

## **DOMAIN DECOMPOSITION ALGORITHMS FOR FLUID- STRUCTURE INTERACTION PROBLEMS**

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Fluid-structure interaction is a challenging multi-physics problem. In this talk we discuss a domain decomposition based framework for solving the implicitly discretized, fully coupled system of equations. The algorithm involves an inexact Newton-Krylov algorithm with an overlapping Schwarz preconditioner. We apply the algorithm to a blood flow problem in 3D compliant arteries. We show that the proposed algorithm is scalable in terms of the iteration count and the total compute time on a supercomputer with a large number of processors. This is a joint work with Fande Kong.