

Gleason Hosts WZL Gear Conference USA

Randy Stott, Managing Editor

The 5th WZL Gear Conference USA took place October 22-23 at the Gleason Works facility in Rochester, NY. More than 130 gear technologists participated in the event, which included two days of technical presentations, guided technology demonstrations in the Gleason factory and various networking events.

The conference is a smaller version of the WZL Gear Conference, where members of the WZL Gear Research Circle have gathered annually to discuss the latest research in gear design, manufacturing and testing for more than 50 years.

Day one of the conference began with welcoming remarks by WZL's Prof. Dr.-Ing. Fritz Klocke and Gleason's VP Dr. Hermann J. Stadtfeld, CEO John J. Perrotti and VP Brian M. Perry. Each day of the event included guided tours of the Gleason factory, where Gleason experts explained various technologies and processes used in gear manufacturing. Attendees were divided into small groups, and each group visited nine stations each day, including stops in Gleason's R&D lab, gear inspection lab and machine tool assembly area. At each stop, visitors were encouraged to interact with the experts and ask questions related to the technology being demonstrated.



Prof. Dr.-Ing. Fritz Klocke, Director of the Chair of Manufacturing Technology at WZL-RWTH Aachen University, delivers the opening remarks at the 5th WZL Gear Conference USA.



Most of the participants of the WZL Gear Conference USA gathered in the Gleason auditorium on day two for this group photo.

After the factory tours, Gleason hosted a networking lunch, where visitors could interact with each other, with Gleason staff and with members of the WZL, who demonstrated the research circle's software capabilities during the lunch periods.

The afternoons were devoted to the presentation of technical papers and the exchange of knowledge. Visitors gathered in Gleason's auditorium to hear presentations on a wide variety of gear-related topics, including:

- Gear Research Activities at WZL, RWTH Aachen University, by Dr.-Ing. Markus Brumm
- Non-Involute Gearing, its Function and Manufacturing Compared to Established Systems, by Dr. Hermann J. Stadtfeld and Jasmin Saewe of Gleason
- Gear Design and Operating Performance, by Prof. Dr.-Ing. Fritz Klocke
- Virtualization and Cross-Linking in Production, by Prof. Dr.-Ing. Christian Brecher
- Pulsating Helical Gears and Calculation of the Tooth Root Load Carrying Capacity, by Dipl.-Ing. Markus Rüngeler
- Load Distribution, Root Stress and Efficiency Analysis of Face-Hobbed and Face-Milled Hypoid Gears, by Dr. Ahmet Kahramann and Dr. David Talbot of Ohio State University
- Robust Bevel Gear Design via Variational Calculus, by Dipl.-Ing. Peter Knecht
- Tooth Contact Analysis of Asymmetric Planet Gear Stages, by Dipl.-Ing. Daniel Piel
- Dynamic Transmission Error Measurement in Gear Applications, by Dr.-Ing. Markus Brumm



Gleason's Anthony Norselli describes some of the history and development of manufacturing tools for straight bevel and face gears, from traditional Coniflex cutting with interlocking cutters to Coniflex Plus and Coniface cutting on modern Phoenix machines.

- Trends in Bevel Gear Development, by Dr.-Ing. Markus Brumm
- Gleason 4.0, by Dr. Hermann J. Stadtfeld
- Smart Factories – Challenges and Potentials, by Prof. Dr.-Ing. Fritz Klocke
- Gear Finish Hobbing – Potentials of Several Cutting Materials, by Dipl.-Ing. Deniz Sari
- Process Analysis of Gear Honing of Transport Transmission Gears, by Dipl.-Ing. Marco Kampka
- Development of a Cutting Force Model for Generating Gear Grinding, by Dipl.-Ing. Florian Hübner
- Improvements in Manufacturing Related Surface Strength Increase and Rolling Contact Fatigue Simulation, by Dipl.-Wirt.-Ing. Christoph Löpenhaus