

# PRELIMINARY PROGRAM

4<sup>TH</sup> TORSIONAL VIBRATION SYMPOSIUM  
MAY 14-16, 2025

SALZBURG CONGRESS | AUSTRIA

Organized by the

**VIBRA  
ASSOCIA**TION  
Schwingungstechnischer Verein

in cooperation with

# KEYNOTE SPEAKERS

**Prof. Dr. Robert Schlögl**

President Alexander von Humboldt Foundation  
Germany

**Alexander Knafl, PhD**

Senior Vice President MAN Energy Solutions  
Germany

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**Peter Sundström**

Wärtsilä Corporation | FI

**Dr. Andreas Thalhammer**

Geislinger GmbH | AT

**Prof. Georg Wachtmeister**

DERC GmbH | DE

# AIM

The aim of the symposium is to organize a unique event for the international torsional vibration community. We welcome participants from all fields of torsional vibration research, especially from:

- MARINE
- POWER GENERATION
- RAIL TRACTION
- INDUSTRIAL APPLICATIONS
- ON & OFF HIGHWAY
- OIL & GAS
- COMPRESSION SYSTEMS

Wednesday: May 14, 2025

Program may be subject to change

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|-------|-----------------------------------|
| 18:00 | Welcome Reception, Restaurant M32 |
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Thursday: May 15, 2025

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| 07:30 | Registration Desk Opens                                                                                             |
| 09:00 | Official Opening                                                                                                    |
| 09:15 | Keynote: Prof. Dr. Robert Schlögl<br>President Alexander von Humboldt Foundation, Germany<br><b>Green Molecules</b> |
| 10:00 | Coffee Break, Exhibition Opens                                                                                      |

|       | Session 1A: Engine Development                                                                                                                      | Session 1B: Noise, Vibration, Harshness (NVH)                                                                                                                                                                                   |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:30 | <b>Torsional Vibration Aspects of Variable Compression Ratio on 2-Stroke Engines</b><br>R. Rusch, S. Virta<br>WinGD Ltd.                            | <b>Acoustically Optimized Rubber Misalignment Couplings for Yachts and Marine Applications</b><br>T. Andogho<br>VULKAN Kupplungs- und Getriebebau Bernhard Hackforth GmbH & Co. KG                                              |
| 10:55 | <b>Enhanced Time-Domain Torsional Vibration Model Verification by Means of Cylinder Pressure Measurements</b><br>S. Persson<br>MAN Energy Solutions | <b>Model-Assisted Experimental Determination of Elastomer Coupling Properties for Torsional Vibration Calculations</b><br>T. Rapp, D. Hilbk, H. B. Alaya<br>VULKAN Kupplungs- und Getriebebau Bernhard Hackforth GmbH & Co. KG. |

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| 11:20 | <b>Influence of Large-Bore Gas Engine Gensets on Grid Stability - Challenge or Storm in a Teacup?</b><br>J. Wolter, P. Böhm<br>MAN Energy Solutions SE | <b>Full System Integrated Lateral Vibration Analysis for Marine Applications</b><br>M. Müller<br>VULKAN Kupplungs- und Getriebebau Bernhard Hackforth GmbH & Co. KG |
| 11:45 | <b>Torsional Vibration Analysis of an Opposed-Piston Engine Architecture</b><br>B. B. Mahanta<br>Cummins Inc.                                          | <b>Proven Solutions to Reduce the Transfer of Structure Borne Sound in Couplings</b><br>N. Yazdandoost<br>Geislinger GmbH                                           |
| 12:10 | Lunch                                                                                                                                                  |                                                                                                                                                                     |

|       | Session 2A: Power System Simulation I                                                                                                                                                         | Session 2B: System Reliability – Case Studies I                                                                                                              |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13:10 | <b>From Diesel to Modern Fuels - The Changes in Crankshaft Torsional Vibration</b><br>K. Buczek, M. Bartosik, B. Jagodzinski, S. Shah<br>FEV Polska Sp. z o.o., FEV Europe GmbH, ENORISE GmbH | <b>An Investigation into Engine Damage Using Torsional Shear Strain as a Means of Characterising Load Acceptance</b><br>J. Stainsby<br>Lloyd's Register EMEA |
| 13:35 | <b>Coupled Simulations of Torsional Vibration and Elastic Mounting Systems</b><br>D. Hochlenert, M. Schuchardt<br>Rolls-Royce Power Systems AG                                                | <b>Study of OD Shaft (Oil Distribution Shaft) Damage Cases in CPP Marine Propulsion Plants</b><br>H. Amini, Ø. Alnes, E. Brodin<br>Det Norske Veritas        |

