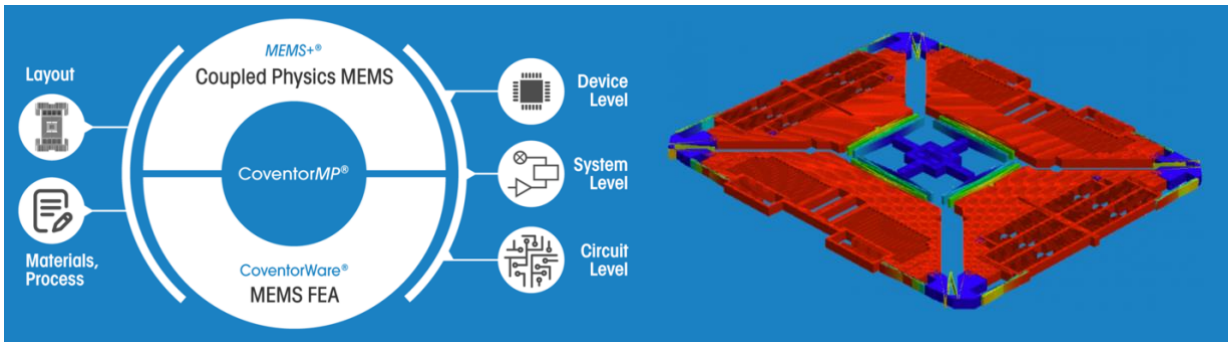
Special Seminar



Coventor's Advanced Software Solutions: Understanding MEMS

Dr. Gerold Schröpfer
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1:00-2:00 pm Pacific

Abstract: MEMS designers are confronted with a number of challenges, such as complex coupled three dimensional multi-physics phenomena, unknown material property data, non-standard manufacturing processes, large process tolerances, chip and package integration issues, interface & co-design of appropriate control electronics, and last but not least a variety of reliability issues. Software modeling using MEMS design software is essential for solving these challenges, because it allows designers to fundamentally understand the underlying behavior of MEMS devices. This modeling is also critical to bringing MEMS commercial products to market, and beneficial during advanced academic research. In this discussion. we will review a methodology for advanced MEMS design using a state-of the-art MEMS design flow based upon CoventorMP® software and describe the concept of MEMS digital qualification and how it can contribute to advanced MEMS development. To conclude this discussion, we will present realistic case studies that demonstrate how to successfully model feasibility, manufacturability, package effects, reliability (shock analysis) and other complex MEMS performance problems at the device and system level.

Bio: Dr. Gerold Schröpfer is Technical Director for Europe and for the MEMS business operations worldwide. For the last ten years, Gerold has been responsible for overseeing Coventor's European MEMS and semiconductor business activities, including the management of R&D programs, industrial and academic partnerships, and external business relationships. Dr. Schröpfer has more than 20 years of relevant experience in MEMS and semiconductor design, process development and EDA product development. Prior to his current position, Gerold carried out pioneering work in the design and development of inertial, tire pressure and magnetic sensors at Sensitec and SensoNor (Infineon). Dr. Schröpfer holds a PhD in engineering science from the University of Neuchâtel (Switzerland) and Franche-Comté (France), as well as a degree in physics from the University of Giessen (Germany).