

# Special Issue

## Analysis, Design and Optimization of Electromechanical and Electromagnetic Devices

### Message from the Guest Editor

Electromechanical and electromagnetic devices use low-frequency electromagnetic fields for their operation. Some examples of those devices are synchronous generators in power plants, power and distribution transformers, electrical motors, and actuators. It is clear that they play a vital role in electrical power generation and distribution, industry, automotive and aerospace applications, consumer products, and beyond. Analytical calculations, equivalent circuits or finite element methods are used for their analysis and design, often including a multiphysics approach. Optimization methods are used when the requirements and specifications are challenging to meet and to ensure that material utilization reaches its full potential. Innovative solutions and novel topologies are pushing the boundaries of science and technology. Research areas may include (but are not limited to) the following:

- synchronous and asynchronous machines;
- permanent magnet machines;
- power and distribution transformers;
- switched reluctance machines;
- electrical actuators;
- coils, chokes and shunt reactors;
- multiphysics analysis;
- design optimization.

### Guest Editor

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### Deadline for manuscript submissions

closed (31 October 2023)



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### Message from the Editor-in-Chief

*Machines* is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications. Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided. There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

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### Editor-in-Chief

Prof. Dr. Antonio J. Marques Cardoso  
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