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| 14:00 | <b>Visco-Elastic Finite Element Approach on Thermo-Mechanical Coupled Simulation and Validation in Rubber Coupling</b><br>M. Hasan, R. I. Zadoks<br>REXNORD CENTA, Independent Consultant | <b>Validation of Fatigue Theory for a Propulsion Shaft Subject to Torsional Vibrations</b><br>G. Dahler, J. E. Kjær, G. M. Bakken<br>DNV AS |
| 14:25 | Coffee Break                                                                                                                                                                              |                                                                                                                                             |

|       | Session 3A: Powertrain Components I - Elastic Couplings and Dampers                                                                                                  | Session 3B: Power System Simulation II                                                                                                                                                                                    |
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| 14:50 | <b>Skip Firing as Challenge on Modern Powertrain Configuration</b><br>H.G. Flesch, M. Mehrgou, C. Mühlberger, et. al.<br>AVL, Geislinger GmbH                        | <b>System-Modeling Marine Drivetrains: A Glimpse at the MBSE Approach at IME Aachen GmbH</b><br>B. Juretzki, M. Körber, T. Möller, et. al.<br>IME Aachen GmbH                                                             |
| 15:15 | <b>Sustainable Solution by Reducing Idle Speed and Fuel Consumption in Crane Application with Super-Soft Rubber Coupling</b><br>M. Hasan<br>REXNORD CENTA            | <b>Temperature Effects on the Dynamic Stiffness and Damping of Carbon-Filled Elastomer Couplings</b><br>S. Bahr, G. Jacobs, G. Höpfner, S. Akbulut<br>Institute for Machine Elements and Systems Engineering, RWTH Aachen |
| 15:40 | <b>Vibration Aspects of Different Power Take-Off Units for 2-Stroke Marine Propulsion Systems</b><br>R. Wilkie, D. Richter-Trummer, A. Thalhammer<br>Geislinger GmbH | <b>Open-Source Software for Torsional Vibration Analysis</b><br>S. Laine<br>Aalto University                                                                                                                              |
| 16:05 | Coffee Break                                                                                                                                                         |                                                                                                                                                                                                                           |

|       | Session 4A: System Reliability - Case Studies II                                                                                                                                  | Session 4B: Active and Passive Dampers                                                                                                                                         |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16:30 | <b>Development of a Damage Model for the Lifetime Prediction of a Viscous Torsional Vibration Damper</b><br>A. Leib, B. Mokdad, Y. Peterschmitt<br>Liebherr-Components Colmar SAS | <b>Active Damping of Torsional Vibrations</b><br>U. Ubaid<br>Lloyd's Register EMEA                                                                                             |
| 16:55 | <b>Marine Propulsion Shafting Excessive Torsional Vibration: Case Study Revisited</b><br>B. Cowper, Z. Schramm<br>LamaLo USA, LLP                                                 | <b>Improved Prediction of the Nonlinear Behavior of Silicone Oil in Viscous Dampers</b><br>M. Steidl, R. I. Zadoks, S. Willeke<br>Hasse und Wrede GmbH, Independent Consultant |
| 17:20 | End of Thursday's Sessions                                                                                                                                                        |                                                                                                                                                                                |
| 18:00 | Aperitif, Salzburg Residence Palace                                                                                                                                               |                                                                                                                                                                                |
| 19:00 | Gala Dinner, Salzburg Residence Palace                                                                                                                                            |                                                                                                                                                                                |



Friday: May 16, 2025

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| 08:00 | Registration Desk Opens                                                                                                                                                                                |
| 09:00 | Keynote: Alexander Knafl, PhD<br>Senior Vice President for R&D Engineering in the Four-Stroke division at MAN Energy Solutions, Germany<br><b>Decarbonising Large Bore Internal Combustion Engines</b> |

|       | Session 5A: Marine Propulsion                                                                                                                                      | Session 5B: Power System Simulation II                                                                                          |
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| 09:50 | <b>Impact of Propeller Retrofits in the Torsional Vibrations of Marine Propulsion Shafting – Case Studies</b><br>K. Lal, J. Klüss<br>Mecklenburger Metallguss GmbH | <b>MEMS Gyroscope in Torsional Vibration Measurements</b><br>J. Köykkä, J. Määttä, P. Sundström, et. al.<br>Wärtsilä Finland Oy |
| 10:15 | <b>Unveiling the Truth Behind First Order Dynamics and Alignment</b><br>M. Zeid<br>BERG Propulsion                                                                 | <b>Early Fault Detection Applied to Turbines, Pistons Engines, and Torque Evaluation</b><br>H. Saiah<br>dataVIB Impédance       |
| 10:40 | Coffee Break                                                                                                                                                       |                                                                                                                                 |

