



Parallel conferences
free of charge

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5th International Conference on Gear Production 2023

Key topics discussed:

- Sustainable gear production
- Inline quality inspection for gear production
- Additive manufacturing of gears
- Performance of new gear materials in gear manufacturing
- Hard finishing of high performance gears
- Innovative processes for gear manufacturing

Presidency:

Prof. Dr.-Ing. Thomas Bergs, WZL, RWTH Aachen University, Germany
Prof. Dr.-Ing. Christian Brecher, WZL, RWTH Aachen University, Germany
Prof. Dr.-Ing. Karsten Stahl, FZG, Technical University of Munich (TUM), Garching, Germany

+ Parallel events

International Conference on Gears 2023

International Conference on High Performance Plastic Gears 2023

+ Exhibition

With experts from:



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Event organized by VDI Wissensforum GmbH
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 #vdi_gears

September 13 - 15, 2023, Garching/Munich, Germany

1st Conference day
Wednesday, September 13th, 2023

08:15 Registration



Plenary lectures

09:30 Joint welcome and opening of the conferences

- International Conference on Gears 2023
- International Conference on High Performance Plastic Gears 2023
- International Conference on Gear Production 2023

Prof. Dr.-Ing. Karsten Stahl, Full Professor, Institute of Machine Elements, Director, Gear Research Center (FZG), TUM School of Engineering and Design, Technical University of Munich, Garching, Germany

09:55 Welcome address by

Prof. Dr. sc. tech. Gerhard Kramer, Senior Vice President Research and Innovation, TUM School of Engineering and Design, Technical University of Munich, Garching, Germany

Prof. Dr.-Ing. Birgit Vogel-Heuser, Vice Dean Research and Innovation TUM School of Engineering and Design, Chair of Automation and Information Systems, Technical University of Munich, Garching, Germany

10:05 Welcome address by

Dr.-Ing. Burkhard Pinnekamp, Head of Central Technology, RENK GmbH, Augsburg; President, Research Association for Drive Technology (FVA), Frankfurt, Germany

10:15 Keynote session:

Re-X: Recycle | Reuse | Reduce

Moderation: Prof. Dr.-Ing. Karsten Stahl, Full Professor, Institute of Machine Elements, Director, Gear Research Center (FZG), TUM School of Engineering and Design, Technical University of Munich, Garching, Germany

From why to how: It is time for sustainability to move from the executive agenda into the real world

- Determine emission baselines for product portfolio
- Prioritize levers to decrease emissions
- Achieve change through product design and business model adaptation

Dominik Leisinger, EMBA, Partner & Europe Lead Product Excellence (PERLab), A.T. Kearney (International) AG, Zurich, Switzerland

The need for global standards to define CO₂ footprint in product specifications

- High performance and low emissions is no conflict for engineering steels
- Maximum CO₂ and recycled content as properties in the steel product specifications
- Global initiatives vs sustainability demands on the product

Erik Claesson, M. Sc., Director, Automotive Segment & Group Business Intelligence, Ovako AB, Hofors, Sweden

Refurbishing tracked vehicle transmissions

- Extended lifetime
- Upgrade and Re-use
- Increase share of re-used parts

Dr.-Ing. Burkhard Pinnekamp, Head of Central Technology, Sebastian Schießler, M. Eng., Head of Repair, Vehicle Mobility Solutions, RENK GmbH, Augsburg, Germany

Every participant gets a voice – you will be involved via digital polls during the speeches

Increasing air travel and the challenges to reduce emissions

- Future demand in air travel
- Emissions of air travel
- New engine architecture to reduce emission for medium and long range flights

Dr.-Ing. David Krüger, Design Engineer, R&T Project Manager, Transmissions, Rolls-Royce Deutschland Ltd & Co KG, Blankenfelde-Mahlow, Germany

Efficiency-improvement with low-loss-gears by two different applications

- Low-loss-gears for a Wolfrom-transmission, reduced gear-mesh losses
- Wolfrom-transmission without carrier, no losses in the radial bearings for the planets
- Low-loss-gears for a normal planetary transmission (minus-type), efficiency-improvement in a special application

