



MAISON DE LA SIMULATION

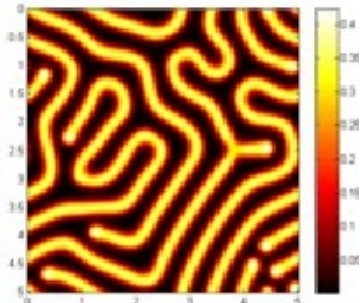
# 5<sup>ème</sup> Séminaire de la Modélisation Avril 2013

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## GPU-accelerated real time CFD interaction



Today's many-core GPU allow theoretical teraflop performance computing at the cost of a personal computer. But the parallel performance strongly depends on the choice of both models and numerical methods. We believe that the rising of manycore processing will certainly deeply impact the next-generation computational approaches. In this talk we will focus on few examples: compact stencil

remapped Lagrange methods, low-diffusive transport solvers for interface capturing. We will conclude the talk by a set of demo, showing the capability to attain runtime computations with real visualization and interaction for 2D computations (including incompressible Navier-Stokes, compressible Euler equations and thermal-CFD coupling). About applications, we plan to develop serious games involving multiple users using heterogeneous interacting devices. This will be deployed on the DIGISCOPE visualization infrastructure.



**Mardi 2 Avril, 10h30 (café à 10h)**  
**Maison de la Simulation, bât 565, Salle 33**

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