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Showcasing Multiphysics Simulation of 2019: Audio Entertainment Systems, Innovative Microwave Heating and Electrification of Vehicles

BURLINGTON, MA (Jan 14, 2020) – COMSOL announces the availability of Multiphysics Simulation 2019, a technical magazine featuring COMSOL Multiphysics® users in industry, research, and education, and their use of multiphysics simulation in practical and innovative ways.

The 2019 edition of the annual magazine contains 10 new articles, with contributors from Volkswagen, ITW, HARMAN, ABB, RadiaSoft, Pinggao Group, Signal Microwave, University of Campinas and Virginia Commonwealth University, sharing how they are using multiphysics simulation for design improvement, product and process optimization, and in education.

A common theme throughout this issue is the use of simulation applications. For instance, HARMAN International distributes applications for the design of audio entertainment systems in luxury vehicles throughout the organization to streamline their development workflow. Volkswagen accelerated the design process for electric motor by building and distributing simulation applications that evaluate the strengths of rotor lamination. ITW developed an RF application for the design and development of a "smart oven" that uses solid-state, convection heating. Applications enable their team to easily test different design parameters, such as frequency and phase response. RadiaSoft LLC built a simulation application that enables team members from different areas of expertise to collaboratively design optimized synchrotron vacuum chambers for a particle accelerator. In a classroom setting a VCU professor developed applications that enable electrical engineering students to interactively visualize electromagnetics concepts.

*Cover image courtesy HARMAN International*

**Topic areas:**

• Electric motors

• Instrument transformers

• Simulation applications for teaching

• Solid-state microwave heating

• Luxury vehicle audio systems

• Brillouin optomechanics

• High-voltage distribution

• STOP analysis

• Synchrotron brightness

• 5G components

**Availability**

*Multiphysics Simulation* is available as an online magazine and can be viewed digitally or downloaded in PDF format at: [Multiphysics Simulation 2019](https://www.comsol.com/offers/multiphysics-simulation-2019)

**About COMSOL**

[COMSOL](https://www.comsol.com/) is a global provider of simulation software for product design and research to technical enterprises, research labs, and universities. Its COMSOL Multiphysics® product is an integrated software environment for creating physics-based models and simulation apps. A particular strength is its ability to account for coupled or multiphysics phenomena. Add-on products expand the simulation platform for electromagnetics, structural, acoustics, fluid flow, heat transfer, and chemical applications. Interfacing tools enable the integration of COMSOL Multiphysics® simulations with all major technical computing and CAD tools on the CAE market. Simulation experts rely on COMSOL Compiler™ and COMSOL Server™ to deploy applications to their design teams, manufacturing departments, test laboratories, and customers throughout the world. Founded in 1986, COMSOL has 19 offices worldwide and extends its reach with a network of distributors.

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