Prof. i.R. Dr.-Ing. Dr. h.c. Bernd-Robert Höhn, TUM emeritus of excellence, Michael Geitner, M. Sc., Research Associate, Institute of Machine Elements, Gear Research Center (FZG), TUM School of Engineering and Design, Technical University of Munich, Garching, Germany

12:00

Time for working lunch – meet & greet in the exhibition area, poster presentation area and GearArena



Opening of 5th International Conference on Gear Production 2023

Innovations in gear production

Moderation: Prof. Dr.-Ing. Christian Brecher, Full Professor, Chair of Machine Tools, Laboratory for Machine Tools and Production Engineering (WZL), Faculty for Mechanical Engineering, RWTH Aachen University, Germany

13:30

Complete machining of complex transmission parts – Chance or risk for series production?

- Reduction of lead time and logistic costs
- Increase of complexity for machine operators
- Impact on process stability and quality assurance

Dr.-Ing. Markus Brumm, Associated Partner, Dr.-Ing. Deniz Sari, Associated Partner/Head of Division/Self Employed, Menz et Cie. GmbH, Frankfurt, Germany

14:00

Advancing to the next level – Cost efficient roll-inspection back from end-of-line NVH to skiving process

- Key order correlation matrix: Limited negative regression, check of independency, hyperbolic distribution
- Skiving impact on gear NVH: Teeth ratio, lead feed rate, tool error
- NVH closed loop knowledge: End-of-line inspection, tool design and quality, skiving surface processing

Dipl.-Ing. Thomas Kleiber, Specialist Mechanical Engineering, Gears Process Engineering, Dr.-Ing. Benedikt Neubauer, Director Gears e-mobility, Schaeffler Technologies AG & Co. KG, Herzogenaurach, Germany

14:30

Digitisation of gear production devices in gear production machines: Gear hobbing units in turning machines

- Digitisation and gear production in conventional turning machines
- Challenges for device monitoring (inside of tooling machines)
- Cost optimisation through preventive maintenance and improvement of process reliability

Dipl.-Ing. Karl-Heinz Schoppe, MBA, Innovation Manager, Innovation and Marketing, Mimatic, Betzigau, Germany

15:00

Coffee break – meet & greet in the exhibition area, poster presentation area and GearArena

Software in gear production

Moderation: Dr.-Ing. Jens Brimmers, M. Sc., Chief Engineer Gear Department, Chair of Machine Tools, Laboratory for Machine Tools and Production Engineering (WZL), Faculty for Mechanical Engineering, RWTH Aachen University, Germany



16:00 Building a software toolchain for automated mass-customization of specific end-use gear unit parts using AM-driven design guidelines

- Design for additive manufacturing: Lowering part cost through lightweight, low-support design
- Design automation: Automating design processes to realize ETO parts with short lead times
- Topology Optimization based on load case analysis

Tobias Jagiella, M. Sc., Development Engineer, Dr.-Ing. Markus Wöppermann, Head of Division, Development Gear Units, SEW-EURODRIVE GmbH & Co KG, Bruchsal, Germany

16:30 Securing the quality chain by the networking with the gear suppliers

- Problems with diverse gear quality evaluations in production
- Establishing a solution for all locations and suppliers
- Benefits for the internal production and suppliers

Dr.-Ing. Herman Yakaria, Advanced Expert Gear Manufacturing, Simulation, ZF Friedrichshafen AG, Friedrichshafen, Germany

17:00 Generation method of polygonal shaped work pieces based on gear meshing theory: Calculation scheme of conjugate shapes against target polygons

- Novel manufacturing scheme of shafts and holes having polygonal cross sections
- Capable to be implemented on existing 5-axis CNC machine tools to enhance their productivity
- Some criteria to assist finding suitable tool shape are discussed

Daisuke Matsuura, Ph.D., Specially Appointed Associate Professor, Tsune Kobayashi, Ph.D., Specially Appointed Professor, JTEKT Innovative Generic Technology Joint Laboratory, Department of Mechanical Engineering, School of Engineering, Tokyo Institute of Technology, Japan; Hiroki Maki, Chief of Business Field, Gear Innovation Department, JTEKT Corporation, Kariya, Japan

End of the lectures



Get-together

17:30 Evening reception at the university

We are pleased to invite you to our evening reception at the end of the first conference day. Enhance your personal network and use the relaxed and informal atmosphere for deepening talks with other participants and speakers.



