banholzer (LRT-10 | Universität der Bundeswehr München)

RTDs: Prof Dr Konstantinos Boulouchos (IET-LAV | ETH Zurich),
Univ-Prof Dr rer nat Michael Pfitzner (LRT-10 | Universität der Bundeswehr München)

CHAIRPERSON: Dr Michael Willmann (L'Orange)

DURATION: 01/10/2016 – 30/09/2019 (Interim Report)

11:00 Coffee Break

11:30 » Methods for Spray Diagnostics II « | No 1208

Experimental investigation of the break-up process in the near nozzle field of diesel sprays

PRESENTERS: Karsten Gröger (ITV | Leibniz University Hannover),
Alexander Durst (LTT | University Erlangen-Nürnberg)

RTDs: Prof Dr Friedrich Dinkelacker (ITV | Leibniz University Hannover)
Prof Dr-Ing Michael Wensing (LTT | University Erlangen-Nürnberg)

CHAIRPERSON: Dr Eberhard Kull (Continental Automotive)

DURATION: 01/12/2015 – 28/02/2018 (Final Report)

4 Strength & Tribology

Dr Dieter Eppinger
(SEG Automotive)

3 Combustion CI

Dr Christian Weiskirch
(Volkswagen Truck & Bus)

Session Programme

22 March 2018 | Engines (CET)



ENGINES | ROOM KONGRESS-SAAL

12:00 »2025+ Requirements on Emission Control « | No 1206
Provide future framework (chemical/ thermohydraulic) for the design of future emission control systems in drivetrains 2025+

PRESENTER: Prof Dr Christian Beidl (VKM | TU Darmstadt)

RTD: Prof Dr Christian Beidl (VKM | TU Darmstadt)

CHAIRPERSON: Dr Uwe Zink (BASF Catalysts Germany)

DURATION: 01/01/2016 – 31/12/2017 (Final Report)

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Emissions & Immissions

Prof Dr Uwe Gärtner
(Daimler)

12:30 »DieselKat Aging II « | No 1179
Rapid test for aging re-enactment of Diesel exhaust catalysts in use with biofuels

PRESENTER: Felix Link (ITC | University Leipzig)

RTDs: Prof Dr Roger Gläser (ITC | University Leipzig),
Prof Dr mont Michael Nelles (DBFZ, Leipzig)

CHAIRPERSON: Andreas Döring (MAN Diesel & Turbo)

DURATION: 01/11/2014 – 31/12/2017 (Final Report)

13:00 Lunch Break

14:00 »VDMA/FVA/FVVStudy «
Transformation of the Powertrain

PRESENTER: Dr. Michael Wittler (FEV Consulting)



Motivation of the study

Dietmar Goericke
(FVV e V)

14:30 »Heat Storage III « | No 1211
Using the residual heat in the vehicle by thermochemical energy storage

PRESENTER: Fabian Havlik (IFA | TU Vienna)

RTD: Prof Dr Bernhard Geringer (IFA | TU Vienna)

CHAIRPERSON: Christian Pfab (AUDI)

DURATION: 01/01/2016 – 31/12/2017 (Final Report)

1

System

Dr Peter Riegger
(MTU Friedrichshafen)

15:00 »Engine Noise Components II « | No 1207
Disassembly of engine noise in individual inaudible components and their objective evaluation and assignment to the noise-causing components or processes

PRESENTER: Christian Schumann (VKA | RWTH Aachen)

RTD: Univ-Prof Dr-Ing Stefan Pischinger (VKA | RWTH Aachen)

CHAIRPERSON: Dr Michael Fischer (Robert Bosch)

DURATION: 01/12/2015 – 30/11/2017 (Final Report)

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Engine Dynamics & Acoustics

Prof Dr Christoph Brands
(Schaeffler Technologies)

Session Programme

22 March 2018 | Engines (CET)

ENGINES | ROOM KONGRESS-SAAL

15:30 Coffee Break

2

Combustion SI

Dr Bodo Durst
(BMW)

16:00 » Towards Industrial LES of Engine Combustion « | No 1215
Strategy development for 3D CFD engine combustion simulation and modelling

