Postponed!
20-21 October, 2020

3rd International FVA-Conference
The Expert Forum for Bearings – Rolling and Plain Bearings!
Postponed until 20-21 October, 2020

Register now at bearingworld.org

Gold-Sponsor:

Presented by:

Media partner:

Organisation

Head of Program Committee and Scientific Board, Editor of Bearing World Journal
Prof. Gerhard Poll, IMKT Leibniz Universität Hannover

Conference Organisation
Dirk Arnold Brigitte Becker
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dirk.arnold@vdma.org brigitte.becker@fva-service.de

Location
Wienecke XI.
Hildesheimer Strasse 380
D-30519 Hannover

Technical Sponsor
Forschungsvereinigung Antriebstechnik e.V. (FVA)
Lyoner Strasse 18, D-60528 Frankfurt
More information at fva-net.de

Organiser
FVA GmbH, Lyoner Strasse 18, D-60528 Frankfurt
More information at fva-service.de

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Fives Landis Corp.
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Bearing World 2020 – presented by
Ladies and gentlemen,

In technology, wherever there is movement, rolling and plain bearings are an essential.

BEARING WORLD presented by FVA connects experts from all over the world in a unique way. Industrial research and development meets science. This platform links all topics relating to bearings in theory and practice.

This is what makes the international FVA-Expert Forum BEARING WORLD a special event you shouldn’t miss. Be part of it.

See you in Hannover!

The BEARING WORLD Programme Committee

Program Committee

Dirk Arnold, Forschungsvereinigung Antriebstechnik e.V.
Dr. Viktor Aul, ZF Wind Power Antwerpen NV
Dr. Elmar Busche, Volkswagen AG
Prof. Brigitte Clausen, Leibniz-Institut IWT Bremen
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Wolfgang Glaentz, SKF GmbH
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Dr. Oliver Koch, Schaeffler Technologies AG & Co. KG
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Prof. Hubert Schwarze, ITR TU Clausthal
Prof. Sandra Witzack, KTMFk Uni Erlangen-Nürnberg
Andreas Weber, Vestas Nacelles Deutschland GmbH

Scientific Board

More than thirty renowned scientists from 11 countries from all over the world are gathered here. They review and evaluate the conference presentations before they are published in the Bearing World Journal. In addition, some of them will be available at the conference as moderators, speakers and discussion partners.

Tuesday, 31 March 2020

Conference Room 1

9:30 Opening
Prof. Gerhard Poll (Leibniz University Hannover, Institute of Machine Design and Tribology (IMKT), Hannover, DE)
Christian Kunze (Forschungsvereinigung Antriebstechnik e.V., Frankfurt, DE)

Keynotes
10:00 Does mechatronics need bearings or bearings mechatronic? Benefit from symbiosis!
Dr. Tomas Smetana (Schaeffler AG, JPN)

10:30 Beyond simulations – using AI on process data to predict performance
Dr. Victoria Van Camp (SKF AB, SWE)

11:00 Fives Flexible Grinding Manufacturing
Mark Stocker (Fives Landis Corp, Hagerstown, US)

Premature Rolling Element Bearing Failures
Session chair: to be announced

11:30 Influences on the Cathodic and Energetic WEC-Fatigue
Dr. Joerg Loos (Schaeffler Technologies AG & Co. KG, Herzogenaurach, DE)

12:00 Lunch

Exhibition

You will find all exhibitors at https://bearingworld.org/exhibition/

Technical exhibition
Present your company in the accompanying technical exhibition at the conference 2020.

This provides your company with an excellent platform to:
• Present your business to a technical audience of approximately 300 participants from research and industry.
• Establish new contacts with decision makers and to strengthen existing ones.
• Acquire the talents of well-trained young engineers, such as PhD and graduate students.