Source: Uli Benz/TUM

You are invited!

2nd Conference day Thursday, September 14th, 2023



Additive manufacturing

Moderation: Prof. Dr.-Ing. Karsten Stahl, Full Professor, Institute of Machine Elements, Director, Gear Research Center (FZG), TUM School of Engineering and Design, Technical University of Munich, Garching, Germany

08:30 Spur gear teeth reconstruction via direct laser deposition

- Direct laser deposition parameters for gear repair, such as scanning speed, laser power and powder feed rate.
- FZG load stages tests (K1 to K9) applied to repaired gears
- Teeth flank performance evaluation of direct laser deposition repairs for different load stages

Pedro Romio, M. Sc., Researcher, Faculty of Engineering, INEGI – Institute of Science and Innovation in Mechanical and Industrial Engineering, Porto, Portugal

09:00 Binder Jetting in gears:

Process design and tooth bending strength for gears made of 17-4PH

- Optimization of process parameters: Powder application, thermal processes, scaling
- Derivation of a SN-curve: Endurance/fatigue strength
- Tooth bending strength: Experimental pulsator tests, calculation of tooth root stresses

Lukas Klee, M. Eng., Team Leader Gear Manufacturing, Prof. Dr.-Ing. Thomas Bergs, Full Professor, Chair of Manufacturing Technology, Dr.-Ing. Jens Brimmers, M. Sc., Chief Engineer Gear Department, Chair of Machine Tools, Laboratory for Machine Tools and Production Engineering (WZL), Faculty for Mechanical Engineering, RWTH Aachen University, Germany

09:30 Indirect selective laser sintering: Modeling and analysis of surface densification by shot peening

- Porosity and surface integrity analysis of iSLS samples
- AM samples densification by shot peening
- Modeling of shot peening densification by FEM

Prof. Dr. Ronnie Rego, Associate professor, Izabel Criscuolo, Eng., Research assistant, Felipe Carneiro, Eng., Research assistant, Mechanical and Automation Department, Aeronautics Institute of Technology, São José dos Campos, Brazil



10:00 Coffee break – meet & greet in the exhibition area, poster presentation area and GearArena



Materials in gear production

Moderation: Dr.-Ing. Jens Brimmers, M. Sc., Chief Engineer Gear Department, Chair of Machine Tools, Laboratory for Machine Tools and Production Engineering (WZL), Faculty for Mechanical Engineering, RWTH Aachen University, Germany

11:00 Estimation of brittleness of CCH-steel via measurement of micro-VH and simultaneous FWHM distribution

- Definition of effective tooth flank form deviation
- FWHM drops while the hardness keeps harder value
- Tensile stress can appear in the case of heavily carburized and hardened gear teeth

Prof. Dr. Aizoh Kubo, President and Head of Innovation Management, Masahiro Nagae, PhD, Head of material testing, RIAS Research Institute of Applied Sciences, Kyoto, Japan

11:30 Investigation of the machinability of different quenched and tempered steels for the alternative process chain of planetary pinions in wind turbine gearboxes

- New quenched and tempered steels in different tempering states
- Investigation of various cutting substrates: Carbide, powder metallurgical high speed steel (PM-HSS), Fe-Co-Mo alloys
- Recommendations of process parameters for each material – substrate combination

Steffen Hendricks, M. Sc., Research Assistant, Gear Manufacturing, Prof. Dr.-Ing. Thomas Bergs, Full Professor, Chair of Manufacturing Technology, Dr.-Ing. Jens Brimmers, M. Sc., Chief Engineer Gear Department, Chair of Machine Tools, Laboratory for Machine Tools and Production Engineering (WZL), Faculty for Mechanical Engineering, RWTH Aachen University, Germany

