

Special Issue

Tire and Suspension Dynamics for Vehicle Performance Advancement

Message from the Guest Editors

Submissions employing theoretical, experimental, computational, or hybrid methodologies are welcome. Key topics include (but are not limited to): **Advanced Tire Modeling and Dynamics:**

- Physics-based and data-driven tire models;
- Tire-road interaction under varied conditions (e.g., wet, icy, off-road);
- Wear, durability, and thermal effects on tire performance.

Suspension System Modeling and Dynamics:

- Modeling, analysis, and optimization of suspension system (active, semi-active, passive);
- Active, semi-active, and passive suspension control strategies;
- Integration with electrified/autonomous vehicle architectures.

Vehicle Dynamics and Performance Enhancement:

- Coupled tire–suspension–vehicle dynamics analysis;
- Impact of vehicle dynamics on handling stability, ride comfort, and energy efficiency;
- Dynamic analysis and control of special vehicles (e.g., tracked vehicles, all-terrain vehicles) under extreme conditions (e.g., drifting).

Experimental Techniques and Validation:

- Novel sensor technologies and testing methodologies;
- Field data collection and performance benchmarking;
- Digital twin applications for tire/suspension systems.

Guest Editors

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Deadline for manuscript submissions

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About the Journal

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Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is
provided to authors approximately 22.1 days after
submission; acceptance to publication is undertaken in 3.6
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the first half of 2025).