



INFORMATION SESSIONS
Engines | Turbomachinery

FVV Spring Conference

28–29 March 2019

Maritim Hotel Würzburg



Planning Groups

2019 Overview

ENGINES

System Dr Peter Riegger (MTU Friedrichshafen)	1
Combustion SI Dr Bodo Durst (BMW)	2
Combustion CI Dr Christian Weiskirch (TRATON Group)	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 Hilberg (Rolls-Royce)	T
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Chairmen of the FVV Scientific Advisory Committee

Dr Tobias Lösche-ter Horst (Volkswagen) and
Dr Dirk Hilberg (Rolls-Royce)



Information Sessions

28 March 2019 | Schedule (CET)

ENGINES

09:30–17:30 | Information Sessions of the Engine Planning Groups (1–7)
11:00–11:30 Coffee Break | **12:30–14:00** Lunch Break | **15:30–16:00** Coffee Break
Venue: Maritim Hotel Würzburg | Hall Frankonia

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TURBOMACHINERY

09:30–17:30 | Information Session of the Turbomachinery Planning Group (T)
11:00–11:30 Coffee Break | **12:30–14:00** Lunch Break | **15:30–16:00** Coffee Break
Venue: Maritim Hotel Würzburg | Hall Barbarossa

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Start 19:00 | Evening reception for all participants in the FVV Spring Conference Meeting at Würzburger Hofbräukeller, Jägerstraße 17, 97082 Würzburg, Germany

FVV Committee Meetings

29 March 2019 | 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.

09:00–10:30 | Scientific Advisory Committee

11:00–17:00 | Turbomachinery Planning Group (T)

11:00–16:00 | Engine Planning Groups (1–7)

16:00–18:00 | Engine Research Committee

Session Programme

28 March 2019 | Engines (CET)



ENGINES | HALL FRANKONIA

09:30 » Simulation of Damage Characteristics « | No 1205
Simulation of material and damage behaviour of Al engine components

PRESENTERS: Prof Thomas Seifert (Hochschule Offenburg), Dr Christoph Schweizer (Fraunhofer-IWM), Karl Gerhard Kuhlen (Fraunhofer-ICT)

RTDs: Dr Hans-Peter Kollmeier (Fraunhofer-ICT), Prof Peter Gumbsch (Fraunhofer-IWM), Prof Thomas Seifert (Hochschule Offenburg)

CHAIRPERSON: Jan Becker (Dr. Ing. h.c. F. Porsche AG)

DURATION: 01/11/2015 – 31/12/2018 (Final Report)

4 Strength & Tribology

Dr Dieter Eppinger
(SEG Automotive)

10:00 » Reduction of Friction Losses « | No 1178
Reduction of friction losses by local management of the oil temperatures

PRESENTER: Prof Adrian Rienäcker (IAF | Uni Kassel)

RTDs: Prof Adrian Rienäcker (IAF | Uni Kassel), Prof Michael Bargende (IVK | Uni Stuttgart)

CHAIRPERSON: Dr Uwe Lehmann (Federal-Mogul Wiesbaden GmbH)

DURATION: 01/11/2014 – 31/05/2018 (Final Report)

10:30 » Piston Ring Oil Transport - Glas Liner II « | No 1302
Oil transportation through piston rings - visualisation by glas window - Part II

PRESENTER: Prof Georg Wachtmeister (LVK | TU München)

RTD: Prof Georg Wachtmeister (LVK | TU München)

CHAIRPERSON: Dr Arnim Robota (Federal-Mogul Burscheid GmbH)

DURATION: 01/01/2018 – 31/12/2018 (Final Report)

11:00 Coffee Break

11:30 » FC System Simulation - Membrane Water Management « | No 1298
Development of a fuel cell system model to describe the membrane humidification under dynamic conditions and methodology to transfer the model to a HiL application for the optimization of the operation strategy

PRESENTERS: Sören Tinz (VKA | RWTH Aachen), Sönke Gößling (ZBT GmbH)