12:00 Investigating different nodular graphite irons for the application of gears – a step towards standardization by using reasonable quality criteria

- Tooth root bending strength and slow speed wear behaviour
- Different variants of ADI-900-8 and GJS-700-2 tested
- Suitable quality criteria such as graphite density defined

Dr.-Ing. Jochen Lohmiller, Development Gear Units, Dr.-Ing. Florian Dobler, Head of Department, Materials Technology, Dr.-Ing. Markus Wöppermann, Head of Division, Development Gear Units – SEW-EURODRIVE GmbH & Co. KG, Bruchsal, Germany

12:30 Time for working lunch – meet & greet in the exhibition area, poster presentation area and GearArena

Modeling and tracing of gear manufacturing processes
Moderation: Dr.-Ing. Joachim Thomas, Managing Director, ZG Hypoid GmbH, Aschheim, Germany

14:00 Gear skiving with minimum twist errors

- Process simulation with workpiece quality in focus
- Tool design to minimize natural twist errors
- Axis control to minimize twist errors

Andreas Hilligardt, M. Sc., Research Associate, Prof. Dr.-Ing. habil. Volker Schulze, Director, Manufacturing and Materials Technology, wbk Institute of Production Science, Karlsruhe Institute of Technology (KIT), Germany

14:30 The next level of axial forming for a sustainable component and process chain design: Chipless manufacturing of helical gears

- Resource- and energy-efficient manufacturing processes
- Innovative alternative to machining operation in processing
- CO₂-reduction of geared drive components

Dr.-Ing. Nadezda Missal, Head of Innovation Center, Felss Group GmbH, Pforzheim, Germany

15:00 Enhancing gear performance through advanced mass finishing and DEM simulation

- Performance optimisation through topography, microstructure and introduced compressive stress
- Influence on fatigue behaviour and efficiency
- Additional results and outlook on the improvement potential using DEM simulation

Florian Reinle, M. Sc., Process engineer – Simulation & Tribology, Process Development, OTEC Präzisionsfinish GmbH, Straubenhardt, Germany; Davide Mangherini, Mech. H.S., Tribology and Surface Treatment Specialist, Materials & Sustainability Engineering, Stellantis N.V., Turin, Italy; Andrea Bongiovanni, M. Sc., PhD researcher, University of Turin, Italy

15:30 Coffee break – meet & greet in the exhibition area, poster presentation area and GearArena

Gear metrology

Moderation: Dr.-Ing. Jens Brimmers, M. Sc., Chief Engineer Gear Department, Chair of Machine Tools, Laboratory for Machine Tools and Production Engineering (WZL), Faculty for Mechanical Engineering, RWTH Aachen University, Germany



16:30 Quality inspection of special geometries measured with computed tomography – Evaluation of involute cylindrical gears according to ISO 1328-1

- Evaluation of measured point clouds with best practice methods
- Quality inspection of point clouds representing special geometries
- Presentation of results of evaluated plastic gears measured with computed tomography

Dr.-Ing. Karsten Lübke, Software development special geometries, Hexagon Metrology GmbH, Wetzlar, Dipl.-Ing. Klaus Stein, Research Engineer, Technology & Innovation, Fa. Werner Bauser GmbH, Wehingen, Germany

17:00 Large gear metrology

- Standards for the traceability of large gears
- Measurement strategies for the calibration of large gears: Multiple orientation technique, substitution measurement, Scanning vs. single-point measurements
- Calibration services for the industry: Large scale, gear measurand, measurement uncertainties

Dipl.-Ing. (FH) Achim Wedmann, Technical Engineer, Dr. rer. nat. Martin Stein, Head of office of the Presidential Board, Dr.-Ing. Karin Kniel, Head, Department „Coordinate Metrology“, Physikalisch-Technische Bundesanstalt Braunschweig, Germany

17:30 Optimizing of product quality and manufacturing processes in real time with vibration analysis

- Challenges in the optimization of product quality in gear manufacturing
- Functionality and structure of a real-time vibration analysis system
- Findings and savings opportunities from practice

Dipl.-Wirtsch.-Ing. (FH) Sebastian Held, Senior Sales Consultant, Sandro Moschkau, Product Owner, Portfolio Management, Schaeffler Digital Solutions GmbH, Chemnitz, Germany

18:00 End of the lectures

- Switch to the plenary session -

18:05 Dinner speech



What is the taste of gears like?

