The Expert Forum for Rolling and Plain Bearings

Online Event

BEARING WORLD by FVA – The Third expert forum “Industrial Research and Science in Dialogue with Practical Application”, focusing on the topic of bearings in theory and application.

ONLINE FROM 19 TO 23 OCTOBER, 2020
VIRTUAL PRESENTATIONS & EXHIBITION

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Program Day 1

9:00 AM
OPENING
PROF. BERND SAUER
TU NIVERSITY OF K AISERSLAUTERN, INSTITUTE OF MACHINE ELEMENTS, GEARS AND TRANSMISSIONS (MEGT) GERMANY

CHRISTIAN KUNZE
RESEARCH ASSOCIATION FOR DRIVE TECHNOLOGY E.V. (FVA) GERMANY

9:30 AM
KEYNOTE
"BEYOND SIMULATIONS – USING AI ON PROCESS DATA TO PREDICT PERFORMANCE"
PH.D. VICTORIA VAN CAMP
AB SKF SWEDEN

10:00 AM
"THE LUBRICANT FORMULATION: ONE DRIVER FOR EARLY DAMAGE ASSOCIATED TO WECS IN THRUST AND RADIAL BEARINGS"
DR. ARNAUD RUELLAN SKF NETHERLANDS

10:35 AM
"THE INFLUENCE OF MECHANICAL STRESSES ON THE DIFFUSION AND ACCUMULATION OF HYDROGEN IN A CYLINDRICAL ROLLER THRUST BEARING"
DR. IYAS KHADER FRAUNHOFER INSTITUT FOR MECHANICS OF MATERIALS (IWM) GERMANY

11:10 AM
"INVESTIGATIONS OF ZDDP TRIBOFILM FORMATION REGARDING TEMPERATURE INFLUENCES"
DENNIS MALLACH UNIVERSITY OF MÜNSTER WWU, INSTITUTE OF PHYSICS INSTITUTE OF PHYSICS GERMANY

11:45 PM
"CALCULATION METHOD TO EVALUATE THE RISK ON WEC FAILURE OCCURRENCE IN INDUSTRIAL APPLICATIONS"
DIPL.-ING. DIRK-OLAF LEIMANN BELGIUM

12:10 PM
LUNCH BREAK

2:00 PM
"INVESTIGATION OF THE DAMPING CHARACTERISTICS IN THE DRY LUBRICATED ROLLING ELEMENT - CAGE CONTACT OF DEEP GROOVE BALL BEARINGS"
M.SC. SEIEDARDESHIR SEBTEINI TECHNICAL UNIVERSITY OF KAISERSLAUTERN INSTITUTE OF MACHINE ELEMENTS, GEARS AND TRANSMISSIONS GERMANY

2:35 PM
"BEARING RACEWAY WAVINESS INDUCED NOISE IN APPLICATIONS"
MECHANICAL ENGINEER ANGELICO APPROSIO SKF INDUSTRIE S.P.A. ITALY

3:10 PM
"BALLS CHARACTERISTICS IMPACT ON BEARING NOISE GENERATION"
SEBASTIANO RIZZO TSUBAKI NAKASHIMA CO., LTD. ITALY

BEARING WORLD Focuses on all facets of bearings and all involved components, with special emphasis on rolling bearings – in combination with or comparison to plain or magnetic bearings.

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Program Day 2

09:55 AM
WELCOME

10:00 AM
"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)
Germany

10:35 AM
"LOW TEMPERATURE TEST METHODS FOR ELECTRIC CAR BEARING GREASES"
Thomas Litters
Fuchs Schmierstoffe Gmbh
Germany

11:10 AM
"ENHANCEMENT OF THE INSULATION PROPERTIES OF THERMAL SPRAYED CERAMIC BEARING COATINGS"
M. Sc. Elisa Burbaum
RWTH Aachen University, Surface Engineering Institute (IOT)
Germany

