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Mathematics Institute of Computational Science and Engineering - MATHICSE

SEMINAR OF NUMERICAL ANALYSIS

➤ **WEDNESDAY 31 AUGUST 2016 - ROOM CM1 104 - 10h15**

Prof. Masahisa TABATA (Waseda University, Tokyo, Japan) will present a seminar entitled:

“Some Lagrange-Galerkin schemes in flow problems”

Abstract:

The Lagrange-Galerkin method is a finite element method embracing the method of characteristics. It is considered to be one of the most powerful methods in the computation of flow problems. It has common advantages, robustness for convection-dominated problems and symmetry of the resulting matrix, which reduces much the computation cost.

These advantages are originated from the natural approximation of the particle movement along the trajectory. In this talk we discuss the convergence and application of some Lagrange-Galerkin schemes on the following issues:

- Pressure-stabilized scheme for the Navier-Stokes equations
- Stabilized scheme of second-order in time
- Exactly computable scheme with locally linearized velocity
- Energy-stable scheme for two-fluid flow problems

Lausanne, 26 August 2016/AQ/cr