Dr.-Ing. Bernhard Bouché, Director of Research and Development Mechanics, Getriebbau NORD GmbH & Co. KG, Bargteheide, Germany

18:45 Organized bus transfer to the evening reception

Get-together



19:30 Evening reception at the 'Löwenbräukeller' in Munich

You can look forward to a special evening event. We cordially invite you to our evening reception at the 'Löwenbräukeller' and to enjoy tradition. Enhance your personal network and use informal atmosphere for deeper-going discussions.



Source: Löwenbräukeller Archiv



3rd Conference day

Friday, September 15th, 2023

Sustainability and surface integrity



Moderation: Prof. Dr.-Ing. Thomas Bergs, Full Professor, Laboratory for Machine Tools and Production Engineering (WZL), Chair of Manufacturing Technology, Faculty for Mechanical Engineering, RWTH Aachen University, Germany

08:30 Sustainable steel production: A life cycle assessment of hot-rolled bars

- Steel with high performance and low emissions is no conflict
- CO₂ as a property in the value chain
- Above 95 % recycled content ensures a high level of circularity

Patrik Ölund, M. Sc., SVP, Head of Group R&D, Elias Löthman, M. Sc., Senior R&D Engineer – Applications, Group R&D, Erik Claesson, M. Sc., Head of Automotive Segment, Ovako AB, Hofors, Sweden

09:00 Tooth root burnishing in the kinematics of gear skiving

- Highly productive mechanical optimization of the tooth root: deep rolling in skiving kinematics
- Reduced micro-notech effect due to smoothed roughness
- Increased tooth root strength due to mechanical surface strengthening

Patrick Fischmann, M. Sc., Research Associate, Andreas Hilligardt, M. Sc., Research Associate, Prof. Dr.-Ing. habil. Volker Schulze, Director, Manufacturing and Materials Technology, wbk Institute of Production Science, Karlsruhe Institute of Technology (KIT), Germany

09:30 Surface integrity of 20MnCr5 pinion gears manufactured through laser powder bed fusion

- Additive Manufacturing (AM): Use of cutting edge technology
- Surface Integrity: Achieving load carrying capability in additive manufacturing
- AM Finishing: How AM gears differ from wrought steel in regarding finishing operations

Guilherme Fernandes Guimarães, M. Sc., Researcher, Prof. Dr. Ronnie Rego, Professor, Prof. Dr. Alfredo Faria, Professor, Mechanical Engineering, Technological Institute of Aeronautics, São Paulo, Brazil

10:00 Coffee break – meet & greet in the exhibition area, poster presentation area and GearArena



Manufacturing processes



Moderation: Prof. Dr.-Ing. Thomas Bergs, Full Professor, Laboratory for Machine Tools and Production Engineering (WZL), Chair of Manufacturing Technology, Faculty for Mechanical Engineering, RWTH Aachen University, Germany

11:00 The Magic Cutter – An economical solution for bevel and hypoid gear production based on the modular principle

- Consolidation of blade geometry
- Lean production of bevel and hypoid gears: no cutter change by producing different gears from the same ratio
- Cost reduction: lower investment for tooling. Reducing of machine set-up time

Dr.-Ing. Christo Braykoff, Senior Manager Gear Calculation/Head of gear calculation, Engineering Axle, MAN Truck & Bus SE, Munich; Dr.-Ing. Joachim Thomas, Managing Director, ZG Hypoid GmbH, Aschheim, Germany

