

July 30–August 2—CAR Management Briefing Seminars

Grand Traverse Resort, Traverse City, Michigan. Initiated by the University of Michigan in 1965, the first Center for Automotive Research Management Briefing Seminars (CAR MBS) hosted only 30 people. When the industry was at its highest number of employment, the event grew to attract more than 1,400 attendees annually from more than 35 states and 15 countries—representing industry, academia, media and the government. CAR MBS leads the industry in providing a context for auto industry stakeholders to discuss critical issues and emerging trends while fostering new industry relationships in daily networking sessions. Seminars include targeted sessions on manufacturing strategy, vehicle lightweighting, connected and automated vehicles, advanced powertrain, supply chain, sales forecasting, purchasing, talent and designing for technology. For more information, visit www.cargroup.org.

August 6–8—SAE Fundamentals of Modern Vehicle Transmissions Seminar

Troy, Michigan. Starting with a look at the transmission's primary function—to couple the engine to the driveline and provide torque ratios between the two—this updated and expanded seminar covers the latest transmission systems designed to achieve the most efficient engine operation. Current designs, the components and sub-systems used, their functional modes, how they operate, and the inter-relationships will be discussed. For more information, visit www.sae.org/learn/content/99018.

August 21–22—Fraunhofer CMI: Fundamentals of Gear and Transmission Technology

Brookline, MA. In this course on gear and transmission technologies, basic properties of gears as machine elements, gear manufacturing technologies, methods for quality control, as well as testing and analysis of load carrying capacity and running behavior are presented. The course focuses on methods of interpretation, analysis and solving challenges in the design, manufacturing and application of gears. The course is meant for designers and manufacturing engineers working in gear and transmission technology, as well as for shop floor and department managers involved with the production and sale of gears and gearboxes. Fee is \$1,495. For more information, visit www.cmi.fraunhofer.org.

September 10–15—IMTS 2018

Chicago, Illinois. More than 115,000 industrial decision-makers attend the International Manufacturing Technology Show to get ideas and find answers to their manufacturing problems. They will see new technology demonstrated in areas like aerospace, automotive, machine shop, medical and power generation. The IMTS Conference Program will focus on six topics in 2018 including Process Innovations, Alternative Manufacturing, Plant Operations, Automation, Quality and Industry 4.0/IIoT. Co-located shows include Hannover Messe USA: Integrated Automation, Motion & Drives, Surface Technology, ComVac and Industrial Supply. The Smartforce Student Summit will once again promote student and educator attendance and other familiar attractions such as AMT's Emerging Technology Center will highlight the latest manufacturing technologies. For more information, visit www.imts.com.

September 11–14—Basic Training for Gear Manufacturing (Fall)

Hilton Oak Lawn, Chicago, Illinois. Learn the fundamentals of gear manufacturing in this hands-on course. Gain an understanding of gearing and nomenclature, principles of inspection, gear manufacturing methods, and hobbing and shaping. Utilizing manual machines, attendees will develop a deeper breadth of perspective and understanding of the process and physics of making a gear as well as the ability to apply this knowledge in working with CNC equipment commonly in use. Although the Basic Course is designed primarily for newer employees with at least six months' experience in setup or machine operation, it has proved beneficial to quality control managers, sales representatives, management, and executives. Instructors include Dwight Smith, Peter Grossi and Allen Bird. For more information, visit www.agma.org.

September 17–20—Gear Dynamics and Gear Noise Short Course 2018

Columbus, Ohio. The Gear Dynamics and Gear Noise Short Course will be offered this year on the Ohio State campus from September 17 to 20, 2018. It has been offered for over 38 years and is considered extremely valuable for gear designers and noise specialists who encounter gear noise and transmission design problems. Attendees will learn how to design gears to minimize the major excitations of gear noise: transmission error, dynamic friction forces and shuttling forces. Fundamentals of gear noise generation and gear noise measurement will be covered along with topics on gear rattle, transmission dynamics and housing acoustics. This course includes extensive demonstrations of specialized gear analysis software in addition to the demonstrations of many Ohio State gear test rigs. A unique feature of the course is the interactive workshop session that invites attendees to discuss their specific gear and transmission noise concerns. For more information, visit www.nvhgear.org.

September 20–21—Fundamentals of Worm & Crossed Axis Helical Gearing

Alexandria, Virginia. Provides an introduction and emphasize the differences between parallel (the experience base) axis and worm and crossed axis helical gears. Describe the basics of worm and crossed axis helical gears, their fundamental design principals, application guidelines and recommendations, lubrication requirement, a discussion of accuracy and quality and summarize with a brief review of common failure modes. The instructor is William "Mark" McVea. For more information, visit www.agma.org.

September 27–29—Epicyclic Gear Systems: Application, Design and Analysis

Rosemont, Illinois. Learn and define the concept of epicyclic gearing including some basic history and the differences among simple planetary gear systems, compound planetary gear systems and star drive gear systems. Cover concepts on the arrangement of the individual components including the carrier, sun, planet, ring and star gears and the rigid requirements for the system to perform properly. This session provides an in-depth discussion of the methodology by which noise and vibration may be optimized for such systems and load sharing guidelines for planet load sharing. The instructor is Raymond Drago. For more information, visit www.agma.org.