



Agenda Structure Dynamics

AVL International Simulation Conference 2017

June 27 – 29, 2017

CONFERENCE PROGRAM STRUCTURE DYNAMICS – TUESDAY, JUNE 27, 2017

- 08:30 - 08:45 **Welcome Address**
 H. List, Chairman and CEO, AVL List GmbH
- 08:45 – 09:15 **Virtualization Drives Powertrain Simulation Technologies**
 G. Rainer, Vice President, Advanced Simulation Technologies, AVL List GmbH

Keynotes

- 09:15 – 09:45 **Engine Development Driven by Simulation at John Deere**
 P. Wynthein, Head of Design Analysis, John Deere Co.
- 09:45 – 10:00 **Coffee Break**
- 10:00 – 10:30 **Interconnection as Key to Digital Transformation**
 W. Puntigam, Head of Department, AVL List GmbH
- 10:30 – 11:00 **Automotive Industry – The Future is Electric**
 A. Neumann, Partner and Managing Director, Strategy Engineers GmbH & Co. KG
- 11:00 – 11:30 **Coffee Break & Poster Session**

Strength & Durability

- 11:30 – 11:50 **Co-Optimization of Crankshaft and Block for Light Weight and Durability**
 T. Jinmon, Toyota Motor North America Inc.
- 11:50 – 12:10 **Local Deformation of Hollow Crankshafts under Transient Conditions and their Effect on Durability and Slider Bearing Behavior**
 M. Basic, T. Resch, AVL List GmbH
- 12:10 – 12:30 **Anisotropic Dynamic Strength Calculation of a Forged Crankshaft**
 C. Rieger, G. Pichler, SinusPro GmbH
- 12:30 – 13:30 **Lunch**
- 13:30 – 13:50 **Exhibitor Presentations & Poster Sessions**

Strength & Durability

- 13:50 – 14:10 **Cranktrain Downsizing by Usage of U-Shape Bearings**
L. Galera, A. de Souza Rodrigues, thyssenkrupp Metalúrgica Campo Limpo Ltda.
- 14:10 – 14:30 **Recent Application of AVL EXCITE™ at Cummins**
I. Piraner, A. Gabale, J. Liu, Cummins Inc.; J. Hozmec, AVL-AST d.o.o. Croatia; H. Teichmann, AVL List GmbH
- 14:30 – 14:50 **Piston TMF Analysis with Thermal Boundary from EXCITE™ PR and PU**
Y. Ben, CECTEK; L. Zhou, AVL List Technical Center
- 14:50 – 15:10 **Dynamic Condensation of Flexbodies for AVL EXCITE™ with Third-Party Product**
A. Sohler, Altair Engineering, Inc.
- 15:10 – 15:30 **Developing Lighter, Higher Performing Crankshafts**
K. Oberhumer, Siemens Industry Software GmbH
- 15:30 – 16:00 **Coffee Break & Poster Session**

Bearing Analysis

- 16:00 – 16:20 **Using AVL EXCITE™ Engine Dynamics and Bearing EHD for Engine Design**
M. Ejakov, Ford Motor Company
- 16:20 – 16:40 **Main Bearing Fretting Analysis Considering Out of Roundness**
H. Herbst, Scania CV AB
- 16:40 – 17:00 **Importance of Components Roughness Accuracy on Sliding Bearing Performance**
L. Galera, A. de Souza Rodrigues, thyssenkrupp Metalúrgica Campo Limpo Ltda.
- 17:00 – 17:20 **EHD+T to Fast Calculation**
S. Wolking, Saint-Gobain Performance Plastics Pampus GmbH
- 17:20 – 17:40 **Running-In of Journal Bearings under Start-Stop-Conditions**
F. König, G. Jacobs, G. Burghardt, C. Sous, RWTH Aachen University

- 17:40 **End of Speeches**
- 18:10 **Transfer to Social Evening (Tram 1)**
- 18:30 **Transfer to Social Evening (Tram 2)**
- 19:00 – 23:00 **Social Evening @Schlossbergrestaurant Graz**

Social Evening

The AVL International Simulation Conference is all about making smart connections – both in the use of our products and in getting to know simulation experts from the field.

