Call for Papers

XXXIV Simpósio Internacional de Engenharia Automotiva



SIMEA 2027

34th International Symposium of Automotive Engineering

THEMES FOR SUBMISSION:

Papers proposals will be accepted for all subjects related to Automotive Engineering, arranged in the following topics:

- ✓ **Digital Transformation**
- ✓ **Advanced Vehicle Driveline and Energy Management**
- ✓ **Emissions and Pollutants Caused by Vehicles**
- ✓ **Conventional and Alternative Fuels and Lubricants**
- ✓ **Mobility Comfort**
- ✓ **Automated and Connected Mobility**
- ✓ **Vehicle Dynamics and Controls**
- ✓ **Passive and Integral Safety**
- ✓ **Vehicle Electronics and Software**
- ✓ **Manufacturing, Materials and Lightweight Solutions**

1. Digital Transformation

Intelligent and smart mobility solutions; Digitalization of Vehicle R&D, Design and Testing; Defining new UX (User Experience) of mobility solutions; Mobility as a service; Shared mobility, multimodal mobility, micromobility; Machine learning; Artificial Intelligence
applied to Future Mobility Concepts; Cybersecurity; Vehicle related digital services (e.g. predictive maintenance, etc.); Mobility related data storing and processing (e.g. EDR, Data Trustee).

2. Advanced Vehicle Driveline and Energy Management

Electric and Hybrid Drivelines; Advanced Internal Combustion Engines; Driveline Design and Simulation Based Optimization and Control; Renewable and Synthetic Fuel Combustion and Mixture Formation, Fuel Injection and Sprays; Rightsizing of Engines for New Roles in Electrified Vehicle Powertrains; Advanced Transmission Concepts; Advanced Battery System Technologies; New Concepts and Control of Electric Motors and Power Electronics; Fuel Cells and Fuel Cell Systems, Hydrogen Technologies; Smart charging solutions

3. Emissions and Pollutants Caused by Vehicles

Environmental impact through complete life-cycle; After Treatment and Emission Control; Clean and Efficient Engine Technologies; Testing Procedures and Cycles; RDE methodology and practical results, transfer of road results to dynamometer; Recent Regulations and Future Prospects; Simulation Approach to Emission Control; On-board and Remote Diagnostics of Emission Systems; Identification of Big Polluters in Operation; Non-combustion Related Emissions.

4. Conventional and Alternative Fuels and Lubricants

Advancement of Conventional Fuels; New synthetic fuels; Engine Lubricant & Compatibility Tests; Interaction between New Fuels and After-Treatment Devices; Driveline Lubricants; Fuel Economy and Advanced Automotive Lubricants; Alternative Fuels and Propulsion Technology; Hydrogen as a Fuel; Additives in Fuels & Lubrication; WTW Analysis.

5. Mobility Comfort

Powertrain and vehicle NVH; Aero-Acoustic Wind Noise; Intake & Exhaust Noise; Mechanism of Tire and Road Noise; Incab & Passby Noise; Thermal Comfort and HVAC Systems; NVH in xEV Vehicles; Passive and Active Controls of NVH Problem; NVH Measurement, Simulation, and Analysis; Ergonomics.

6. Automated and Connected Mobility

Highly Automated Driving/Autonomous Driving / Driverless Vehicles; Advanced Driver Assistance Systems; Testing of systems of automated driving (virtual tests, simulators, HiL/SiL/MiL, proving ground, FOT , NDS); Sensors and Signal Fusion; Situation Representation and Awareness (Object recognition …); Voice and Motion Recognition; Autonomous Vehicle Control; Networks for Connected Vehicles; V2X Communication; Cloud-Connected and Teleoperated Vehicles.

7. Vehicle Dynamics and Controls

Vehicle Dynamics, Modelling and Simulation; Integrated Chassis Control; Adaptive Chassis Systems; Human Vehicle Interface; Heavy Duty Vehicle Control; Sensors and Actuators; Intelligent Tire; Ride comfort & Handling; Suspension, Steering & Brakes; Holistic Approach to Vehicle Predictive Control.

8. Passive and Integral Safety

Accident Statistics, Analysis and Reconstruction Technologies; Biomechanics & Human models; Occupant, Child and Elderly Safety Protection; Protection of Vulnerable Road Users; Vehicle Structure Crashworthiness; Crashworthiness of Light Frame Design with New Materials; Crash Avoidance or Mitigation Systems; Emergency Call System;International Regulations and New Car Assessment Program; Test Methods

9. Vehicle Electronics and Software

E/E Architecture for future vehicles; Software Development - Design Methods, Testing, Development Processes and Quality management; Software & Hardware Reliability and Safety (Functional Safety, SOTI F, etc.); Model-Based Design, Analysis and Verification; In-Vehicle Networks; ECU Consolidation and Multicore ECUs; Automotive Operating Systems; AUTO SAR and Software Architecture; Automotive HMI; Telematics and Infotainment Systems

10. Manufacturing, Materials and Lightweight Solutions

Industry 4.0 in Vehicle Manufacturing and Maintenance; Novel/Emerging Manufacturing Technologies; Weight Reduction Technology & Materials in Automotive Industry; Forming processes; Applications of Non-Metallic Materials (Rubber, Polymer, Composite); Fatigue, Fracture and Failure of Traditional and Lightweight Materials; Welding and Joining/Fastening of Traditional and Lightweight Materials; Coating, Wear, Corrosion Protection

SCHEDULE:

Opening Call for Papers: November, 20th, 2026

Deadline for submitting abstracts: March 19th, 2027
Abstracts approval: April, 23rd, 2027
Deadline for submitting full paper: May, 14th, 2027
Publication of paper acceptance: July, 9th, 2027

INSTRUCTIONS FOR ABSTRACT SUBMISSION:

The rules for an abstract submission are:

The authors should complete the registration form, including an abstract with no more than 1,300 characters. The abstract should be original and should be written in English.

The abstract approval will be later notified to the author, through email and the website.

Each submission must have a lead author, who will be the person responsible and must be designated at the time the abstract is registered in the system.

SELECTION AND RANKING CRITERIA:

The abstracts and the final paper analysis will consider:

- ✓ **At least one of the authors must have a bachelor's degree in Engineering or similar courses;**
- ✓ **The paper must be unpublished,meaning it has not been presented before at other Congress or technical publication;**
- ✓ **The article's content must be technical and do not include excessive mentions (more than two) of products or companies brand names;**
- ✓ **The paper's organization is essential for its analysis, so the indicated template must be used;**
- ✓ **The paper should be innovative, with some technical or scientific innovation and it should be elated to the mobility area**
- ✓ **Artificial intelligence (AI) may be used if the tool and its use are informed.**

PUBLICATION AGREEMENT:

In order for final papers to be published in PDF format via the open-access Blucher Proceedings system, authors must provide authorization for their dissemination.

This authorization must be granted through the signature of the corresponding author on a form to be issued by the AEA.

ALL APPROVED AND AUTHORIZED PAPERS WILL BE PUBLISHED; HOWEVER, THE NUMBER OF ORAL PRESENTATIONS AT THE EVENT WILL BE LIMITED, BASED ON THE AVAILABLE SCHEDULE AND THE EVALUATION RESULTS.

AWARDS:

The papers will be ranked by SIMEA's Technical Committee and by the attendees. The best papers will receive the AEA award.

FOR ADDITIONAL INFORMATION CONTACT:

AEA - Associação Brasileira de Engenharia Automotiva Rua Salvador Correa, 80 - Aclimação

São Paulo - SP - 04109-070 Phone.: 55 11 5908-4040/97681-6815

E-Mail: fmarques@aea.org.br