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Microstructure and Mechanics of Metallic Materials

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Message from the Guest Editor

Dear Colleagues,

With concrete, metallic alloys are the main family of materials used for structural applications (cars, airplanes, trains, etc.). The main requirements for the development of metallic alloys are strength, ductility, and density in order to lighten the structures as much as possible to reduce the CO₂ emission. This is why microstructural design (refinement, precipitation hardening, multiphase alloys, etc.) is crucial to provide guidelines for new alloy developments. Simultaneously, new microstructures are becoming more and more complicated, characterization must be performed at a very fine scale. Thus, a lot of devices have been developed and applied (FEG-SEM, TEM, SANS, atom probe, etc.). This Special Issue will serve as a crossroads from physical metallurgy to mechanics, taking into account Al-Li alloys, new intermetallics, Twinning-induced plasticity in steel, high entropy alloys, etc.

Prof. Dr. Olivier Bouaziz

Guest Editor



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Special Issue



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Message from the Editor-in-Chief

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