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**SEMINAR OF NUMERICAL ANALYSIS**

➤ **TUESDAY 27 FEBRUARY 2018 - ROOM MA A3 31 - 16:15**

**Prof. Didier BRESCH** (University of Chambéry) will present a seminar entitled:

**«When a velocity is hiding another in fluid mechanics »**

Abstract:

During the years 2004-2012, Howard Brenner (MIT) published more than twenty articles discussing the necessity of a two velocity fluid mechanics model when considering inhomogeneous flow. In the heat of the debate are two kinds of velocities : The speed of the center of mass (transport velocity) and the speed of the volume (transported velocity whose gradient governs viscous constraints.) In this talk, we show that this two velocity dynamics is in fact hidden in some often used mono speed models : Euler-Korteweg, Navier-Stokes-Korteweg, viscous Saint-Venant, weak Mach number, for instance. We show how this mathematical discovery by D.B., B. Desjardins and C.K. Lin in 2003 on Navier-Stokes-Korteweg allowed since to bring answers (numerical and theoretical) to a large spectrum of mathematical models from fluid mechanics.

Lausanne, 8 February 2018/MP/ac

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The seminars are announced at <http://mathicse.epfl.ch/seminars>