

Call for Papers

International Conference on Gears 2023

Submit your abstract now!

Hand in your abstract covering related topics such as:

- Design, analysis and simulation of gears and transmissions
- Industrial applications
- Manufacturing
- Sustainability: resource efficiency, efficiency, circular economy
- Possibilities and potential of plastic and reinforced plastic gears
- Materials and tribology
- Simulation and testing

Deadline for abstract submission:

November 25th, 2022

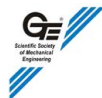
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+ Accompanying conferences
Gear Production 2023

High Performance
Plastic Gears 2023

+ Exhibition

Associated Organisations



An event organized by VDI Wissensforum
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September 13–15, 2023, Garching (near Munich), Germany

Purpose

The International Conference on Gears and Transmissions in Garching/Germany is an established platform for manufacturers of and researchers on gears and transmission systems. At the 10. issue of the conference in 2023 you can learn about the latest developments and research results from the powertrain industry and academia.

State-of-the-art gears transmit power and convert torque and speed with high efficiency and power density at low noise and therefore determine the performance of mechanical powertrains. The obligation, to adapt gears to new demands due to changed conditions, such as the evolution of mobility and the energy revolution, continues to challenge the powertrain industry and requires further improvements of gears. The presentations at the conference will show that gears do have potential to be exploited and how gears can contribute to meet increasing requirements regarding sustainability, such as energy efficiency, resource consumption and circular economy aspects.

The exhibition accompanying the conference will offer the opportunity to monitor the state-of-the-art of powertrain applications and to network with your peers.

We are looking forward **receiving your submission until November 25th, 2022.**

With best regards
on behalf of the programme committee

Your presidency


Conference President:

 **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/Vice President:

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

Conference Board/Vice President:

 **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

Conference Board/Vice President:

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

Scientific Support

VDI Society for Product and Process Design

The VDI Society Product and Process Design (VDI-GPP) and its technical divisions provide all sectors with verified knowledge on the design of products and processes and their optimization in terms of quality and the time- and cost-benefit ratio.

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Call for Submission of Contributions

Are you an expert in one of the areas of our topics? Then we call on you to make an active contribution to the success of the congress with a presentation.

Please submit a brief abstract of max. one A4 size sheet by November 25th, 2022 summarizing your presentation.

You can submit your paper at www.vdi-gears.eu.

Topics

1. Sustainability

- 1.1 Efficiency
- 1.2 Eessource efficiency
- 1.3 Environmentfriendly materials and lubrications
- 1.4 Circular economy (repair, reuse, recycle)

2. Gear applications

- 2.1 Transmissions for energy systems, e.g. power plants, wind turbines, water turbines etc.
- 2.2 Transmissions for mobility systems, e.g. gear boxes in the marine, aircraft, railway, automotive sectors and electric drivelines
- 2.3 Transmissions for production machinery, e.g. transportation in manufacturing lines
- 2.4 High speed applications
- 2.5 Gears in the context of digitalisation
- 2.6 Transmissions for new applications, e.g. medical technology, electric bicycles (pedelecs) and robots

3. Design, analysis and simulation of gears and transmissions

- 3.1 Gears (cylindrical, bevel and worm gears, beveloids) with optimized endurance, efficiency and/or NVH behavior
- 3.2 Optimized tooth profiles (e.g. asymmetric, cycloid gears, W/N-gears)
- 3.3 New materials, material properties from heat treatment, lubrication and coatings for improved properties (e.g. endurance, NVH, efficiency)
- 3.4 Tailored materials, graded materials, composite materials
- 3.5 Improved methods and/or simulation tools for lifetime prediction, NVH and efficiency

4. Gear production

- 4.1 Productivity increase by new concepts for machine and manufacturing processes with better simulation
- 4.2 Main time or throughput time – balancing of productivity and flexibility
- 4.3 Alternative, resource-efficient gear manufacturing chains (e.g. additive manufacturing, powder metallurgy, molding)
- 4.4 Gear Manufacturing in context of digitalization and industry 4.0
- 4.5 New manufacturing methods for optimized gear and gearbox performance
- 4.6 New materials and heat treatment processes
- 4.7 Simulation of manufacturing processes
- 4.8 Innovative Methods and Measurement Principles for Quality Inspection of Gears

5. Testing and monitoring

- 5.1 New test methods and/or procedures for endurance, efficiency and NVH behavior
- 5.2 Correlation of system and component tests
- 5.3 Time-scaling strategies for fatigue tests (e.g. wind turbine transmissions)
- 5.4 Condition monitoring and predictive maintenance
- 5.5 Sensorintegration

Submit your abstract now!

