

CWD2017

Organisation | Organisation

Teilnahmemöglichkeiten | Options of Participation

Anmeldung	bis zum 16.12.16	nach dem 16.12.16
Teilnahmegebühr für CWD	760,- €*	890,- €*
Teilnahmegebühr für CWD + ATK	895,- €*	1050,- €*

In der Teilnahmegebühr sind Mittagessen, Unterlagen und Pausenfrischungen sowie die Abendveranstaltung enthalten. Der gedruckte Tagungsband kann vorab zu einem vergünstigten Preis von 60 €* oder nach der Konferenz zu einem Preis von 120 €* bestellt werden. Bei Stormierung der Anmeldung bis zwei Wochen vor der Konferenz werden 200 €* berechnet. Bei späterer Abmeldung oder Nichterscheinen wird die volle Teilnahmegebühr in Rechnung gestellt.

Vortragende zahlen keine Teilnahmegebühr.

Registration until Dec the 16th 2016 after Dec the 16th 2016
 Participation fee for CWD 760,- €* 890,- €*
 Participation fee for CWD + ATK 895,- €* 1050,- €*

The fee includes conference documents, snacks during breaks, lunch as well as the participation in the CWD dinner. The printed version of the conference transcript can be reordered for a reduced rate of 60 €* or after the conference at a rate of 120 €*. In case of cancellation until two weeks before the conference, a fee of 200 €* will be charged. For later cancellation or non-attendance, the full participation fee will be charged.

The participation in the conference is free for speakers.

Fachausstellung | Exhibition of related topics

Für die tagungsbegleitende Fachausstellung bieten wir Ihnen einen attraktiven Standort im großräumigen und modernen Foyer des Hauptsaals. Sowohl die Kaffeepausen als auch das Mittagessen finden in diesem Raum statt, sodass eine optimale Frequentierung Ihres Standes während der gesamten Tagung gewährleistet ist. Die Gebühr für die Ausstellungsfläche beträgt 500 €*. Wir freuen uns, Sie als Aussteller begrüßen zu dürfen.

The exhibition will take place in the spacious and modern foyer of the main hall. Coffee breaks and lunch will also take place there, guaranteeing high attention to the exhibition throughout the conference. The exhibition fee is 500 €*. We are looking forward to welcoming you as an exhibitor.

Sponsoring

Sie haben die Möglichkeit, das Logo Ihres Unternehmens im Rahmen der Veranstaltung zu präsentieren. Für weitere Informationen besuchen Sie bitte: www.cwd.rwth-aachen.de/konferenz

You have the opportunity to present the logo of your company during the event. For further information please visit: www.cwd.rwth-aachen.de/conference

* Preise exklusive Mehrwertsteuer
 * prices do not include VAT

Anmeldung | Registration

www.cwd.rwth-aachen.de/konferenz

Die Teilnehmerzahl ist begrenzt. Anmeldungen werden in der Reihenfolge ihres Eingangs berücksichtigt.
 The number of participants is limited. Registration will be processed in order of receipt.

Veranstaltungsort | Venue

Eurogress Aachen
 Monheimerallee 48
 52062 Aachen

Tagungsbüro | Conference office

Stefan Mager
 Tel.: +49 (0)241/94662-824
 Fax: +49 (0)241/94662-66
 E-Mail: mager@ cwd.rwth-aachen.de

Hotel

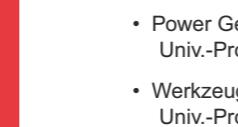
www.avantel.de/atk-cwd-2017

Unterstützung | Support

Der Fachverband Antriebstechnik im VDMA und die Forschungsvereinigung Antriebstechnik (FVA) unterstützen die Conference for Wind Power Drives, um sie zu einer der führenden Veranstaltungen in diesem Sektor zu entwickeln.

The Association for Power Transmission Engineering in VDMA (German Engineering Federation) and the Research Association for Drive Technology (FVA) support the Conference for Wind Power Drives in order to develop it into a leading event in this sector.




FVA
 Forschungsvereinigung
 Antriebstechnik e.V.


