

preCICE: a FAIR coupling tool generating FAIR simulation results

Wednesday 16 October 2024 14:30 (1 hour)

preCICE is a numerical coupling library for partitioned multi-physics simulations with more than 200 users. It is fully open source and used for application as diverse as coupling reinforcement learning with training data generating, various types of surface coupling such as fluid-structure interactions, and multi-scale simulations. It is not only a library, but equipped with a whole ecosystem of additional tools to increase its usability. These tools serve, e.g., as adapters allowing to couple specific single-physics, single-scale solvers to other applications via preCICE or as a wrapper for a large number of micro-simulations into a single coupling participant. Some of these tools are provided and maintained by users.

In the presentation, we present the main features of preCICE with some application examples and the whole software ecosystems and try to answer the following questions: What is FAIR research software? Is software simply a different type of data? And how can we generate FAIR data with such a software?

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Session Classification: Invited