# Special Issue

# Model Order Reduction of Nonlinear Systems

### Message from the Guest Editor

Nonlinearities affecting mechanical systems are of different types, namely geometrical, material, contact/friction, interaction with other fields, and possibly combinations of all of these. Often, model order reduction techniques reflect the type of nonlinearity they are addressing, and dedicated, model-driven methods that do not require expensive high-fidelity solutions—and their statistical processing—can be developed. This is in contrast with data-triven techniques, which extensively rely on full order solutions to construct reduced-order models that span the parameter space of interest. The goal of this Special Issue is to collect key contributions in the large area of reduced order models for nonlinear mechanical systems, with special emphasis on structural dynamics. We welcome contributions in the following, as well as related, areas:

- Intrusive and non-intrusive model reduction;
- Reduction over nonlinear manifolds;
- Hyper-reduction;
- Substructuring methods;
- Model reduction of nonlinear mechanical systems interacting with other fields (e.g., aerodynamics, heat, and electro-magnetic forces).

### Guest Editor

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### Deadline for manuscript submissions

closed (31 July 2021)

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## Message from the Editor-in-Chief

## Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 20.8 days after submission; acceptance to publication is undertaken in 3.6 days (median values for papers published in this journal in the second half of 2025).