PRESENTER: Prof Dr-Ing Christian Hasse (STFS | TU Darmstadt)

RTDs: Prof Dr-Ing Christian Hasse (STFS | TU Darmstadt),
Prof Dr-Ing Johannes Janicka (EKT | TU Darmstadt)

CHAIRPERSON: Dr Thorsten Unger (Porsche)

DURATION: 01/04/2016 – 30/09/2017 (Final Report)

16:30 » Characteristic Fuel Numbers Biofuels (PI - Alcohol Fuels) II « | No 1180
Development of appropriate fuel numbers and correlations to characterize gasoline and alternative (bio-)fuels with regard to abnormal combustion phenomena

PRESENTER: Oguz Budak (VKA | RWTH Aachen), Jörg Dedl (IFA | TU Vienna)

RTDs: Univ-Prof Dr-Ing Stefan Pischinger (VKA | RWTH Aachen),
Prof Dr Bernhard Geringer (IFA | TU Vienna)

CHAIRPERSON: Dr Ulrich Kramer (Ford-Werke)

DURATION: 01/11/2014 – 31/10/2017 (Final Report)

17:00 » BMEP > 30 bar with Gas Engines « | No 1201
Investigation of physical limits for gas powered combustion engines at very high BMEP above 30 bar

PRESENTERS: Stefan Eicheldinger (LVK | TU Munich),
Hoang Dung Nguyen (ITV | Leibniz University Hannover)

RTDs: Prof Dr-Ing Georg Wachtmeister (LVK | TU Munich),
Prof Dr Friedrich Dinkelacker (ITV | Leibniz University Hannover)

CHAIRPERSON: Dr Markus Lüft (Caterpillar Energy Solutions)

DURATION: 01/10/2015 – 31/12/2017 (Final Report)

17:30 Close

Session Programme

22 March 2018 | Turbomachinery (CET)

TURBOMACHINERY | ROOM RHEIN/MOSEL

10:30 » Secondary Flow Influence « | No 1232
Influence of purge flow on secondary flow and efficiency of a 1,5 turbine stage with 3D passage design

PRESENTER: Henri Brandies (IST | RWTH Aachen)

RTD: Univ-Prof Dr-Ing Peter Jeschke (IST | RWTH Aachen)

CHAIRPERSON: Dr Yavuz Gündogdu (MTU Aero Engines)

DURATION: 01/10/2016 – 30/09/2018 (Interim Report)

11:15 » Flame Transfer Function Prediction « | No 1170
Estimation of the flame transfer function based on stationary flow fields

PRESENTER: Dr Kilian Oberleithner (ISTA, TU Berlin)

RTDs: Prof Dr Wolfgang Polifke (TFD | TU Munich),
Prof Dr-Ing Christian Paschereit (ISTA | TU Berlin)

CHAIRPERSON: Dr Bruno Schuermans (General Electric)

DURATION: 01/07/2014 – 31/12/2017 (Final Report)

12:00 » Thermally Induced Stress Gradients « | No 1218
Influence of thermally induced stress gradients on fatigue life

PRESENTERS: Marcus Thiele (TEA | TU Dresden),
Stefan Eckmann (IWM | Fraunhofer-Institut Freiburg)

RTDs: Prof Dr-Ing Uwe Gampe (TEA | TU Dresden), Prof Dr Peter Gumbsch
(IWM | Fraunhofer-Institut Freiburg), Prof Dr-Ing Stefan Weihe (MPA | University Stuttgart)

CHAIRPERSON: Dr Kathrin Anita Fischer (Siemens)

DURATION: 01/05/2016 – 30/04/2019 (Interim Report)

12:45 Lunch Break

14:00 » Digitisation in High Temperature Materials Research - Achievements and Future Potential « | Guest lecture

PRESENTER: Prof Dr-Ing Matthias Oechsner (IfW | TU Darmstadt)

RTD: Prof Dr-Ing Matthias Oechsner (IfW | TU Darmstadt)

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Turbomachinery

Dr Dirk Goldschmidt
(Siemens)