11:45 AM
"EXPERIMENTAL HIGH FREQUENCY ANALYSIS OF THE ELECTRIC IMPEDANCE OF ROLLING BEARINGS"
M.Sc. Tobias Schirra
Technical University of Darmstadt, Institute for Product Development and Machine Elements (PMD)
Germany

12:10 PM
LUNCH BREAK

2:00 PM
"AN ANALYTICAL APPROACH FOR THE INFLUENCE OF THE REAL FILM THICKNESS DISTRIBUTION ON THE CAPACITANCE OF AN EHL CONTACT"
Volker Schneider
Leibniz University Hannover, Institute of Machine Design and Tribology (IMKT)
Germany

2:35 PM
"AN INTELLIGENT HYBRID PLAIN BEARING AS A SMART MACHINE COMPONENT"
M.Sc. Robin Kurth
Fraunhofer Institute for Machine Tools and Forming Technology (IwU)
Germany

3:10 PM
"NOVEL ANALYTICAL AND NUMERICAL CALCULATIONS IN TRUNCATED CONTACT"
Dr. Luc Houpert
Bearing and Tribology Consultant
France

The conference promotes the exchange of knowledge and experience between universities and engineers from the industry who are involved in or responsible for the design, development, manufacturing and assembly or the practical operation or maintenance of bearings.

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Program Day 3

10:30 AM
WELCOME

10:35 AM
“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”
FELIX STERN
TU DORTMUND UNIVERSITY DEPARTMENT OF MATERIALS TEST ENGINEERING (WPT)
GERMANY

11:10 AM
“FATIGUE DAMAGE DEVELOPMENT IN BEARING STEEL: MODELLING AND MEASUREMENT”
DR. IR. ERIK VEGTER
SKF
NETHERLANDS

11:45 AM
“DEVELOPMENT OF OPTIMIZED NITRIDED BEARING AND TRANSMISSION COMPONENTS FOR A BETTER APPLICATION PERFORMANCE: FROM PROCESS PARAMETERS TO FUNCTIONAL PERFORMANCE PROPERTIES”
DR. CHRISTINE SIDOROFF-COICAUD
NTN-SNR ROULEMENTS
FRANCE

SIMON THIBAULT
NTN-SNR ROULEMENTS
FRANCE

12:10 PM
LUNCH BREAK

2:00 PM
“FINITE ELEMENT ANALYSIS OF TWO-STEP DEEP ROLLING OF BEARING STEEL FOR EXPANSION AND EQUALIZATION OF COMPRESSIVE RESIDUAL STRESS PROFILES”
JOSHUA SIMON
UNIVERSITY OF APPLIED SCIENCE WÜRZBURG-SCHWEINFURT
GERMANY

2:35 PM
“PROGRESSION OF ROLLING CONTACT FATIGUE DAMAGE FROM ARTIFICIAL INDENTS IN HYBRID AND STEEL-TO-STEEL BEARING CONTACT”
DR YURI KADIN
SKF GMBH
NETHERLANDS

3:10 PM
“MICROSTRUCTURAL ANALYSIS OF BEARING STEELS BY A STATISTICAL NANOINDENTATION TECHNIQUE”
PROF. DR. ESTEBAN BROITMAN
SKF
NETHERLANDS

“COME TO BEARING WORLD, THE INTERNATIONAL EXPERT FORUM DEDICATED TO BEARINGS; FOCUSING THIS TIME ON ROLLING BEARINGS. THE CONFERENCE PROVIDES A COMPREHENSIVE OVERVIEW OF THE STATE OF TECHNOLOGY, RESEARCH, AND DEVELOPMENT. HERE YOU WILL HAVE THE OPPORTUNITY TO ENTER INTO DIALOG WITH LEADING NATIONAL AND INTERNATIONAL EXPERTS.”

