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SYNERGISTIC COMPUTATIONAL MECHANICS + MACHINE LEARNING FOR THE DIGITAL TWINNING OF INTELLIGENT VEHICLES

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MINISYMPOSIUM

This mini-symposium focuses on the integration of computational mechanics with machine learning (ML) for the digital twinning of intelligent systems, including but not limited to manned and unmanned air/water vehicles, spanning from soft and biomimetic robots, autonomous underwater vehicles and flying drones, among others. Comparison of new efficient, robust, and accurate methods, critical assessment and benchmarking with the existing data-driven and ML techniques and novel applications are welcome. The aim of this mini-symposium is to provide a platform for investigators to disseminate and discuss data-driven modeling and ML methods for multiphysics prediction and optimization of aerospace, land-based, and marine vehicles. Novel physics-based data-driven and ML technologies for active feedback control, real-time structural monitoring and multidisciplinary design optimization are desired. New ideas and contributions of software implementation details and benchmark problems are encouraged.