|       | Session 6A: Vibrations of Powertrains                                                                                                                                                                                     | Session 6B: Compressors                                                                                                                                                  |
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| 11:05 | <b>Shudder in Wet Brakes and Clutches Caused by the Performance Loss of E-Drive Lubricants</b><br>J. Wirkner, A. Lebel, C. Besser, et. al.<br>Technical University of Munich, Austrian Centre of Competence for Tribology | <b>Electrical System Interaction Induced Torsional-Lateral Coupled Vibration at an Integrally Geared Compressor</b><br>R. Chumai<br>Machinosis Company Limited           |
| 11:30 | <b>Designing Synchronous Motor-Driven Trains Against Torsional Vibration</b><br>M. A. Corbo<br>No Bull Engineering, PLLC                                                                                                  | <b>Variable Inertia Effects on Torsional Vibration of Reciprocating Compressors</b><br>M. Thorn, T. Stephens<br>Ariel Corporation                                        |
| 11:55 | <b>Torsional Vibration Challenges in Parallel Hybrid Systems</b><br>M. Dylla, H. B. Alaya<br>VULKAN Kupplungs- und Getriebebau Bernhard Hackforth GmbH & Co. KG                                                           | <b>High Vibration Of Integrally Geared Compressor Due to Variable Frequency Drive</b><br>T. Robertson, T. Feese<br>Eagle LNG Partners, Engineering Dynamics Incorporated |
| 12:20 | <b>A Digital Twin for Torsional Vibrations of Power Plant Turbogenerators</b><br>S. Herold, H. Holzmann, R. Nordmann, P. Smeekes<br>TU Darmstadt, Fraunhofer Institut LBF Darmstadt                                       | <b>Simulation Based Dimensioning of Drivetrain Components in Motor-Driven Reciprocating Compressors</b><br>T. P. Holopainen, T. Ryyppö<br>ABB Oy                         |
| 12:45 | Lunch                                                                                                                                                                                                                     |                                                                                                                                                                          |

|       | Session 7A: Powertrain Components II                                                                                                                                                                                               | Session 7B: Rules and Regulations                                                                                                                                                                                           |
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| 13:45 | <b>Reciprocating Compressor Coupling Revamp: Advantages of Highly Flexible Elastomeric Couplings and Disadvantages of Steel Disc Couplings for Torsional Vibration Aspects</b><br><br>K. Kloos<br><br>Neuman & Esser GmbH & Co. KG | <b>CIMAC Working Group 4 Crankshaft Rules – Current Activities</b><br><br>P. Böhm, T. Frondelius, J. Dowell, D. Bell, et. al.<br><br>MAN Energy Solutions SE, Wärtsilä, Wabtec Corporation, Ricardo UK Ltd, Kobe Steel Ltd. |
| 14:10 | <b>Reduction of Torsional Vibration through Power Take-In System in Marine Shaft Generators</b><br><br>J. Kim, J. Choi<br><br>HD Hyundai Heavy Industries                                                                          |                                                                                                                                                                                                                             |

|       | Session 8: Closing Session                                                                                    |
|-------|---------------------------------------------------------------------------------------------------------------|
| 14:35 | <b>TVA Modelling Beyond the Deterministic Theory</b><br><br>A. Thalhammer, K. Bergmann<br><br>Geislinger GmbH |
| 15:00 | Closing                                                                                                       |
| 15:10 | Farewell Coffee                                                                                               |
| 15:30 | End                                                                                                           |

Saturday: May 17, 2025

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| 08:15 | Social Program: Hallstatt Tour<br>(not included in the Symposium fee / Participation fee: EUR 150,- (excl. 20% VAT)) |
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## PARTICIPATION

We would be delighted to welcome you to the Torsional Vibration Symposium 2025 in Salzburg.

Early bird rate: EUR 1.100,-\* (excl. 20% VAT, until February 25, 2025)

Standard rate: EUR 1.290,-\* (excl. 20% VAT)

*\*The participation fee includes Welcome Reception, Gala Dinner, program booklet, digital proceedings, coffee breaks and lunch.*

## EXHIBITION & SPONSORING

We can also offer a limited number of exhibition stands and sponsoring opportunities.

Exhibition floor space fees: EUR 520,- / m<sup>2</sup> (excl. 20% VAT, min. 6 m<sup>2</sup>)

## SYMPOSIUM LOCATION

Salzburg Congress | Auerspergstrasse 6 | 5020 Salzburg | Austria

## EVENT MODERATION

Ulrich Walter

## CONTACT

The organizer of the event is the

**VIBRA**  
**ASSOCIA** TION

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