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DATA-DRIVEN MODELING USING UNCERTAINTY QUANTIFICATION, MACHINE LEARNING AND OPTIMIZATION

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ABSTRACT

Data-driven approaches are opening new avenues in computational mechanics and materials science. This minisymposium focuses on (1) recently developed methods for data-driven approaches, and (2) data-driven applications to fluids, structures and materials involving (but not limited to) machine learning, uncertainty quantification and/or optimization. Contributions addressing specific challenges relevant to this topic such as reduced order modeling and high-performance computing are also encouraged. Ideally, this minisymposium will reflect the generality of data-driven science and its broad applicability to the computational mechanics and materials science communities.