TORSIONAL VIBRATION SYMPOSIUM

PROGRAM

3RD TORSIONAL VIBRATION SYMPOSIUM
MAY 13TH – 15TH, 2020

SALZBURG CONGRESS / AUSTRIA

Organized by the

VIBRATION ASSOCIATION
Schwingungstechnischer Verein

In cooperation with

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GOAL

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

* The Program may be subject to change.

WEDNESDAY: MAY 13TH, 2020

18:00	**WELCOME RECEPTION,** Restaurant M32

THURSDAY: MAY 14TH, 2020

07:30	**Registration desk opens**
09:00	**Official opening**
09:15	**KEYNOTE: Dr. Marko Dekena** Executive Vice President, AVL List GmbH, Graz Austria Virtualization as enabler for efficient closed loop engine development
10:00	Coffee break

	Session 1A: Engine Development	Session 1B: System Reliability – Case Studies
10:30	**Torsional vibrations and thermodynamics – How do they connect?** D. Schäpper Winterthur Gas & Diesel Ltd.	**Grid interaction phenomena** F. Petit Laborelec
10:55	**Beyond cranktrain dynamics** B. Mokdad, S. Clot, H. Bruns, K. Buczek, M. Bartosik Liebherr Components Colmar SAS, FEV Europe GmbH, FEV Polska Sp. z o.o.	**Motor cooling fan failures solved with modal and finite element analysis** J.-Y. Park, D.-J. Lee, Y.-J. Jang, T. Feese, Samsung Engineering Co. Ltd., Engineering Dynamics Incorporated
11:20	**Anti-vibration design of multi-cylinder engines considering torsional vibration characteristics** K. Jung, Y. Jo, J. Kim, J. Choi, J. Yu Hyundai Heavy Industries	**Torsional vibration on rotating machines in oil & gas industry and power generation industry: a review of 6 cases.** N. Péton, J. Yu, S. Ganesh, R. Seshadri Bently Nevada
11:45	**Study of torsional vibration characteristics of a six cylinder diesel engine for various cylinder deactivated conditions** B. Mahanta, I. Piraner Cummins Inc.	**Coupling failure in VFD motor-blower trains due to torsional vibration** R. Chumai Machinosis Company Limited
12:10	Lunch	

	Session 2A: Powertrain Components – Elastic Couplings and Dampers I	Session 2B: System Reliability – Marine Applications
13:00	**Highly elastic elastomer couplings – indescribably complex?** M. Dylla Vulkan Deutschland	**Engine crankshaft failures due to torsional natural frequency excited by dual-fuel operation** G. Beshouri, T. Feese Advanced Engine Technologies Corporation, Engineering Dynamics Incorporated
13:25	**Nonlinear frequency dependent stiffness of rubber coupling under shear in real world applications** M. Hasan, R. Zadoks Rexnord Centa, Caterpillar Inc.	**Study on crankshaft angular speed variations caused by fuel injection system failures** M. Dereszewski, S. Drewing Gdynia Maritime University

13:50	**On recent developments for simulations and measurements of torsional elastic steel spring couplings** A. Thalhammer Geislinger GmbH	**Vibration performance of partially immersed propeller operations – A case study** C. Leontopoulos, V. Tsarsitalidis ABS Athens
14:15	**Impact of application-specific thermal conditions on viscous damper lifetime** M. Steidl, R. Zadoks, P. Kamasz, J. Xu Hasse & Wrede, Caterpillar Inc., Knorr-Bremse	**Torsional vibration stress and fatigue strength analysis of marine propulsion shafting system by operation patterns** D. Lee, Q.-D. Vuong, M. Song Mokpo National Maritime University
14:40	Coffee break	