6. High performance plastic gears

- 6.1 Materials for plastic gears
- 6.2 Innovative plastic gear design
- 6.3 Testing of plastic gears
- 6.4 Calculation methods for plastic gears (life time, wear, temperature, TEHL, deflections)
- 6.5 Tribology of plastic gears

Types of Contribution

Your contribution can take the form of:

1. A full presentation:
If your paper is accepted you will be allowed to speak 20 minutes, with additional 5 minutes for discussion and the opportunity to respond to questions and comments from the audience.
2. A poster presentation:
The posters will be on view for discussion in the exhibition area.

Submission of Abstracts

- Title of the paper and/or poster
- An abstract summarizing your paper
- Information about the lecturer and co-authors: name, title(s), company address, department, affiliation, e-mail, telephone and fax number
- In which topic area(s) your presentation should be listed
- A statement specifying what is new in your presentation
- A bibliography of your previous publications about this subject
- How you would like to present your paper upon acceptance (full or poster presentation)

Please note that abstracts and final papers will be only accepted if they are uploaded to the conference's website:

www.vdi-gears.eu

All submissions must be either Microsoft WORD (DOC or DOCX) or PDF files. **Your abstract must be received by November 25th, 2022.**

Based on the abstract, the program committee will decide on the acceptance and order of presentation in the conference program. If you receive notification of acceptance, you will also receive instructions concerning manuscripts and a question form to be returned to the VDI Wissensforum. The accepted papers (full papers and posters) will be printed in the conference proceedings provided to the conference participants.

Best Presentation Award for Junior Engineers

The best lecture of one Junior Engineer (up to 30 years old) will be honoured with the Best Presentation Award for Junior Engineers "Gears 2023". Speakers, who would like to participate in this contest, are requested to state their date of birth with their contact details.

Schedule

- Deadline for submission of abstracts: **November 25th, 2022**
- Notification of acceptance: **Mid-February 2023**
- Final program available in: **May 2023**
- Deadline for submission of manuscripts: **June 2nd, 2023**
- Deadline for submission of manuscripts for peer review and publication in the journal *Forschung im Ingenieurwesen*: **March 24th, 2023** (www.springer.com/journal/10010)

Possibility to publish research results in a scientific journal

Publish your research results in a scientific journal

The scientific journal *Forschung im Ingenieurwesen* (Research in Engineering) gives you the opportunity to publish an extended version of your conference publications.

Expand your conference contribution by going into more detail about the underlying theories, methodology used and the results of your study. You can then submit your manuscript via the following link, www.editorialmanager.com/fiin, (online submission) taking the formal submission requirements into account.

If your contribution passes the initial publisher's review, it will be further reviewed by independent experts in a double-blind process (peer review). www.springer.com/journal/10010

Manuscripts for peer review must be submitted by March 24th, 2023, the latest.

Conference Fee

Speakers (one person per paper) will receive a 30 % discount on the regular conference fee. Discounts cannot be accumulated. Travel expenses will not be paid. Participants can visit the accompanying conferences free of charge.

For question contact

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Date and Venue

September 13–15, 2023

Technical University of Munich
TUM School of Engineering and Design
Institute of Machine Elements
Gear Research Center (FZG)
Boltzmannstr. 15
85748 Garching, Germany



Source: Uli Benz/TUM

Call for Papers
International Conference on Gears 2023

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Europe invites the world!

You need help?
Please contact us!

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www.vdi-gears.eu

Would you like to take
part as a participant? –
Register now

✓ Please register for (Price per Person plus VAT):

International Conference on Gears 2023

September 13-15, 2023, Garching near Munich, Germany (02TA210023)

EUR 1,690.–

Participation fee for personal VDI members and members of the associated organisations **save EUR 50.- each conference day**. VDI membership no.*: _____

* For this price category, please state your VDI membership number or the name of the associated organisation (outlined at the homepage www.vdi-gears.eu)

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Participants with an invoice address outside of Austria, Germany or Switzerland are kindly requested to pay by credit card. **Please don't send your credit card details via email, fax or post. Please book your ticket at www.vdi-gears.eu. Transferring your credit card details via our website ensures your details are encrypted and security of your data is guaranteed.**

General terms and conditions of VDI Wissensforum can be found online at:
www.vdi-wissensforum.de/en/terms-and-conditions/

Conference Venue:

Gear Research Centre, Chair of Machine Elements, TUM School of Engineering and Design, Technical University of Munich, Garching, Boltzmannstr. 15, 85748 Garching, Germany, www.mec.ed.tum.de/en/fzg/home/

Hotel Reservation: Hotels close to the conference venue may be found via our HRS service www.vdi-wissensforum.de/hrs

Services: The price includes beverages during breaks, lunch as well as the evening function. Participants will have online access to the congress documents (E-Book).

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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