PROF. DR.-ING. GERHARD POLL, LEIBNIZ UNIVERSITY HANNOVER, BEARING WORLD PROGRAM COMMITTEE SPEAKER

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Program Day 4

10:30 AM
WELCOME

10:35 AM
“VALIDATION OF A NOVEL CONICAL SLIDING BEARING FOR THE MAIN SHAFT OF WIND TURBINES”
M.SC. TIM SCHRÖDER
RWTH AACHEN, CHAIR FOR WIND POWER DRIVES
GERMANY

11:10 AM
“IF FORM DEVIATION THAN CORRECT - THE UTILIZATION OF PRODUCTION-RELATED DEFECTS FOR IMPROVING OPERATING PROPERTIES OF JOURNAL BEARINGS”
LARS FRIEDRICH
CHEMNITZ UNIVERSITY OF TECHNOLOGY, INSTITUTE OF DESIGN ENGINEERING AND DRIVE TECHNOLOGY (IKAT)
GERMANY

11:45 AM
“BEARING SELECTION FOR HIGH EFFICIENCY WORM GEAR DRIVES”
JUN. PROF. DR.-ING. MANUEL OEHLER
UNIVERSITY OF KAISERLUTERN, INSTITUTE OF MACHINE ELEMENTS; GEARS AND TRANSMISSIONS (MEGT)
GERMANY

12:10 PM
LUNCH BREAK

2:00 PM
“3D CFD MODELLING OF TEXTURED HYDRODYNAMIC JOURNAL BEARINGS”
M.SC. PATRICK WIECKHORST
OTTO-VON-GUERICKE-UNIVERSITY MAGDEBURG, CHAIR OF MACHINE ELEMENTS AND TRIBOLOGY
GERMANY

2:35 PM
“SMEARING IN FULL COMPLEMENT ROLLER BEARINGS”
DR. NADINE NA GLER
BOSCH Rexroth AG
GERMANY

3:10 PM
“FRICTIONAL PROPERTIES OF GREASE ADDITIVATED BY GRAPHENE PLATELETS IN ANGULAR CONTACT BALL BEARINGS”
DR. FLORIAN PAPE
LEIBNIZ UNIVERSITY HANNOVER, INSTITUTE OF MACHINE DESIGN AND TRIBOLOGY (IMKT)
GERMANY

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Program Day 5

9:55 AM
WELCOME

10:00 AM
“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
GERMANY

10:35 AM
“INVESTIGATION OF THE LOAD DISTRIBUTION ON A PLANETARY CARRIER BEARING OF A WIND TURBINE GEARBOX TO IDENTIFY TRIGGER FOR RING CREEP”
JONAS GNÄUERT
RWTH AACHEN UNIVERSITY, CHAIR FOR WIND POWER DRIVES
GERMANY

11:10 AM
“A FATIGUE LIFE MODEL FOR ROLLER BEARINGS IN OSCILLATORY APPLICATIONS”
GEORG BRESLAU
TECHNICAL UNIVERSITY DRESDEN, INSTITUTE OF MACHINE ELEMENTS AND MACHINE (IMM)
GERMANY

11:45 AM
“APPLICATION-DEPENDENT BEARING PRELOAD IN PLANETARY GEAR UNITS – APPLICATION, DESIGN AND ASSEMBLY”
ERMALT LAMAJ
SEW-EURODRIVE GMBH & CO KG
GERMANY

12:10 PM
LUNCH BREAK

2:00 PM
“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)
GERMANY

2:35 PM
“DEVELOPMENT OF A METHODOLOGY FOR TOLERANCING RADIAL JOURNAL BEARING SYSTEMS”
MARKO EBERMANN
CHEMNITZ UNIVERSITY OF TECHNOLOGY, INSTITUTE OF DESIGN ENGINEERING AND DRIVE TECHNOLOGY (IKAT)
GERMANY

3:10 PM
“A NEW APPROACH FOR RAPID DETERMINATION OF ROLLER-FLANGE CONTACT IN ROLLER ELEMENT BEARINGS”
MARIUS WOLF
ROBERT BOSCH GMBH
GERMANY

3:35 PM
CLOSING
PROF. BERND SAUER
UNIVERSITY OF KAIERSLAUTERN, INSTITUTE OF MACHINE ELEMENTS, GEARS AND TRANSMISSIONS (MEGT)
GERMANY

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