

# 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

# THE ADVISORY BOARD

## Caner Demirdogen, PhD

Cummins Inc. | US

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Winterthur Gas & Diesel Ltd. | CH

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Vibration Association | AT

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## Prof. Karsten Stahl

TU München | DE

## Frank Struwe

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## Peter Sundström


Wärtsilä Corporation | FI

## Dr. Andreas Thalhammer

Geislinger GmbH | AT

## Prof. Georg Wachtmeister

DERC GmbH | DE



**TORSIONAL  
VIBRATION  
SYMPOSIUM**

# 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

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

07:30	Registration Desk Opens
09:00	Official Opening
09:15	Keynote: Prof. Dr. Robert Schlögl President Alexander von Humboldt Foundation, Germany <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> R. Rusch, S. Virta WinGD Ltd.	<b>Acoustically Optimized Rubber Couplings for Yachts and Marine Applications</b> T. Andogho 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> S. Persson MAN Energy Solutions	<b>Model-Assisted Experimental Determination of Elastomer Coupling Properties for Torsional Vibration Calculations</b> T. Rapp, D. Hilbk, H. B. Alaya VULKAN Kupplungs- und Getriebebau Bernhard Hackforth GmbH & Co. KG.

11:20	<b>Influence of Large-Bore Gas Engine Gensets on Grid Stability - Challenge or Storm in a Teacup?</b> J. Wolter, P. Böhm MAN Energy Solutions SE	<b>Full System Integrated Lateral Vibration Analysis for Marine Applications</b> M. Müller VULKAN Kupplungs- und Getriebebau Bernhard Hackforth GmbH & Co. KG
11:45	<b>Torsional Vibration Analysis of an Opposed-Piston Engine Architecture</b> B. B. Mahanta Cummins Inc.	<b>Proven Solutions to Reduce the Transfer of Structure Borne Sound in Couplings</b> N. Yazdandoost 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> K. Buczek, M. Bartosik, B. Jagodzinski, S. Shah FEV Polska Sp. z o.o., FEV Europe GmbH, Software and Testing Solutions GmbH	<b>An Investigation into Engine Damage Using Torsional Shear Strain as a Means of Characterising Load Acceptance</b> J. Stainsby Lloyd's Register EMEA
13:35	<b>Coupled Simulations of Torsional Vibration and Elastic Mounting Systems</b> D. Hochlenert, M. Schuchardt Rolls-Royce Power Systems AG	<b>Study of OD Shaft (Oil Distribution Shaft) Damage Cases in CPP Marine Propulsion Plants</b> H. Amini, Ø. Alnes, E. Brodin Det Norske Veritas

14:00	<b>Recent Developments in Open-Source Tools for Torsional Vibration Analysis</b> S. Laine Aalto University	<b>Validation of Fatigue Theory for a Propulsion Shaft Subject to Torsional Vibrations</b> G. Dahler DNV AS
14:25	Coffee Break	

	Session 3A: Powertrain Components - Elastic Couplings and Dampers I	Session 3B: Measurement and Monitoring
14:50	<b>Torsional Vibration Dampers for Two-Stroke Marine Diesel Propulsion Powertrains – A Techno-Economic Study</b> C. Leontopoulos M. Giaouzis, A. Thalhammer, et. al. ABS, Thenamaris Ships Management Inc., Geislinger GmbH	<b>MEMS Gyroscope in Torsional Vibration Measurements</b> J. Köykkä, J. Määttä, P. Sundström, et. al. Wärtsilä Finland Oy
15:15	<b>Sustainable Solution by Reducing Idle Speed and Fuel Consumption in Crane Application with Super-Soft Rubber Coupling</b> M. Hasan REXNORD CENTA	<b>Early Fault Detection Applied to Turbines, Pistons Engines, and Torque Evaluation</b> H. Saiah dataVIB Impédance
15:40	<b>Vibration Aspects of Different Power Take-Off Units for 2-Stroke Marine Propulsion Systems</b> R. Wilkie, D. Richter-Trummer, A. Thalhammer Geislinger GmbH	
16:05	Coffee Break	

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

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## Friday: May 16, 2025

08:00	Registration Desk Opens
09:00	Keynote: Alexander Knafl, PhD Senior Vice President MAN Energy Solutions, Germany <b>Decarbonising Large Bore Internal Combustion Engines</b>

	Session 5A: Marine Propulsion	Session 5B: Power System Simulation II
09:25	<b>Torque Estimation for Maritime Propulsion Systems</b> U. Hakonen Aalto University	<b>An Adaption of an Analytical Method to Predict Torsional Damping and Added Water for Marine Propellers</b> H. Nørgaard MAN Energy Solutions
09:50	<b>Impact of Propeller Retrofits in the Torsional Vibrations of Marine Propulsion Shafting – Case Studies</b> K. Lal Mecklenburger Metallguss GmbH	<b>Visco-Elastic Finite Element Approach on Thermo-Mechanical Coupled Simulation and Validation in Rubber Coupling</b> M. Hasan, R. Zadoks REXNORD CENTA, Independent Consultant
10:15	<b>Unveiling the Truth Behind First Order Dynamics and Alignment</b> M. Zeid BERG Propulsion	<b>System-Modelling Marine Drivetrains: A Glimpse at the MBSE Approach at IME Aachen GmbH</b> B. Juretzki, M. Körber, T. Möller, et. al. IME Aachen GmbH
10:40	Coffee Break	



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

	Session 7A: Powertrain Components - Elastic Couplings and Dampers II	Session 7B: Rules and Regulations
13:45	<p><b>Temperature Effects on the Dynamic Characteristics of Rubber-Based Elastomer Couplings</b></p> <p>S. Bahr, G. Jacobs, G. Höpfner, S. Akbulut</p> <p>Institute for Machine Elements and Systems Engineering, RWTH Aachen</p>	<p><b>CIMAC Working Group 4, Crankshaft Rules – Current Activities</b></p> <p>P. Böhm, T. Frondelius, J. Dowell, D. Bell, et. al.</p> <p>MAN Energy Solutions SE, Wärtsilä, Wabtec Corporation, Ricardo UK Ltd, Kobe Steel Ltd.</p>
14:10	<p><b>Reciprocating Compressor Coupling Revamp: Advantages of Highly Flexible Elastomeric Couplings and Disadvantages of Steel Disc Couplings for Torsional Vibration Aspects</b></p> <p>K. Kloos</p> <p>Neuman &amp; Esser GmbH &amp; Co. KG</p>	
14:35	<p><b>Skip Firing as Challenge on Modern Powertrain Configuration</b></p> <p>H.G. Flesch, M. Mehrgou, C. Mühlberger, et. al.</p> <p>AVL, Geislinger GmbH</p>	

Session 8: Closing Session	
15:00	<b>TVA Modelling Beyond the Deterministic Theory</b> A. Thalhammer, K. Bergmann Geislinger GmbH
15:25	Closing
15:35	Farewell Coffee
16:00	End

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## Saturday: May 17, 2025

08:45	Social Program: Hallstatt Tour (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

Schwingungstechnischer Verein

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