Session Programme

22 March 2018 | Turbomachinery (CET)

TURBOMACHINERY | ROOM RHEIN/MOSEL

14:45 »Ageing and Lifetime« | No 1172

Computational methods for the lifetime-evaluation of Aluminum compressor wheels with consideration of material ageing

PRESENTER: Dr Christian Rockenhäuser (BAM Berlin)

RTDs: Prof Dr Peter Gumbsch (IWM | Fraunhofer-Institut Freiburg),
Dr-Ing Pedro Dolabella Portella (BAM Berlin)

CHAIRPERSON: Dr Reiner Bösch (MTU Friedrichshafen)

DURATION: 01/01/2014 – 31/12/2017 (Final Report)

T

Turbomachinery

Dr Dirk Goldschmidt
(Siemens)

15:30 Coffee Break

16:00 »Blade Forces« | No 1189

Simulation of blade vibration amplitudes of a radial turbine induced by resonant excitation from the nozzle guide vanes and validation on test data

PRESENTER: Prof Dr Damian Vogt (ITSM | University Stuttgart)

RTDs: Univ-Prof Dr-Ing Manfred Wirsum (IKDG | RWTH Aachen),
Prof Dr Damian Vogt (ITSM | University Stuttgart)

CHAIRPERSON: Dr-Ing Thomas Hildebrandt (NUMECA Ingenieurbüro)

DURATION: 01/01/2015 – 31/12/2017 (Final Report)

16:45 »Mistuning and Damping III« | No 1229

Mistuning and damping of turbine and compressor impellers

PRESENTER: Robby Weber (SMF | BTU Cottbus)

RTD: Prof Dr-Ing Arnold Kühhorn (SMF | BTU Cottbus)

CHAIRPERSON: Thomas Winter (MAN Diesel & Turbo)

DURATION: 01/07/2016 – 31/12/2018 (Interim Report)

17:30 Close



Information

Registration | Accommodation | Contact

Date and venue

22–23 March 2018

Dorint Parkhotel Bad Neuenahr | Am Dahliengarten 1
53474 Bad Neuenahr, Germany | www.dorint.com

Evening reception: Winzergenossenschaft Mayschoß
Ahr-Rotweinstraße 42 | 53508 Mayschoß, Germany
www.wg-mayschoss.de

Participant fee

Conference registration fee: 350.00 € (plus 19% VAT)
Participants with FVV members discount: 250.00 €
(plus 19% VAT)

The registration fee includes participation in the technical information sessions including conference documents and proceedings, lunch, coffee and snacks during breaks and access to the evening reception on 22 March 2018.

The conference language is German. All sessions are translated into English. Headsets are available for free.

Due to the increased number of participants, accompanying persons may participate only in exceptional cases in the evening reception. They must be registered and pay a fee of 60.00 € (including VAT).

General terms and conditions

You may register online through the [registration tool](#). The closing date for registrations is **Friday 9 March 2018**.

Participation can be cancelled free of charge until **Thursday 15 March 2018**. In case of cancellation after the deadline or unannounced non-participation the full participant fee will be charged.

Cancellations are to be made in writing (by e-mail, fax or standard mail). By registering you accept the [general terms and conditions](#). All participants will receive an electronic confirmation after the registration deadline. The invoice will be issued after the event and sent by standard mail.

Hotel reservations

We have arranged for a roomblock at »Dorint Parkhotel« from 21–23 March 2018 at a preferential rate of 120.00 € (single room including breakfast).

The closing date is **Wednesday 24 January 2018**. The reservation code is »FVV«. Early booking is recommended.

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reservierung.bad-neuenahr@dorint.com

Maschinenbau-Institut GmbH
ein Unternehmen des VDMA



Organisers

The event is organised by
Maschinenbau-Institut GmbH
Lyoner Strasse 18 | 60528 Frankfurt/M., Germany
www.maschinenbau-institut.de

On behalf of
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Save the date

Please note the dates for 2018/2019:
FVV Autumn Conference: 27–28 September 2018 | Würzburg
FVV Spring Conference: 28–29 March 2019 | Würzburg



FUNDING ORGANISATIONS

Federal Ministry for Economic Affairs and Energy
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