2011 AGMA Fall Technical Meeting

OCTOBER 30–NOVEMBER 1, CINCINNATI, OHIO

The AGMA Fall Technical Meeting provides an opportunity to share ideas with others on the design, analysis, manufacturing and application of gears, gear drives, and related products, as well as associated processes and procedures.

Session I—Manufacturing and Inspection

A New Way of Face Gear Manufacturing, Dr. Hermann Stadtfeld, The Gleason Works.

Generating Gear Grinding—New Possibilities in Process Design and Analysis, Fritz Klocke, Christof Gorgels and Jan Reimann, RWTH Aachen University.

Towards an Improved AGMA Accuracy Classification System on Double Flank Composite Measurements, Ernie Reiter, Web Gear Services, Ltd.

Multifunctional Gear Machining, Brian Cluff, Star SU LLC.

First International Involute Gear Intercomparison, F. Härtig, K. Kniel and S. Kraul, Physikalisch-Technische Bundesanstalt.

Session II—Design Considerations

Epicyclic Load Sharing Map—Application as a Design Tool, Avinash Singh, GM Powertrain, General Motors Company. *Gear Tooth Single vs. Reversal Bending Life Evaluation,* Joe Chen, SAIC Motor.

The Effects of Helix Angle on Root Stresses of Helical Gears, Donald R. Houser and Aaron Thaler, The Ohio State University.

A Comprehensive System for Predicting Assembly Variation with Potential Application to Transmission Design, Kenneth W. Chase and Carl D. Sorensen, Brigham Young University.

Standardization of Load Distribution Evaluation: Uniform Definition of KHß for Helical Gears, Dr.-Ing. Khashayar Nazifi, Zollern dorstener Antriebstechnik.

New Methods for the Calculation of the Load Capacity of Bevel and Hypoid Gears, B.-R. Höhn, K. Stahl, K. Michaelis and Ch. Wirth, FZG.

Marine Reversing Main Gear Rating Factor vs. Number of Loading Cycles and Shrink Fit Stress, E. William Jones, Steven R. Daniewicz and Shakhrukh Ismonov, Mississippi State University.

Session III—Micropitting

The Application of the First International Calculation Method for Micropitting, Dr. Ulrich Kissling, KISSsoft AG.

Investigations on the Flank Load Carrying Capacity in the New Developed FZG Back-to-Back Test Rig for Internal Gears B.-R. Höhn, K. Stahl, P. Oster, J. Schudy, T. Tobie and B. Zornek, Gear Research Centre (FZG)

AGMA 925-A03 Predicted Scuffing Risk to Spur and Helical Gears in Commercial Vehicle Transmissions Dr. Carlos H. Wink, Eaton Corporation—Vehicle Group.

Micropitting—a Real Damage? Testing, Standards and Practical Experience Dr.-Ing. Toni Weiss and Dr.-Ing. Burkhard Pinnekamp, Renk AG.

Gear Lubrication—Stopping Micropitting by Using the Right Lubricant Michael Hochmann and Hermann Siebert, Klüber Lubrication München KG *Morphology of Micropitting* Robert L. Errichello, GEARTECH.

Session IV—Drive Design and Application

Longitudinal Tooth Contact Pattern Shift John Amendola, Sr., John B. Amendola, III and Dereck Yatzook, Artec Machinery *Convoloid Gearing Technology—The Shape of the Future.*

Bernard E. Berlinger, Jr. and Dr. John Colbourne, Genesis Partners, LP

Case Study Involving Surface Durability and Improved Surface Finish Greg Blake and Jeff Reynolds, Rolls-Royce

Gearbox Service Life—A Matter of Mastering Many Design Parameters Hans Wendeberg, SKF

Simulation of Wear for High Contact Ratio Gear—A Mixed FE and Analytical Approach, G. Venkatesan, M. Rameshkumar and P. Sivakumar, Ministry of Defense.

Bearing Contribution to Gearbox Efficiency and Thermal Rating: How Bearing Design Can Improve the Performance of a Gearbox, Armel Doyer, SKF.

Session V—Heat Treatment

Integration of Case Hardening into the Manufacturing-Line: "One Piece Flow," Dr. Volker Heuer, Dr. Klaus Löser, Gunther Schmitt and Karl Ritter, ALD Vacuum Technologies GmbH.

Induction Hardening of Gears with Superior Quality and Flexibility Using Simultaneous Dual Frequency (SDF), Christian Krause and F. Biasutti, eldec Schwenk Induction GmbH and M. Davis, eldec Induction U.S.A.

Controlling Gear Distortion and Residual Stresses During Induction Hardening, Zhichao Li and B. Lynn Ferguson, Deformation Control Technology, Inc.

Atmosphere Furnace Heating Systems, John Gottschalk, Surface Combustion, Inc.

Manufacturing and Processing of a New Class of Vacuum-Carburized Gear Steels with Very High Hardenability, Chris Kern, Jim Wright, Jason Sebastian and Jeff Grabowski, QuesTek Innovations LLC, and Trevor Jones and Don Jordan, Solar Atmospheres Inc.