We invite you to continue networking at the Schlossbergrestaurant.



CONFERENCE PROGRAM STRUCTURE DYNAMICS – WEDNESDAY, JUNE 28, 2017

Keynotes

- 08:30 – 09:00 **Knowledge-Based Models and Data-Driven Approaches**
S. Lindstaedt, Managing Director, Know-Center GmbH
- 09:00 – 09:30 **Vehicle Attribute Development & Validation by Digital Methods**
P. Schöggel, Skill Area Manager, AVL List GmbH
- 09:30 – 10:00 **AVL's Model Based Calibration – a Complete Process Supporting Toolchain from Model Generation up to Calibration**
F. Dorfer, Product Manager AVL MoBEO™, G. Vitale, Global Business Segment Manager, AVL List GmbH
- 10:00 – 10:30 **Coffee Break & Poster Session**

Transmission & Driveline

- 10:30 – 10:50 **Gear Whine from Mass Balancer and Oil Pump – I3 Petrol Engine**
S. Larzenius, Volvo Car Group
- 10:50 – 11:10 **Development of High-Speed Railway Gearbox**
M. Janic, SET GmbH
- 11:10 – 11:30 **Gear Whine Noise Investigation of a Bus Rear Axle Using AVL EXCITE™**
M. Sopouch, AVL List GmbH; A. Cardario, Scania CV AB

HEV, EV, GenSet

- 11:30 – 11:50 **Micro Hybrid Dynamic Analysis on Truck Application**
R. Riviere, Volvo Group
- 11:50 – 12:10 **Dynamic Analysis for Reliability of BSG Belt System Design**
L. Zhaohui, B. Gao, Shenyang Aerospace MITSUBISHI MOTORS Engine Manufacturing Co. Ltd; L. Zhou, AVL List Technical Center
- 12:10 – 13:30 **Lunch**

13:30 – 13:50

GenSet Simulation with Online Load Generation and Grid Interaction

T. Frondelius, J. Könnö, Wärtsilä Oyj Abp; T. Resch, M. Santos-Descalzo, AVL List GmbH

13:50 – 14:10

Noise Emission from E-Machine - Simulation and Measurement Comparison

B. Klarin, AVL-AST d.o.o. Croatia; K. Knaus, F. Diwoký, J. Schneider, T. Resch, S. Brandl, AVL List GmbH

Engine NVH

14:10 – 14:30

Noise Radiation Dependency on Load Source Inclusion of an I4 Diesel Engine

H. Johannesson, Volvo Car Group

14:30 – 14:50

Merging Disciplines and Models for Large Engine Structural Analyses

J. Neher, U. Waldenmaier, MAN Diesel & Turbo SE; N. Naranca, AVL-AST d.o.o. Croatia

14:50 – 15:20

Coffee Break & Poster Session

15:20 – 15:40

Coupled Dynamic Simulation of a Heavy Duty Diesel Engine

E. Özdemir, I. Ciyilez, M.S. Tabak, Ford Otosan

15:40 – 16:00

Development of a Torsional Vibration Absorber Using AVL EXCITE™

S. Moon, Hyundai Motors Co. Ltd.

16:00 – 16:20

Simulation and Experiment Studies of Engine NVH Performance

Z. Zhang, W. Wang, J. Wang, W. Zhang, F. Fan, G. Yang, Technical Center of DongFeng Motor Corp.; L. Zhou, AVL List Technical Center

16:20 – 16:40

Multidisciplinary Analysis of a Motorcycle Twin Engine Component for Engine Validation

M. Cavalli, G. Lavacchielli, TP Engineering srl

16:40

End of Speeches

17:00

Best Paper Award and Farewell

AVL ISC 2017 Sponsors:

SIEMENS

 **MAGNA**

KISSOFT
Calculation programs for machine design

SinusPro

CPU 24|7 

 **rescale**

FOR FURTHER INFORMATION PLEASE CONTACT:

AVL Advanced Simulation Technologies
AVL List GmbH, Hans-List-Platz 1, 8020 Graz
Tel.: +43 316 787-0, Fax: +43 316 787-400, E-Mail: AVL-ISC2017@avl.com, www.avl.com