VDMA
 Antriebstechnik

CWD2017

RWTHAACHEN UNIVERSITY

Der Veranstalter | About us



Center for Wind Power Drives RWTH Aachen University

Das Center for Wind Power Drives bündelt die Forschungs- und Entwicklungsarbeiten zum Thema Antriebstechnik von Windenergieanlagen an der RWTH Aachen University. Die insgesamt sieben Forschungsinstitute können auf Systemprüfstände von bis zu 4 MW für Versuche an Windenergieanlagen zurückgreifen.

The Center for Wind Power Drives combines the research and development efforts on drive trains of wind turbine generators at RWTH Aachen University. The seven research institutes can access testbenches up to 4 MW to test wind turbine generators.

Tagungsleitung | Board of the Conference

- Automation of Complex Power Systems (ACS)
 Univ.-Prof. Dr. Antonello Monti
- Aerodynamisches Institut (AIA)
 Univ.-Prof. Dr. Wolfgang Schröder
- Chair for Wind Power Drives (CWD)
 Univ.-Prof. Dr. Georg Jacobs
- Institut für Elektrische Maschinen (IEM)
 Univ.-Prof. Dr. habil. Dr. h. c. Kay Hameyer
- Dr. Lutz Lindemann, Fuchs Petrolub SE
- Joachim Nitpon, Nordex Energy GmbH
- Prof. Andreas Reuter, Fraunhofer IWES
- Prof. Dr. Ralf Schelenz, CWD
- Matthias Schramm, Schaeffler AG
- Dr. Roland Zeichfußl, Siemens AG

Programmausschuss | Programme Committee

- Dr. Günter Berger, ZF Industrieantriebe Witten GmbH
- Jens Demtröder, Vestas Wind Systems A/S
- Edwin Hidding, GE Wind Energy GmbH
- Bernhard Hagemann, FVA e.V.
- Dr. Martin Knops, Senvion SE
- Dr. Andreas Klein, Siemens AG
- Dr. Frank Krull, Eickhoff Antriebstechnik GmbH
- Dr. habil. Dr. h. c. Kay Hameyer
- Institut für Regelungstechnik (IRT)
 Univ.-Prof. Dr. Dirk Abel
- Power Generation and Storage Systems (PGS)
 Univ.-Prof. Dr. ir. Dr. h. c. Rik W. De Doncker
- Werkzeugmaschinenlabor (WZL)
 Univ.-Prof. Dr. Christian Brecher

Ausrichter | Host

Vereinigung zur Förderung des Institutes für Maschinenelemente und Maschinengestaltung der Rheinisch-Westfälischen Technischen Hochschule Aachen e.V.

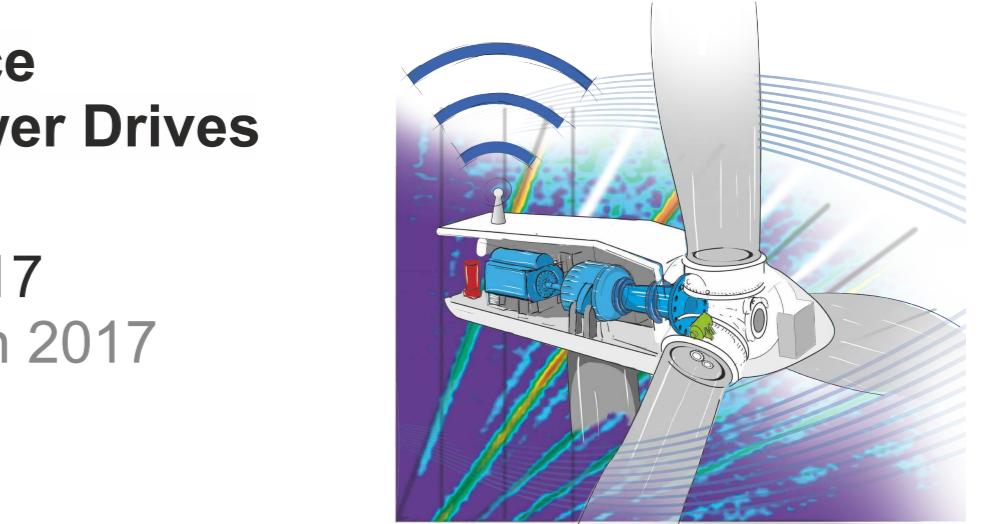
CWD2017

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3rd Conference for Wind Power Drives