11:30 Application-oriented research on internal generating polishing

- Continuous generating process for internal gears
 - Influence of polishing process parameters
 - Evaluation by geometry, surface features, grinding burn
- Noritaka Fujimura, M. Sc.**, Engineering manager, NIDEC MACHINE TOOL CORPORATION, Ritto, Japan; Patrícia de Oliveira Löhner, M. Sc., Research Assistant, Gear Hard Machining, Gear Department, Laboratory for Machine Tools and Production Engineering (WZL), Faculty for Mechanical Engineering, RWTH Aachen University, Germany

12:00 Track and trace via fingerprint

- Marker free identification for process optimization
- Image based recognition of individual parts
- Inline tracking and tracing

Dr. Tobias Schmid-Schirling, Group Manager Inline Vision Systems, Norbert Saum, M. Sc., Development Engineer, Christoph Eberz, B. Sc., Development Engineer, Production control, Fraunhofer Institute for Physical Measurement Techniques IPM, Freiburg, Germany

12:30 Closing remarks

12:45 Awarding of the best presentation for young engineers by the conference president



Prof. Dr.-Ing. Karsten Stahl, Gear Research Center (FZG), TUM School of Engineering and Design, Technical University of Munich, Garching, Germany

Awarding of the best paper by

Dr.-Ing. Franz Völkel, Sr. Vice President R&D Bearings, Schaeffler Technologies AG & Co. KG, Herzogenaurach, Germany

+ Lunchtime snack



14:15 End of the conference

Reasons why you should visit the conference:

- Challenges of manufacturing of high performance gears
- Increasing the sustainability in gear manufacturing
- Best practices for manufacturing of new gear materials
- Digital solutions for the gear production
- Unique platform for international community of gear manufacturing experts

Presidency



Prof. Dr.-Ing. Thomas Bergs, Full Professor, Laboratory for Machine Tools and Production Engineering (WZL), Chair of Manufacturing Technology, Faculty for Mechanical Engineering, RWTH Aachen University, Germany



Prof. Dr.-Ing. Christian Brecher, Full Professor, Chair of Machine Tools, Laboratory for Machine Tools and Production Engineering (WZL), Faculty for Mechanical Engineering, RWTH Aachen University, Germany



Prof. Dr.-Ing. Karsten Stahl, Full Professor, Institute of Machine Elements, Director, Gear Research Center (FZG), TUM School of Engineering and Design, Technical University of Munich, Garching, Germany

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Gears interactive – new ideas, more added value for your business



GearArena

Gather hands-on experience in the transmission world!

Take a look at individual gear components, gain an insight into how the different components interact and compare design and workmanship! You will find an on-site contact person from the exhibitor to answer all your questions.



FZG lab tours

Get the chance to visit innovative laboratory facilities!

Seize the opportunity and visit the nearby test and laboratory facilities at the Gear Research Center (FZG). Several guided tours with different core topics offer opportunities of gaining deeper insights into a variety of innovative gear test rigs and laboratory equipment.

For registration meet at the FZG information desk during the conference.



Speakers meetup

Do you still have unresolved questions?

You can address your questions to the speakers right after the lecture during the coffee break. Take the chance to say hello to your favorite speakers and to connect with them. They will be available for at least 15 minutes after their session.



Poster exhibition with impulse talks

The poster exhibition is combined with a 5-minute talk.

The compact style of presentation called the '5-minute rapid' presentation, will provide you with all information in a clear, succinct manner. Poster presentations are scheduled during the coffee breaks. Presentation times will be announced on-site.



Two gear community nights

Your networking hotspot for the international gear community!

Enjoy the evening reception at the 'Löwenbräukeller' as well as another social event at the university. The 'Löwenbräukeller' is a restaurant with a long tradition offering modern Bavarian cuisine. Both – the get-together at the FZG and the brewery visit – offer you an excellent opportunity to network with your peers and catch up on trends.



Source: Löwenbräukeller Archiv

Venue:



Source: Scharger, Albert/TUM

Visit for free!