	Session 3A: **Drilling and Fracturing**	**Session 3B:** **Power System Simulation I**
15:05	**New approach of modeling drill bit dynamics** M. Ichaoui, G.-P. Ostermeyer, F. Schiefer TU Braunschweig	**System approach to lower dynamic loads during resonance pass of a torsional vibration reduction system** F. Liebst, M. Geilen, P. Prystupa, S. Bindig ZF Friedrichshafen AG, GAT – Gesellschaft für Antriebstechnik mbH
15:30	**Torsional vibration simulation of hydraulic fracturing rigs and the development of a driveline vibration damper** L. H. Lucas Allison Transmission Inc.	**Analysis and data management of torsional vibration calculation for variant and sensitivity studies** J. Wolter, A. Rieß, M. Heinrich, P. Böhm MAN Energy Solutions SE
15:55	**New insights in torsional vibrations in downhole drilling systems** V. Kulke, D. Heinisch, A. Kück, H. Reckmann, G.-P. Ostermeyer, A. Hohl TU Braunschweig, Baker Hughes	**Creating innovative drivetrain concepts by use of agile model-based development methods** B. Juretzki IME Aachen GmbH Institut für Maschinenelemente und Maschinengestaltung
16:20	Coffee break	

	Session 4A: **Compressors**	**Session 4B: Measurement and Monitoring – Magnetoresistive Sensors**
16:45	**Torsional failures in hydrogen reciprocating compressor system with stepless capacity control** T. Feese, J.-Y. Park, D.-J. Lee Engineering Dynamics Incorporated, Samsung Engineering Co. Ltd.	**Applying magnetoresistive sensors for condition monitoring of machines** R. Slatter Sensitec GmbH
17:10	**Identify root cause of torsional-lateral coupled vibration in integrally geared compressor** R. Chumai Machinosis Company Limited	**Using non-contacting magnetostrictive sensors to measure torsional vibration responses in electric machinery** B. Howard, D. O'Connor, C. McMillen Bently Nevada
17:35	**Torsional damping benefits for reciprocating compressors** T. Stephens, K. Prenninger, C. Yeiser Ariel Corporation, Geislinger GmbH, RBTS	
18:00	End of Thursday's sessions	
20:00	**GALA Dinner**, Salzburg Residenz Palace	

FRIDAY: MAY 15TH, 2020

8:00	**Registration desk opens**

	Session 5A: Hybrid and Electric Drives	**Session 5B: Powertrain Components – Elastic Couplings and Dampers II**
9:00	**Optimizing electric drives for future demands and applications** I. Garcia de Madinabeitia Merino, J. Pohn, M. Mehrgou C. Priestner AVL List GmbH	**Potential effect of frequency-induced stiffening in rubber couplings in marine propulsion applications and the ramifications for torsional vibration analysis techniques** J. Braun, W. Wang, G. Funk idc Engineering
9:25	**Torsional vibration calculations of hybrid propulsion systems** P. Stürzl, C. Rauch, M. Schuchardt MTU Friedrichshafen GmbH	**Novel approach on thermo-mechanical coupled simulation and validation in rubber coupling** M. Hasan, R. Zadoks Rexnord Centa, Caterpillar Inc.
9:50	**VFD'S – How to prevent them from destroying your torsional system** M. A. Corbo No Bull Engineering, PLLC	**Energy flow and distribution study for torsional vibration dampers** H. J. Raja, P. Pingle, R. Channapattan, A. Khule Hodek Vibration Technologies Pvt. Ltd. Pune
10:15	**PHEV driveline reverse engineering and torsional vibration study during engine restart and booming maneuver** T. Enault Siemens Industry Software NV	**Solving gear problem with flexible coupling under thruster excitation** M. Hasan, S. V. Heesbeen, R.V. Laarhoven, P. Sundström Rexnord Centa, Wärtsilä NL, Wärtsilä Italia S.p.A.
10:40	Coffee break	

	Session 6A: Measurement and Validation	**Session 6B: Noise, Vibration, Harshness (NVH)**
11:05	**Enhanced torsional vibration model verification by means of cylinder pressure measurements** S. Persson, P. Orthmann MAN Energy Solutions	**Innovative solutions to reduce the transfer of structure borne noise in the powertrain of a hybrid mega yacht – a case study** C. Meichelböck, L. Kurtze Abeking & Rasmussen, Geislinger GmbH
11:30	**System requirements for torsional vibrations signal processing** G. Sikora, M. Dereszewski Gdynia Maritime University	**Overall powertrain analysis: NVH and RDE in combination** S. Maxl, D. Höfler, F. Burgstaller Tectos GmbH
11:55	**Rotational energy harvester for supplying self-sufficient sensor systems** M. Gerhardt, M. Koch, M. Weber, T. Bartel Fraunhofer LBF	**Step by step MBST approach for driveline torsional vibration study with application for booming and tip in attributes** T. Enault Siemens Industry Software NV
12:20	Lunch	

