High-Fidelity Simulations and Machine-Learning Techniques for Industry Relevant Flows

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In recent years, the growth in computational power has enabled the use of high-fidelity simulations for industrially relevant flow applications. Alongside these advances, machine learning methods have also seen exponential progress. This minisymposium aims to bring together researchers working on the development and application of large-eddy simulation techniques, as well as those focused on utilizing data-driven approaches in fluid dynamics. The goal is to establish a common framework that will advance the study of complex flow problems in industrial contexts.

The minisymposium will cover the following topics, but it is not limited to:

1. Advances in High-Fidelity Simulation Techniques highlighting recent developments and their applications.
2. Integration of machine-learning techniques with CFD exploring these methods can enhance predictive capabilities, reduce computational costs, and improve model accuracy.
3. Case Studies from various industries such as aeronautical, automotive, chemical, and energy sectors, addressing computational challenges and future trends.