RTDs: Univ-Prof Dr-Ing Stefan Pischinger (VKA | RWTH Aachen), Prof Angelika Heinzl (ZBT GmbH)

CHAIRPERSON: Dr Volker Formanski (BMW Group)

DURATION: 01/01/2018 – 30/06/2019 (Interim Report)

7 Fuel Cells

Dr Michael Bauer (BMW)

Session Programme

28 March 2019 | Engines (CET)



ENGINES | HALL FRANKONIA

12:00 »Semi-physical Combustion Models« | No 1231

Semi-physical real-time models for combustion and emissions online parameter estimation

PRESENTER: Alexander Weber (IAT | TU Darmstadt)

RTD: Prof Ulrich Konigorski and Prof Rolf Isermann (IAT | TU Darmstadt)

CHAIRPERSON: Stefan Lindner (Opel Automobile GmbH)

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

1

System

Dr Peter Riegger
(MTU Friedrichshafen)

12:30 Lunch Break

14:00 »Secondary Emissions / Non-regulated Emissions« | No 1278

Literature Study on Secondary Emissions and Non-Limited Emissions

PRESENTER: Prof Sven Kureti (IEC | TU Freiberg)

RTD: Prof Sven Kureti (IEC | TU Freiberg)

CHAIRPERSON: Dr Dieter Rothe (MAN Truck & Bus AG)

DURATION: 01/09/2017 – 31/12/2018 (Final Report)

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Emissions & Immissions

Prof Dr Uwe Gärtner (Daimler)

14:30 »Dual Fuel CI Engines« | No 1219

Burn rate model dual fuel CI engines

PRESENTERS: Prof Michael Bargende (IVK | Uni Stuttgart),
Prof Konstantinos Boulouchos (LAV | ETH Zürich)

RTDs: Prof Michael Bargende (IVK | Uni Stuttgart),
Prof Konstantinos Boulouchos (LAV | ETH Zürich)

CHAIRPERSON: Dr Christian Barba (Robert Bosch GmbH)

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

3

Combustion CI

Dr Christian Weiskirch
(TRATON Group)

15:00 »Disturbing Engine Noise in the Vehicle Interior« | No 1274

Parameters for quantification of the disturbance of engine noise components in the vehicle interior

PRESENTERS: Christian Schumann (VKA | RWTH Aachen),
Florian Doleschal (EXA | OVGU Magdeburg)

RTDs: Prof Jesko Verhey (EXA | OVGU Magdeburg),
Univ-Prof Dr-Ing Stefan Pischinger (VKA | RWTH Aachen)

CHAIRPERSON: Dr Stefan Heuer (MAN Truck & Bus AG)

DURATION: 01/04/2017 – 31/03/2019 (Final Report)

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Engine Dynamics & Acoustics

Prof Dr Christoph Brands
(Schaeffler Technologies)

15:30 Coffee Break

Session Programme

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ENGINES | HALL FRANKONIA

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Combustion SI

Dr Bodo Durst (BMW)

16:00 »Fuel In Oil II - Sources of Oil in Combustion Chamber of SI Engines«

No 1225 | Quantification of increased oil concentrations of piston and cylinder-liner, the associated oil-discharge and its influence on the SI engine combustion

PRESENTERS: Thomas Ebert (VKA | RWTH Aachen), Ann-Christin Preuß (IAM-Hamburg e. V.)

RTDs: Univ-Prof Dr-Ing Stefan Pischinger (VKA | RWTH Aachen), Prof Gerhard Matz (IAM-Hamburg e. V.)