	Session 7A: Power System Simulation II	Session 7B: Marine Propulsion
13:20	**Comprehensive torsional simulation of generator sets – Part I: Calculation of torsional maps** B. Mokdad, C. Henninger, J. Keske Liebherr Components Colmar SAS, Liebherr Machines Bulle SA, Kohler Co.	**Influence on shaft alignment of heavy flywheel for torsional vibration** T. Mitsukiyo Mitsui E&S Machinery Co. Ltd.
13:45	**Comprehensive torsional simulation of generator sets – Part II: Capturing armature core twist of generator rotor assemblies in torsional models** J. Keske, B. Mokdad, C. Henninger Kohler Co., Liebherr Components Colmar SAS, Liebherr Machines Bulle SA	**Evaluation of torsional vibration characteristics of ship propeller - engine shaft system based on theoretical sensitivity analysis** K. Kanai, K. Honke, T. Ueda Kobe Steel Ltd.
14:10	**Application of digital twin technology on torsional vibration systems** C. Pestelli, P. Sundström, M. Almerigogna, F. Degano Wärtsilä Corporation	**Marine propulsion shafting excessive torsional vibrations: Case studies** B. Cowper, Z. Schramm LamaLo Technology Inc.
14:35	**Torsional elasticity of flange contact using finite element method** S. Virta Winterthur Gas & Diesel Ltd.	**The inside of a Voith-Schneider-Propeller** T. Rosenlöcher, M. Rösner, B. Schlecht Technische Universität Dresden
15:00	Coffee break	

	Session 8A: Gear Systems	Session 8B: Rules and Regulations
15:25	**Investigation of gearbox condition monitoring using low fidelity sensors** M. Rothemund FZG, TU München	**Marine propulsion – Revised class rules for passing barred speed range** E. Brodin, O. Deinboll, J. O. Nøkleby, S. Avanesov DNV GL - Maritime
15:50	**Observation of torsional vibration with RENK VIB-Monitor system** W. Sigmund Renk AG	**CIMAC Working Group 4 – Crankshaft rules – Who we are, what we do** P. Böhm, A. Rieß, T. Frondelius, J. Könnö, J. Dowell, D. Bell, Y. Hanawa MAN Energy Solutions SE

	Session 9: Closing Session
16:15	**Impact of emission reduction strategies on torsional vibrations** K. Prenninger, M. Härtl, G. Wachtmeister Geislinger GmbH, TU München
16:40	**Closing**
16:50	End

SATURDAY: MAY 16TH, 2020

8:45	**Social Program: "Kehlsteinhaus" – Eagle's Nest Tour / Bavarian Alps*** (not included in the Symposium fee / Participation fee: EUR 50,- (excl. 20% VAT))	*Should it be rainy or foggy, we offer an alternative museum program to Domquartier and "Haus der Natur" (House of nature) Salzburg.

TORSIONAL VIBRATION SYMPOSIUM

PARTICIPATION FEE

We would be delighted to welcome you to the 3rd Torsional Vibration Symposium in Salzburg.

Standard rate*: EUR 1030*,- (excl. 20% VAT)
Early bird rate*: EUR 930*,- (excl. 20% VAT) before January 31st, 2020

To register for the event, please visit: torsional-vibration-symposium.com/registration

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

EXHIBITION & SPONSORING

We can also offer a limited number of exhibition stands and sponsoring opportunities.
Exhibition floor space fees: EUR 415,- / m² (excl. 20% VAT), minimum 6m²

SYMPOSIUM LOCATION

Salzburg Congress, Auerspergstrasse 6, 5020 Salzburg/Austria

EVENT MODERATION

Ulrich Walter

CONTACT

The organizer of the event is the

VIBRATION ASSOCIATION
Schwingungstechnischer Verein

E-mail: info@torsional-vibration-symposium.com
Phone: +43 662 660 720
Website: torsional-vibration-symposium.com

13th January 2020