7.-8. März 2017
7th-8th of March 2017



Vergünstigte Teilnahme am Antriebstechnischen Kolloquium (ATK) 2017
Discounted participation at the Drive Train Technology Conference (ATK) 2017

Parallel zur CWD wird das Antriebstechnische Kolloquium (ATK) durchgeführt. Eine Teilnahme an der CWD 2017 und dem ATK 2017 ist zu vergünstigten Bedingungen möglich. Weitere Informationen zum ATK 2017 finden Sie unter www.atk-aachen.de.

The Drive Train Technology Conference 2017 (ATK) is held simultaneously to the CWD 2017. Participation in both, CWD and ATK, is possible at a reduced rate. For further information about the ATK 2017 please visit www.atk-aachen.de.

The CWD 2017 acts as an interdisciplinary platform for knowledge and technology transfer between developers, research scientists and operators. Furthermore, the conference promotes networking between industry and university in the field of wind turbine generator drive trains. The conference is supported by the Association for Power Transmission Engineering in VDMA (German Engineering Federation) and the Research Association for Drive Technology (FVA).

CWD Center for Wind Power Drives | **RWTHAACHEN UNIVERSITY**

CWD2017

Plenarvorträge (gemeinsam mit dem ATK) | Plenary lectures (together with the ATK)
 Host: Prof. G. Jacobs, Room: Europasaal
Plenum 1

- 09.00 Technologische Herausforderungen der Energiewende | Technological challenges of the energy transition
Thorsten Herdan, Leiter der Abteilung „Energiepolitik – Wärme und Effizienz“ im Bundesministerium für Wirtschaft und Energie
- 09.30 Minds & Machines – digitale Transformation in der Industrie | Minds & machines – the industry's digital transformation
Carlos Härtel, CTO & Chief Innovation Officer, GE Europe

Plenum 2

- 10.30 Innovationschancen durch MEMS-Sensoren | Innovation opportunities through MEMS-sensors
Dr. Franz Lärmer, Senior Chief Expert Microsystems and Microfluidics, Robert Bosch GmbH
- 11.00 Digitale Wertschöpfung | Digital value creation
Gerhard Baum, Chief Digital Officer, Schaeffler AG
- 11.30 Mittagessen | Lunch

Getriebe in WEA | Wind turbine gearboxes
Host: Dr. A. Klein, Siemens AG, Room: Europasaal

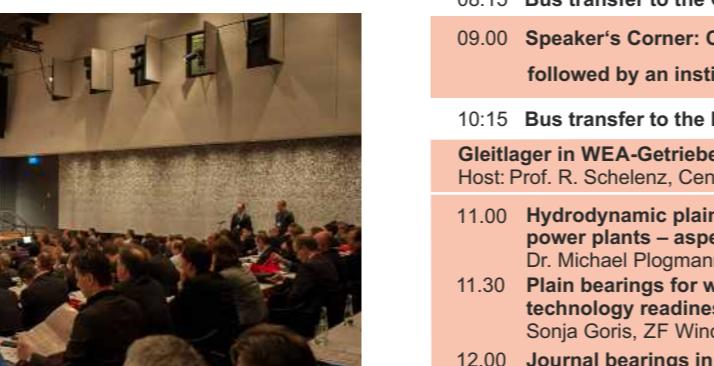
- 13.00 Analysis of the excitation behavior of a wind turbine gearbox based on tolerance field gear design
Marius Schroers, WZL, RWTH Aachen
- 13.30 Comparison of behaviour during torque reversal driven event on nacelle dynamometer and field turbine
Prof. Dr. Jan Helsen, OWI-lab, Vrije Universiteit Brussel
- 14.00 Non-Torque loads in drivetrains – A study on the effective reduction of gearbox loads and the improvement of the dynamic system behaviour
Alexander Kari, Geislinger GmbH
- 14.30 Standardization of the wind gearbox platforms to maximize the cost advantage and reliability based on the extensive data base in the wind field
Dr. Valentin Meimann, NGC Transmission Europe GmbH
- 15.00 How does the application of actual standards & guidelines contribute to robust bearing solutions in Multi-MW wind turbine gearboxes?
Dr. David Vaes, SKF GmbH, Application Competence Centre Wind Turbine Gearboxes
- 15.30 Kaffeepause | Coffee break

