



CSC Seminar

SPEAKER

Monica Nonino

University of Vienna, Austria

TITLE

**Model Order Reduction for FSI problems:
POD-based partitioned and monolithic approaches**

ABSTRACT

The numerical simulation of a solution of a Fluid-Structure Interaction problem is very expensive, in terms of computational time required and in terms of computer memory. This is even more evident if we take into account a parameter dependence (e.g. the Lamè constants of the solid). In the framework of making the numerical simulation more feasible, Model Order Reduction (MOR) represents a promising direction. In this talk I will present two algorithms, one of which is based on a monolithic approach and one which is based on a partitioned approach. Both these algorithms are designed within the MOR framework, and they rely on a Proper Orthogonal Decomposition technique to generate a suitable linear space of approximation. I will show some numerical results for different toy problems: with these, I will try to point out the pros and cons of the two approaches. At the end, I will highlight some future perspectives in the framework of MOR for FSI.

Tuesday, March 7, 2023 at 2 pm
seminar room Prigogine