CHAIRPERSON: Dr Marcus Gohl (APL Landau GmbH)

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

16:30 »Evaporation of Biofuels« | No 1222

Characterisation of biofuel evaporation processes

PRESENTER: Prof Christian Hasse (STFS | TU Darmstadt)

RTDs: Prof Christian Hasse (STFS | TU Darmstadt), Prof Stefan Will (LTT | Uni Erlangen-Nürnberg)

CHAIRPERSON: Jerome Munier (Dr. Ing. h.c. F. Porsche AG)

DURATION: 01/02/2016 – 31/01/2019 (Final Report)

17:00 »GDI Boundary Bore II« | No 1223

Numerical and optical studies of mixture formation of a small-volume direct-injection gasoline engine with different injector positions

PRESENTERS: Arne Todt and Alexander Pauls (IVB | TU Braunschweig)

RTD: Prof Peter Eilts (IVB | TU Braunschweig)

CHAIRPERSON: Marc Sens (IAV GmbH)

DURATION: 01/04/2016 – 31/08/2018 (Final Report)

17:30 Close

Session Programme

28 March 2019 | Turbomachinery (CET)



TURBOMACHINERY | HALL BARBAROSSA

09:30 » Transient Blade Dynamics II « | No 6311
Transient blade dynamics under consideration of mistuning effects

PRESENTER: Dr Lars Panning-von Scheidt (IDS | Uni Hannover)

RTD: Prof Jörg Wallaschek (IDS | Uni Hannover)

CHAIRPERSON: Bertold Lübbe (Siemens AG)

DURATION: 01/09/2015 – 31/12/2018 (Final Report)

10:00 » Mistuning with Aerodynamic Coupling II « | No 1269
Mistuning of bladed disks with aerodynamic and structural coupling

PRESENTERS: Prof Jörg Seume (TFD | Uni Hannover),
Dr Lars Panning-von Scheidt (IDS | Uni Hannover)

RTDs: Prof Jörg Seume (TFD | Uni Hannover), Prof Jörg Wallaschek (IDS | Uni Hannover)

CHAIRPERSON: Dr Harald Schönenborn (MTU Aero Engines AG)

DURATION: 01/07/2017 – 30/06/2019 (Interim Report)

10:30 » Mistuning and Damping III « | No 1229
Mistuning and damping of turbine and compressor impellers

PRESENTER: Robby Weber (SMF | BTU Cottbus-Senftenberg)

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

CHAIRPERSON: Thomas Winter (PBS Turbo s.r.o.)

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

11:00 Coffee Break

11:30 » Structural Deformation with Fluid Film Bearings « | No 1272
Determination of the impact of structural deformation on the performance of fluid film journal and thrust bearings to optimize design features in order to increase power density

PRESENTER: Lukas Krzysteczko (ITR | TU Clausthal)

RTD: Prof Hubert Schwarze (ITR | TU Clausthal)

CHAIRPERSON: Ralph Rudolph (J.M. Voith SE & Co. KG)

DURATION: 01/04/2017 – 30/09/2019 (Interim Report)

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Turbomachinery

Dr Dirk Hilberg
(Rolls-Royce)

Session Programme

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TURBOMACHINERY | HALL BARBAROSSA

12:00 » Rotordynamics for Vertical Machines « | No 1221

Identification of required modelling depth for suitable consideration of thermo-mechanical deformation within prediction and optimization of high-speed of fluid film journal and thrust bearings

PRESENTER: Daniel Vetter (ITR | TU Clausthal)

RTD: Prof Hubert Schwarze (ITR | TU Clausthal)

CHAIRPERSON: Dr Christoph Weißbacher (GTW Gleitlagertechnik Weißbacher GmbH)

DURATION: 01/02/2016 – 31/07/2018 (Final Report)

12:30 Lunch Break

14:00 » Thick-wall Casings II « | No 1259

Life assessment and damage mechanism at variable operation of thick-wall casings of modern steel casts

PRESENTERS: Dr Christian Kontermann and Dirk Jobski (IfW | TU Darmstadt)

RTDs: Prof Matthias Oechsner (IfW | TU Darmstadt), Prof Stefan Weihe (MPA | Uni Stuttgart)

CHAIRPERSON: Dr Martin Reigl (General Electric (Switzerland) GmbH)

DURATION: 01/01/2017 – 31/12/2019 (Interim Report)

14:30 » Simulation-Crack Behaviour-Coarse Grain « | No 1251

Simulation of crack behavior of nickel cast alloys with a large grain size at high temperature

PRESENTER: Dr Magdalena Speicher (MPA | Uni Stuttgart)

