

## December 3–5—AGMA Epicyclic Gear Systems: Application, Design and Analysis

Seattle, Washington. 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. Critical factors such as load sharing among the planet or star gears, sequential loading, equal planet/star spacing, relations among the numbers of teeth on each element, calculation of the maximum and optimum number of planet/star gears for a specific system will be covered. 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 and Steve Cymbala. For more information, visit [www.agma.org](http://www.agma.org).

## December 9–12—CTI Symposium Germany 2019

Berlin, Germany. CTI Symposium Germany provides the latest automotive transmission and drive engineering for passenger cars and commercial vehicles. The international industry event delivers the appropriate platform to find new partners for purchase and sales of whole systems and components. Automobile manufacturers, transmission and component companies give an overview and outlook on technical and market trends including digital manufacturing, IoT, zero-emissions, electric vehicles, hybrid transmissions and more. Speakers include representatives from Porsche, Volkswagen, StreetScooter, Continental, BorgWarner, Magna Powertrain and more. For more information, visit <https://drivetrain-symposium.world/>.

**January 6–10—SciTech 2020** Orlando, Florida. From its creation in 1963, the American Institute of Aeronautics and Astronautics (AIAA) has organized conferences to serve the aerospace profession as part of its core mission. Spanning over 70 technical discipline areas, AIAA's conferences provide scientists, engineers, and technologists the opportunity to present and disseminate their work in structured technical paper and poster sessions, learn about new technologies and advances from other presenters, further their professional development, and expand their professional networks that furthers their work. Five focus areas include science and technology, aviation, space, propulsion and energy/defense. For more information, visit <https://scitech.aiaa.org/>.

**January 13–15—A3 Business Forum 2020** Orlando, Florida. The Association for Advancing Automation (A3) Business Forum is the world's leading annual networking event for robotics, vision & imaging, motion control, and motor professionals. Over 650 global automation leaders attended the 2018 show. The event includes keynote and breakout sessions on the human exploration of Mars, a global economic outlook, automation market update, trends in robotics, responsible artificial intelligence and others to be announced. Networking opportunities include a golf scramble, a wellness walk, and a first timer's reception. For more information, visit [www.a3automate.org](http://www.a3automate.org).

## January 28–30—AGMA Gear Manufacturing and Inspection

Garden Grove, California. Attendees will discover key factors in the inspection process that lead to better design of gears, develop a broad understanding of the methods used to manufacture and inspect gears and interpret how the resultant information can be applied and interpreted in the design process. The class will be from 8:00 am–5:00 pm each day. This course also includes a tour of Western Precision Aero in Garden Grove, CA. Participants will be required to fill out paperwork prior to the tour and must be US citizens. AGMA will distribute the paperwork upon registration. Gear design engineers, management involved with design, maintenance, customer service, and sales should consider attending the event. Ray Drago, chief engineer of Drive Systems Technology, Inc., will be the instructor. For more information, visit [www.agma.org](http://www.agma.org).

## January 28–30—IPPE 2020

Atlanta, Georgia. The International Production & Processing Expo is the world's largest annual poultry, meat and feed industry event of its kind. A wide range of international decision-makers attend this annual event to network and become informed on the latest technological developments and issues facing the industry. Combining the expertise from the American Feed Industry Association, North American Meat Institute and U.S. Poultry & Egg Association, IPPE will also feature more than 200 hours of dynamic education sessions focused on the latest industry issues. The International Production & Processing Expo (IPPE) is a collaboration of three shows—International Feed Expo, International Meat Expo and the International Poultry Expo—representing the entire chain of protein production and processing. For more information, visit [ippexpo.org](http://ippexpo.org).

## February 3–7—World of Concrete 2020

Las Vegas, Nevada. Original equipment manufacturers from around the world and exclusive U.S. distributors of equipment, tools, products and services for the commercial construction, concrete and masonry industries attend World of Concrete. The show attracts approximately 1,500 exhibitors and occupies more than 700,000 net square feet of indoor and outdoor exhibit space. World of Concrete is the premier event for the commercial construction trades. Education tracks include engineering, safety and risk management, general business, business and project management and concrete 101. Interactive workshops include trainer training, construction boot camp, sales and more. For more information, visit [www.worldofconcrete.com](http://www.worldofconcrete.com).

## February 18–20—AGMA Fundamentals of Worm and 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. Class will take place at AGMA Headquarters and class times will be 8:00 am–5:00 pm each day. The course will be instructed by William "Mark" McVea, president and principal engineer at KBE+, Inc. For more information, visit [www.agma.org](http://www.agma.org).