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Rotordynamics in Automotive Engineering

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Message from the Guest Editors

Dear Colleagues,

Progress in engine and powertrain technologies within automotive engineering is mainly driven by trends related to electric drives, hydrogen power, and environmental concerns. The advances are primarily correspond to efficiency of mechanical layouts, downsizing, energy requirements, and environmental footprints. Passenger cars and commercial vehicles raise engineering problems that are subject to changing standards regarding environmental restrictions, power sources, and customer needs. Alternative solutions are sought via multiphysical models, advanced physics, oil-free technology, including gas lubrication and biolubricants, and smart features in machine components, including smart materials.

For this Special Issue, we are seeking original contributions related to emerging trends in the dynamics of rotating machines in automotive applications. Specific topics of include but are not limited to new rotor dynamic concepts in engines and electric motors, fuel cell air supply, and power transmission or peripherals, including gear dynamics and ball bearings, with regard to the aforementioned emerging trends.



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Special Issue



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Message from the Editor-in-Chief

In response to economic, political, and environmental pressures, the automotive vehicle community is expanding its research, development, and production of more energysaving, environmentally friendly, and safer ground vehicles through vehicle electrification, powertrain hybridization, high-efficiency drivetrain, autonomous or automated driving, vehicle connectivity, and infrastructure.

Vehicles is a new open access and peer-reviewed international journal that will facilitate rapid publication of scholarly articles on studies related to ground vehicles. Its mission is to publish cutting edge articles, conference proceedings, and to organize Special Issues which highlight outstanding research on specific topics regarding all landbased vehicles with regards to the design, modeling and simulation, manufacture, testing, and operation and modification of those vehicles and their engineering systems.

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