RTDs: Prof Matthias Oechsner (IfW | TU Darmstadt), Prof Stefan Weihe (MPA | Uni Stuttgart)

CHAIRPERSON: Julian von Lautz (MTU Aero Engines AG)

DURATION: 01/11/2016 – 30/04/2020 (Interim Report)

15:00 » Self-excited Combustion Dynamics in Multiburner Systems (ROLEX) «

No 1270 | Modelling of self-excited combustion dynamics in multi-burner configurations of gas turbines by direct coupling of combustion LES and reduced order models of acoustics and nonlinear flame dynamics

PRESENTER: Matthias Häring (TFD | TU München)

RTD: Prof Wolfgang Polifke (TFD | TU München)

CHAIRPERSON: Dr Michael Huth (Siemens AG)

DURATION: 01/05/2017 – 30/04/2021 (Interim Report)

15:30 Coffee Break

T

Turbomaschinery

Dr Dirk Hilberg
(Rolls-Royce)

Session Programme

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T

Turbomaschinery

Dr Dirk Hilberg
(Rolls-Royce)

16:00 »Acoustic Emission into Discharge Pipes« | No 1227
Development and validation of a measurement method for determination of the sound power radiated by a centrifugal compressor into the discharge pipe

PRESENTERS: Armin Faßbender (IST | RWTH Aachen), Jakob Hurst (ISTA | TU Berlin)

RTDs: Prof Peter Jeschke (IST | RWTH Aachen), Prof Lars Enghardt (ISTA | TU Berlin)

CHAIRPERSON: Dr Richard Büssow (Industrial Analytics Berlin IAB GmbH)

DURATION: 01/11/2015 – 31/10/2018 (Final Report)

16:30 »Aerodynamics of Tandem Stators II« | No 1261
Investigation of the aerodynamics of compressor blades in a Tandem Stator Cascade including 3Dwall interaction with hub clearance

PRESENTERS: Liesbeth Konrath and Niklas Kolb (ILR | TU Berlin)

RTD: Prof Dieter Peitsch (ILR | TU Berlin)

CHAIRPERSON: Dr Henner Schrapp (Rolls-Royce Deutschland Ltd & Co KG)

DURATION: 01/01/2017 – 31/12/2019 (Interim Report)

17:00 »Brush Seals Material Combinations« | No 1255
Impact of material combinations and the degree of contamination by foreign substances on the rubbing and leakage behaviour of brush seals

PRESENTER: Julius Wilhelm (IST | KIT Karlsruhe)

RTD: Prof Hans-Jörg Bauer (IST | KIT Karlsruhe)

CHAIRPERSON: Joris Versluis (MTU Aero Engines AG)

DURATION: 01/04/2017 – 31/03/2019 (Final Report)

17:30 Close

Information

Registration | Accommodation | Contact

Date and venue

28–29 March 2019

Maritim Hotel Würzburg | Pleichertorstraße 5,
97070 Würzburg, Germany | www.maritim.de

Evening reception: Würzburger Hofbräukeller
Jägerstraße 17, 97082 Würzburg, Germany
www.wuerzburger-hofbraeukeller.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 28 March 2019.

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 15 March 2019**.

Participation can be cancelled free of charge until **Thursday 21 March 2019**. 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 »Maritim Hotel Würzburg« from 27–28 March 2019 at a preferential rate of 121.00 € (Classic incl breakfast), 131.00 € (Comfort incl breakfast), 151.00 € (Superior incl breakfast).

The closing date is **Wednesday 6 February 2019**. The reservation code is »FVV«. Early booking is recommended.

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reservierung.wur@maritim.de

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
FVV | The Research Association on Combustion Engines eV
Lyoner Strasse 18 | 60528 Frankfurt/M., Germany
www.fvv-net.de

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Save the date

Please note the dates for 2019/2020:
FVV Autumn Conference: 19–20 September 2019 | Würzburg
FVV Spring Conference: 26–27 March 2020 | Würzburg



FUNDING ORGANISATIONS

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