

**September 9–13—AGMA Basic Training for Gear Manufacturing (Fall)** Hilton Oak Lawn, 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, 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. This course is taught at Daley College. A shuttle bus is available each day to transport students to and from the hotel. 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. Course instructors are Dwight Smith, Allen Bird and Peter Grossi. For more information, visit [www.agma.org](http://www.agma.org).

### **September 11–12—Digital Industry USA 2019**

Louisville, Kentucky. Digital Industry USA 2019 has partnered with leading industry associations to provide educational content for conference sessions and expert panels during the inaugural event. Leading industry association partners include, CSIA (Control System Integrators Association), ISA (International Society of Automation) and MESA (Manufacturing Enterprise Solutions Association) International. During the trade show's on-floor conference program, industry visionaries will showcase field experiences and case studies that feature real IIoT (Industrial Internet of Things) integration across their organizations. For more information, visit [digitalindustry.com](http://digitalindustry.com).

### **September 16–21—EMO Hannover 2019 Hanover, Germany.**

A new exhibition area IoT in production underscores its claim to position itself as a platform for networking in production. Dr. Wilfried Schäfer, managing director of EMO organizer VDW (German Machine Tool Builders' Association), explains: "IoT in production provides a complete overview of the central aspects of networking, including data security, data analysis, process monitoring, predictive maintenance, smart data management and much more." Robotics and automation are among the key technologies for ensuring lasting international success. Cobots interact directly with humans and give manufacturing companies a competitive edge in the market. At EMO Hannover 2019, trade visitors will find countless automation solutions and collaborative robots aimed at enhancing productivity. Automation and digitalization can be used to make manufacturing processes more efficient. For more information, visit [www.emo-hannover.de](http://www.emo-hannover.de)

### **September 17–19—AGMA Fundamentals of Gear Design and Analysis**

Hilton Oak Lawn, Illinois. Gain a solid and fundamental understanding of gear geometry, types and arrangements, and design principles. Starting with the basic definitions of gears, conjugate motion, and the Laws of Gearing, learn the tools needed to understand the inter-relation and coordinated motion operating within gear pairs and multi-gear trains. Basic gear system design process and gear measurement and inspection techniques will also be explained. In addition, the fundamentals of understanding the step-wise process of working through the iterative design process required to generate a gear pair will be reviewed. Learn the steps and issues involved in design refinement and some manufacturing considerations. An explanation of basic gear measurement techniques, how measurement equipment and test machines implement these techniques, and how to interpret the results from these basic mea-

urements will also be covered. The instructor is William "Mark" McVea. For more information, visit [www.agma.org](http://www.agma.org).

**September 17–19—CTI Symposium China** Shanghai, China. The next International CTI Symposium "Automotive Drivetrains, Intelligent & Electrified" will gather in China for the sixth time to exchange ideas on transmission technology developments. With lectures, presentations, keynote speeches and the satellite exhibition "Transmission Expo," the event will provide a powerful framework for high-ranking Chinese and international automobile and transmission manufacturers and suppliers. The focus will rest on strategies, new components and development tools for conventional and alternative drives. China is now by far the world's largest market for plug-in hybrid and electric vehicles. Supported by state programs and directives, NEVs (New Energy Vehicles) aim to cut emissions in urban conglomerations and make the land less dependent on oil imports. By 2020, the plan is to get more than five million electric automobiles on Chinese roads. For more information, visit [drivetrain-symposium.world/cn/registration/](http://drivetrain-symposium.world/cn/registration/).

### **October 7–10—Gear Dynamics and Gear Noise**

**Short Course** Ohio State University, Columbus, Ohio. The purpose of this unique short course is to provide a better understanding of the mechanisms of gear noise generation, methods by which gear noise is measured and predicted and techniques employed in gear noise and vibration reduction. Over the past 37 years more than 1,950 engineers and technicians from over 360 companies have attended the Gear Noise Short Course. A popular feature of this course is the interspersing of demonstrations with lectures. The extensive measurement and computer software capabilities of the Gear and Power Transmission Research Laboratory allow instructors to do this in a simple and non-commercial manner. The Case History Workshop (Day 3) allows course instructors and participants to interact and to discuss gear noise and dynamics case histories presented by course attendees. Throughout the course, laboratory and computer software demonstrations are used to illustrate gear noise measurement and analysis techniques. The facilities of the Gear and Power Transmission Research Laboratory and the Acoustics and Dynamics Laboratory are used for these demonstrations. For more information, visit [www.nvhgear.org](http://www.nvhgear.org).

### **October 15–17—Motion + Power Technology Expo**

Cobo Hall, Detroit, Michigan. The Motion + Power Technology Expo (formerly Gear Expo) connects the top manufacturers, suppliers, buyers, and experts in the mechanical, electrical, and fluid power industries. Over three action-packed days in Detroit, end-users can shop the latest technology, products and services, and compare benefits side-by-side. Prominent exhibitors will conduct demos and host information-rich seminars as well as offer-up technical expertise. The education courses at the Motion + Power Technology Expo offer exclusive access to a wide-ranging series of technical seminars taught by industry leaders and insiders. From novice to expert, there are courses for all career-levels. Each course is conveniently situated just steps from the Expo floor—so you can combine classroom learning with hands-on experience with the equipment. Admission to the exhibit hall is included with your seminar registration. For more information, visit [www.motion-powerexpo.com](http://www.motion-powerexpo.com).