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MS 19
Design optimization in computational mechanics

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Computational modeling and simulation constitute an integrated part of modern engineering and industrial design practice. An ideal digital prototyping environment enables the application of computational optimization methods to assist in designing better products and processes.
Pioneering fields in applying computational optimization methods to mechanical problems include shape and topology optimization and inverse problems, which are very active fields of research in the disciplines of applied mathematics and computational mechanics. Therefore, existing methods are constantly developed and improved. At the same time, driven by practical applications and challenges, there are constantly new opportunities emerging, more recently, e.g., in the fields of additive manufacturing, material design, and data-driven approaches.
The goal of this minisymposium is to bring together young researchers from the different disciplines to exchange ideas and results, foster collaborations, and discuss future research directions.