Contact: Brigitte Becker  T +49 69 6603 1597  brigitte.becker@fva-service.de
Tuesday, 31 March 2020

Conference Room 1

Premature Rolling Element Bearing Failures
Session chair: to be announced

13:00 White Etching Cracks in oil lubricated rolling/sliding contacts – Drivers and their effects
Dr. Ralf Dinter (Fleender GmbH, Bocholt, DE)

13:30 The lubricant formulation: one driver for early damage associated to WECs in thrust and radial bearings
Dr. Arnaud Ruellan (SKF, Houten, NL)

14:00 The influence of mechanical stresses on the diffusion and accumulation of hydrogen in a cylindrical roller thrust bearing
Dr. Iya Khader (Fraunhofer Institute for Mechanics of Materials (IWM), Freiburg, DE)

14:30 Investigations of ZDDP tribofilm formation regarding temperature influences
Dennis Mallach (University of Münster WWU, Institute of Physics, Münster, DE)

15:00 Calculation method to evaluate the Risk on WEC failure occurrence in Industrial Applications
Dipl.-Ing. Dirk-Olaf Lennmann (Edegem, BE)

15:30 Coffee break

Electric Drive Technology and Challenges to Bearings
Session chair: to be announced

16:00 Surface mutation of the bearing raceway during electrical current passage in mixed friction operation
M.Eng. Simon Graf (University of Kaiserslautern, Institute of Machine Elements; Gears and Transmissions (MEGT), Kaiserslautern, DE)

Coffee break

Conference Room 2

NVH (noise, vibration, harshness)
Session chair: to be announced

16:30 Investigation of the damping characteristics in the dry lubricated rolling element – cage contact of deep groove ball bearings
M.Sc Rahal Dahwal (University of Kaiserslautern Institute of Machine Elements; Gears and Transmissions (MEGT), Kaiserslautern, DE)

Reconstructing shaft orbit using angle measurement to detect bearing faults
PhD Guillaume Braund (NTN-SNR Roulements, ANNECY, FR)

Bearing raceway waviness induced noise in applications
Angelo Approsio (SKF Industrie S.p.A., Moncalieri (Turin), IT)

Noise Calculation in BEARINX – dynamics in the kinematic regime
Dr. Hannes Grillenberger (Schaeffler Technologies AG & Co. KG, Herzogenaurach, DE)

Balls characteristics impact on bearing noise generation
Sebastiano Rizzo (Tsubaki Nakashima Co., LTD, Pinerolo, IT)

Coffee break

Condition Monitoring and Sensors
Session chair: to be announced

17:00 Enhancement of the insulation properties of thermal sprayed ceramic bearing coatings
M.Sc. Elisa Burbaut (RWTH Aachen University, Surface Engineering Institute (IOT), Aachen, DE)

17:30 Experimental High Frequency Analysis of the Electric Impedance of Rolling Bearings
M.Sc. Tobias Schirra (Technische Universität Darmstadt, Institute for product development and machine elements (PMD), Darmstadt, DE)

18:00 End of presentation day 1

19:30 Low Temperature Test Methods for Electric Car Bearing Greases
Thomas Litters (FUCHS SCHMIEDESTOFFE GmbH, Mannheim, DE)

Enhancement of the insulation properties of thermal sprayed ceramic bearing coatings
M.Sc. Elisa Burbaut (RWTH Aachen University, Surface Engineering Institute (IOT), Aachen, DE)

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End of presentation day 1

Evening Event:
Restaurant XII Apostel, Pelikanplatz 2-4, 30177 Hannover

"Market trends for eMobility, autonomous driving, digitalization and robotics result into completely new requirements on system level and on component level. Bearing World offers ideal platform to challenge the current technical status quo and to discuss new development trends for bearings in team of experts from research and industry."