Elektrische Systeme | Electric systems
Host: Prof. Dr. R. De Doncker, E.ON, RWTH Aachen, Room: K4+5

- 16.00 Dynamic voltage support of DFIG wind power plants
Dr. Christian Wessels, Nordex Energy GmbH, Grid Integration
- 16.30 Design and performance evaluation of a grid emulator based on a 3L-NPC Converter
Nurhan Rizqy Averous, CWD & E.ON Research Center, RWTH Aachen
- 17.00 An impedance-based analysis approach to analyse harmonic oscillations in DFIG equipped and HVDC connected offshore wind farms
Moritz Mittelstaedt, IFHT, RWTH Aachen
- 17.30 Torsional vibrations in multi-megawatt wind turbine induction generators
Sebastian Rick, CWD & IEM, RWTH Aachen
- 18.00 Short-circuit faults and their influence on the drive-train of wind turbines
Dr. Roland Zeichfußl, Siemens AG, PD LD TD WG EN 3

19.00

Abendveranstaltung im Aachener Rathaus | Dinner at the Aachen City Hall

**Wälzlager und WEC**
Moderator: Dr. A. Grunau, Schaeffler AG, Saal: K1

This session ist part of the Drive Train Technology Conference (ATK) which takes place simultaneously. Here you can find an additional session on Bearings and WEC. For detailed information please visit our website www.atk-aachen.de

As a participant of the CWD 2017 you need the combined ticket „CWD+ATK“ in order to visit the Drive Train Technology Conference (ATK) 2017.

Zuverlässigkeit | Reliability
Host: Dr. M. Knops, Senvion SE, Room: K7+8+9

- 13.00 Indirect rotor load measurement at structural components in the drive train of wind turbines
Sebastian Reisch, CWD, RWTH Aachen
- 13.30 Probabilistic evaluation of gearbox reliability
Jean-Andre Meis, Siemens AG, PD MD
- 14.00 Wind turbine control strategy deployment concerning remaining useful lifetime prognostic model
Prof. Dr. Dirk Söflker, Chair of Dynamics and Control, University of Duisburg-Essen
- 14.30 Enhancing the reliability model of main gearboxes of WTGs
Jurgita Simaityte, Nordex SE
- 15.00 Sliding moment bearing as a main bearing in wind turbine generators
Tim Schröder, CWD, RWTH Aachen

Modellbildung und Simulation | Modelling and simulation
Host: A. Weber, Vestas Wind Systems, Room: K7+8+9

- 16.00 Modelling the failure behaviour of wind turbines
Volker Berkout, Windparkplanung und -betrieb, Fraunhofer IWES Kassel
- 16.30 FE-Simulation of creep on rolling-bearing-supported helical planetary gears
Tom Schieemann, Universität Chemnitz, Institut für Konstruktions- und Antriebstechnik
- 17.00 Analysis of a direct drive wind turbine with a multi body simulation model and comparison with measurement data
Daniel Lehser-Pfeffermann, Lab of Wind Energy Technologies
- 17.30 Possibilities and limitations of the load determination for wind turbines using the multibody-system simulation
Dr. Thomas Rosenlöcher, Technische Universität Dresden
- 18.00 Full scale system simulation of a 2.7 MW wind turbine on a system test bench
Daniel Matzke, CWD, RWTH Aachen

19.00

08.15 Bus transfer to the Center for Wind Power Drives

- 09.00 Speaker's Corner: Challenges of the wind energy industry presented by Matthias Schubert
followed by an institute tour with coffee bar and snacks

