Special Issue

Lightweight Structural Materials for Automotive and Aerospace

Message from the Guest Editor

Although modern transport represents a vital part of the global economy, it is also a significant source of pollutants, contributing 13% of overall greenhouse gas and 25% of CO2 emissions coming from the combustion of fossil fuels. The application of materials with high strength-to-weight ratios in transportation vehicles, also known as lightweighting, is an important strategy for improving fuel economy and reducing harmful pollution. Thus, to withstand growing requirements of next-generation vehicles, there is a need for stronger and lighter innovative structural materials.

It is my pleasure to invite you to submit a manuscript to this Special Issue, which will focus on current and emerging structural metallic materials for automotive and aerospace applications. In addition to traditional Al-, Ti-, and Mg-based alloys, this SI will include novel lightweight high-entropy alloys that are also becoming candidates for substantial weight reduction. The scope will cover fundamental research, all aspects of alloy development, synthesis, heat treatment, component manufacturing, the structure–property relationship, testing, computer simulation, and application-related topics.

Guest Editor

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Deadline for manuscript submissions

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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