Dr. Tomas Smetana (Schaeffler AG)
### Rolling Contact Fatigue and Materials I

**Session chair:** to be announced

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<td>Evaluation of the influence of non-metallic inclusions on the high and very high cycle fatigue life of inductive hardened bearing steel in multi-megawatt wind turbines</td>
<td>Felix Stem (TU Dortmund University, Department of Materials Test Engineering (WPT), Dortmund, DE)</td>
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<td>Fracture Mechanical Assessment of Inclusions in Bearing Steel</td>
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### Rolling Contact Fatigue and Materials II

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### Bearing Selection and Design

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### Bearing Durability and Dimensioning

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<td>Application-dependent bearing preload in planetary gear units – application, design and assembly</td>
<td>Ernalt Lamaj (SEW-Eurodrive GmbH &amp; Co. KG, Bruchsal, DE)</td>
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Wednesday, 1 April 2020

Conference Room 1

Bearing Durability and Dimensioning
Session chair: to be announced

14:30 Investigation of Wind Turbine Planetary Bearing Outer Ring Creep on a Component Test Bench
M.Sc. Felix M. Schlüter (RWTH Aachen University, Center for Wind Power Drives, Aachen, DE)

15:00 Investigation of the load distribution on a planetary carrier bearing of a wind turbine gearbox to identify trigger for ring creep
Jonas Gnauert (RWTH Aachen University, Chair for Wind Power Drives, Aachen, DE)

15:30 A Fatigue Life Model for Roller Bearings in Oscillatory Applications
Georg Breslau (Technical University Dresden, Institute of Machine Elements and Machine (IMM), Dresden, DE)

16:00 End of conference

Conference Room 2

Bearing Mechanics
Session chair: to be announced

14:30 Measuring the kinematic behavior of spindle bearing rolling elements under radial loads
M.Sc. Hans-Martin Eckel (RWTH Aachen University, Laboratory for Machine Tools and Production Engineering (WZL), Aachen, DE)

15:00 Development of a methodology for tolerancing radial journal bearing systems
Marko Ebermann (Chemnitz University of Technology, Institute of Design Engineering and Drive Technology (IKAT), Chemnitz, DE)

15:30 A New Approach for Rapid Determination of Roller-Flange Contact in Roller Element Bearings
Marius Wolf (Robert Bosch GmbH, Renningen, DE)

16:00 End of conference

"Climate change is real, and we in the bearing industry are in a prime position to take the lead in design for circular economy. Technologies like AI, new materials and IoT make it possible. I look forward to Bearing World 2020 where we have the chance to set the path forward."
Dr. Victoria Van Camp (CTO SKF AB)
Gold-Sponsor

SCHAEFFLER GROUP

The Schaeffler Group is a leading global supplier to the automotive and industrial sectors. Its portfolio includes high-precision components and systems for engine, transmission, and chassis applications as well as rolling and plain bearing solutions for a large number of industrial applications.

From miniature bearings measuring just a few millimeters to large sizes with outside diameters of several meters – Schaeffler supplies around 60 different industrial sectors with rolling bearings and plain bearings, linear and direct drive technology, and a service portfolio including maintenance products, monitoring systems and other solutions. Smart components and digital services are becoming increasingly important. At the same time, Schaeffler is also working to increase the energy efficiency of bearing technology for industrial applications. The broad range of products and services includes components and systems for automobile drive trains and products for high-speed trains through to rolling bearings for solar power plants and innovative solutions for aviation and aerospace applications. A worldwide network of sales engineers is available to provide advice to customers from all branches of industry directly on site – whether in agriculture or wind power, whether in the bicycle or steel industry.

The company generated sales of approximately 14.2 billion Euros in 2018. With around 89,000 employees, Schaeffler is one of the world's largest family companies and, with approximately 170 locations in over 50 countries, has a worldwide network of manufacturing locations, research and development facilities, and sales offices. As a global development partner and supplier, Schaeffler maintains stable long-term relationships with its customers and suppliers.

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A world of reliable rotation

Our customers want reduced friction, machines that run faster, longer, cleaner and more safely. Solving this in the most effective and sustainable way contributes to our vision of a world of reliable rotation.

We achieve this by combining hands-on experience in over 40 industries with our knowledge across the SKF solutions around the rotating shaft, including bearings, seals, lubrication, condition monitoring and maintenance services. Our customers have access to that collected experience through regional and global technical and service centres, and a 17,000-strong distributor network. Trust your challenges to a partner with a history of innovating ways to meet them.