10:15 Bus transfer to the Eurogress

- Gleitlager in WEA-Getrieben | Plain bearings in WTG gearboxes
Host: Prof. R. Schelenz, Center for Wind Power Drives, Room: Europasaal
- Zustandsüberwachungssysteme | Condition monitoring systems
Host: M. Schramm, Schaeffler Technologies GmbH, Room: K4+5
- Materialien in WEA | Materials in WTG
Host: Prof. C. Broeckmann, IWM, RWTH Aachen, Room: K7+8+9

- 11.00 Hydrodynamic plain bearings in planetary gearboxes of wind power plants – aspects of material choice and design
Dr. Michael Plogmann, Schaeffler AG
- 11.30 Plain bearings for wind turbine gearboxes – trajectory towards technology readiness
Sonja Goris, ZF Wind Power Antwerpen NV
- 12.00 Journal bearings in wind turbine gear units – validation – track record – extended investigations for reliability
Dr. Thomas Meyer, Siemens AG, WIND EN
- 11.00 Condition monitoring of wind turbine drive trains by normal behaviour modelling of temperatures
Jannis Tautz-Weinert, Loughborough University
- 11.30 Torque measurement uncertainty in multi-MW nacelle test benches
Stefan Kock, CWD, RWTH Aachen
- 12.00 Condition based maintenance of wind turbines by 24/7 monitoring of oil quality and additive consumption: Identification of critical operation conditions & determination of the next oil change
Dr. Jörn Peuser, cmc Instruments GmbH
- 11.00 Numerical evaluation of steel cleanliness of large main bearings for multi megawatt wind energy turbines
Paul Sauvage, IME, RWTH Aachen
- 11.30 Damage tolerant design of structural components made of high strength cast iron
Luisa-Marie Heine, IWM, RWTH Aachen
- 12.00 Material technology plays a key role in improving torque density in wind turbine gearboxes
Jukka Elfström, Moventas Gears Oy
- 12.30 Application of fracture mechanics based methods in life cycle management of wind turbines
Dr. Peter Langenberg, IWT Solutions AG

13.00 Kaffeepause mit Snacks | Coffee break with snacks**Getriebe – Planetenstufe | Gearbox – Planetary stage**

Host: Dr. F. Krull, Eickhoff GmbH, Room: Europasaal

- Wind 4.0
Host: Dr. R. Zeichfußl, Siemens AG, Room: K4+5
- Blatt- und Hauptlager | Blade and main bearings
Host: J. Nitzpon, Nordex Energy GmbH, Room: K7+8+9
- 13.30 Planetary load sharing in three-point mounted wind turbine gearboxes: A design and test comparison
Dr. Jonathan Keller, NREL, NWTC
- 14.00 Tolerances in planetary gears – determination of load distribution using statistical approaches
Dr. Jennifer Papies, Siemens AG
- 14.30 A systematic approach for optimizing planetary gear sets for low vibrations
Dharmaraju Nalliboyana, Vestas
- 13.30 Intelligent Gearbox: A contribution to the reduction of the cost of energy
Dr. Andreas Vath, ZF Industrieantriebe Witten GmbH
- 14.00 Connection of wind farms to an energy efficient and safe internet for energy communication network
Frederick Birtel, FIR e.V.
- 14.30 A Case Study of Evaluating and Augmenting Test Bench Capability for IEC Dynamic Load Cases
Phillipe Giguère, GE Renewable Energy, Onshore Wind Engineering & Clemson University, Mechanical Engineering
- 13.30 Providing evidence for the operation of a new rotor bearing design
Manuel Rettinger, Schaeffler AG, IT/SWE-AS
- 14.00 Main shaft bearings: A unique tapered roller bearing solution for 3-Point mount arrangement
Guillaume Badard, Timken Europe, Application Engineering
- 14.30 State-of-the-art design process for pitch blade bearing applications for multi-MW wind turbine generators
Dr. Daniel Becker, Thyssenkrupp Rothe Erde
- 15.00 Validation of planetary bearing loads in wind turbine gearboxes on a 4 MW system test bench
Christian Liewen, CWD, RWTH Aachen
- 13.30 Sensitivity of wind turbine drive train resonances on the mechanical properties of sub-components
Dr. Andreas Heege, Senvion GmbH

15.30

End of the Conference