

# **CST2010 – The Tenth International Conference on Computational Structures Technology**

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**Special Session CST2010-S19: Railway Research: Vehicle Dynamics, Infrastructure Response and their Interaction**

## **Organised by:**

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## **Session Aims and Scope:**

Increasing demands on improving the efficiency and competitiveness of the railway networks require the operation and maintenance cost reduction, by increasing the life cycle of both vehicles and tracks. Further challenges lie in increasing the speed, safety and comfort of railway transportation.

This multidisciplinary session aims at bringing together researchers and experts from various fields reporting on the current state of railway research and development. The discussion should promote the interaction and collaboration among universities, research centers, railway operators and industry in order to identify problems, propose solutions and indicate directions of future research.

The Session should bring together Mechanical, Civil and Geotechnical experts and will cover, but not limited to, the following topics:

- Railway dynamics
- High-speed trains
- Vehicle-track-soil interaction
- Ground-borne noise and vibrations due to trains passage
- Vehicle and track damage
- Wear and rolling contact fatigue
- Pantograph-catenary interaction
- Aerodynamics of high-speed trains
- Aero-acoustic and rolling noise emitted by high-speed trains
- Noise and vibration mitigation for rail transportation systems
- Attenuation of railway traffic induced vibrations
- In-situ measurements and experimental validation of numerical models

Please note that papers that are found to fall outside the scope of this session may be considered for other sessions.