

DEVELOPMENT AND DESIGN OF OPEN SCIENTIFIC SOFTWARE LIBRARIES

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ABSTRACT

This minisymposium will bring together developers and users of open-source scientific software libraries for fluid and solid mechanics. It will cover software design and performance, including data structures, implementation of approximation methods, hp-adaptivity and parallel computing. It will also address linear solvers for large system of equations, mesh-databases and post-processing tools.

The minisymposium will be a platform for developers, contributors and users of open software libraries to share knowledge and experience on programming languages, algorithms and emerging technologies, as well as performance profiling, testing and development. The minisymposium will also share experiences of building and managing communities of developers and users, with examples from successful and widely-used open sources codes, including FEniCS [1], Deal.ii [2], OOFEM [3], PETSc [4], etc.

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