

Special Issue "Machine Modeling and Simulations 2022"

keywords: machine design, FEM simulation, structural optimization, machine dynamics, experimental mechanics, materials modeling, properties of materials, applied mathematics

Deadline for manuscript submissions: **August 31, 2022**

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Interests: machines, finite element method, robotics, computational mechanics, mechatronics

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Interests: belt transmissions, safety of cargo securing, modeling of motion control of working machines equipment, construction of off-road vehicles, mobile positive pressure fans, rescue and firefighting operations

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Interests: engineering, materials science, compaction, dry ice, automatization, energy, physics and astronomy, mathematics

Special Issue Information

Dear Colleagues,

In today's world, machines are designed using advanced computer techniques used for design, simulation, and modeling. As you know, the problem of computer modelling of machine elements and simulation of the processes they implement is an integral part of the design of modern machines.

Computer simulations are also known to be as close to reality as possible. Therefore, there is a need to develop new mathematical models that reflect selected physical phenomena. As a result, an inseparable stage of modelling and simulation is often used, among other tests, aimed at determining the mechanical parameters of materials.

In summary, the modern machine design process is characterized by a synergistic combination of conceptual, simulation, and research works. Omitting any element prevents designing machines that meet modern standards related to reducing the environmental impact of manufactured machines throughout their life cycle.

The aim of this Special Issue is to provide the interested readers with the latest developments in machine modelling and simulation. To this end, we invite manuscripts that were presented at the 27th Polish-Slovak Scientific Conference on Machine Modelling and Simulation MMS 2022 which were related to the finite element methods and experimental research on the physical properties of non-classic materials.

*Krzysztof Talaśka, Piotr Krawiec, Jarosław Markowski, Grzegorz Ślaski and Jan Górecki
Guest Editors*

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