Parallel conferences

International Conference on Gears 2023

September 13 - 15, 2023, Garching/Munich, Germany



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Key topics:

- Sustainable gears with reduced carbon footprint and increased efficiency
- Optimization of gear design and geometry
- New test methods for endurance, efficiency and NVH behavior
- Numerical methods and multiscale simulation tools to improve gear performance
- Smart gears for condition monitoring systems and additional functions
- Life cycle assessment of geared drive systems

Presidency:

Prof. Dr.-Ing. Karsten Stahl, Full Professor, Institute of Machine Elements, Director, Gear Research Center (FZG), TUM School of Engineering and Design, Technical University of Munich, Garching, Germany

Dr.-Ing. Bernhard Bouché, Director of Research and Development Mechanics, Getriebbau NORD GmbH & Co. KG, Bargteheide, Germany

Prof. i.R. Dr.-Ing. Dr. h.c. Bernd-Robert Höhn, TUM emeritus of excellence, Gear Research Center (FZG), TUM School of Engineering and Design, Technical University of Munich, Garching, Germany

Dr.-Ing. Burkhard Pinnekamp, Head of Central Technology, RENK GmbH, Augsburg; President, Research Association for Drive Technology (FVA), Frankfurt, Germany

Further details and the final program can be found here:

www.vdi-gears.eu

Parallel conferences

5th International Conference on High Performance Plastic Gears 2023

September 13 - 15, 2023, Garching/Munich, Germany



Source: © HORST SCHOLZ GmbH & Co. KG

Key topics:

- Carbon footprint assessment of sustainable plastic materials
- Influence of manufacturing on gear quality and load capacity
- Recent calculation methods for load capacity and excitation behavior
- Recent test methods of plastic gears
- Optimizations of plastic gears

Presidency:

Prof. Dr.-Ing. Karsten Stahl, Full Professor, Institute of Machine Elements, Director, Gear Research Center (FZG), TUM School of Engineering and Design, Technical University of Munich, Garching, Germany

Conference Board:

Dr.-Ing. Marco Baccalaro, Chassis Systems Control, Gear Development and Test Conception/Realization, Robert Bosch GmbH, Heilbronn, Germany

Ingo Decker, M. Eng., Gear Development, Group Wide Components, Corporate Research & Development, ZF Friedrichshafen AG, Friedrichshafen, Germany

Dr.-Ing. Ulrich Kissling, President, KISSsoft AG, Bubikon, Switzerland

Dr.-Ing. Andreas Langheinrich, Development Drive Technology, Horst Scholz GmbH & Co. KG, Kronach, Germany

Further details and the final program can be found here:

www.vdi-wissensforum.de/02TA409023

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- (June 2023)

**5th International Conference on
Gear Production 2023**

VDI Wissensforum GmbH | VDI-Platz 1 | 40468 Duesseldorf | Germany

New trends for the gear
producing industry

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**Ticket includes entrance to
the parallel conferences:**
• Gears 2023
• High Performance Plastic
Gears 2023

✓ Please register for (price per person plus VAT):

5th International Conference on Gear Production 2023
September 13–15, 2023, Garching near Munich, Germany (02TA411023)
EUR 1,690.-

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www.vdi-wissensforum.de/en/terms-and-conditions/

Venue: Technical University of Munich, TUM School of Engineering and Design, Institute of Machine Elements, Gear Research Center (FZG), Boltzmannstr. 15, 85748 Garching, Germany, <https://www.mec.ed.tum.de/en/fzg/contact-and-directions/fzg/>
Hotel Reservation: A limited number of rooms have been reserved for conference participants. For booking please visit www.vdi-gears.eu where you will find a link for special room rates.

More hotels close to the conference venue may be found via our HRS service,
www.vdi-wissensforum.de/hrs

Information: The price includes conference documents (e-book), coffee breaks and beverages during breaks, lunches and two evening receptions.

Exclusive offer: All participants at this event are entitled to a free three-month trial VDI membership. (Offer applies exclusively to new members.)



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