Monday, August 30th

9.50 *Bienvenue*

10.00 Jörn Sesterhenn, TU Berlin, Germany
Simulation of complex geometries with porous materials.

11.00 **Coffee break**

11.15 Angela Kunoth, Universität Paderborn, Germany
Wavelet methods for a fictitious domain formulation for Electrical Impedance Tomography (EIT).

12.15 Discussions

12.30 **Lunch**

14.00 Jean-Frédéric Gerbeau, INRIA Paris-Rocquencourt, France
Medical data assimilation and fluid-structure interaction for blood flows.

15.00 Franck Sueur, Université Paris VI, France
Smoothness of the motion of a rigid body immersed in an incompressible perfect fluid.

15.45 **Coffee break**

16.00 Sonia Gomes, Unicamp, Brazil
Implementation of absorbing boundary conditions in an adaptive wavelet code for electromagnetic wave propagation.

16.30 Bruno Lombard, LMA, Marseille, France
High-order immersed interface method for the propagation of elastic waves.

17.00 Discussions

19.30 **Dinner**

Tuesday August 31st (Focus on mathematics)

9.00 Didier Bresch, Université de la Savoie, France
Lagrangian multipliers and shallow water equations.

10.00 Gilles Carbou, Université de Bordeaux I, France
Asymptotic analysis of some penalization methods.

11.00 **Coffee break**

11.15 Julien Olivier, Université de la Savoie, France
Asymptotic expansions in a model for soft glassy rheology.

11.45 Samuel Quinodoz, Ecole Polytechnique Fédérale de Lausanne, Switzerland
An efficient method for solving elliptic problems with interior discontinuities.

12.15 Discussions

12.30 **Lunch**

14.00 Bertrand Maury, Université Paris Sud, France
Space approximation on non-conforming meshes.

15.00 Silvia Bertoluzza, Instituto di Matematica Applicata del CNR, Pavia, Italy
Fictitious domain and high order discretizations: Optimality of the fat boundary method.

16.00 **Coffee break**

16.30 Poster session/short talks (2 min)

17.30

19.30 **Dinner**

Wednesday September 1st

9.00 Georges-Henri Cottet, Laboratoire Jean Kuntzmann, Université de Grenoble and CNRS, France
Penalization and level set methods for Fluid-Structure interaction problems.

10.00 Marius Tucsnak, INRIA, Nancy, France
Analysis and simulation of the motion of solids in incompressible fluids.

11.00 **Coffee break**

11.15 Lisl Weynans, Université de Bordeaux I, France
A method to solve elliptic interface problems on Cartesian grids with order two accuracy.

11.45 Octavian Frederich, TU Berlin, Germany
A ghost cell immersed boundary method applied to complex and moving geometries.

12.15 Discussions

12.30 **Lunch**

Calanques

19.30 **Dinner**

Thursday, September 2nd (Focus on fluid mechanics)

9.00 Peter Minev, University of Alberta, Canada
Parallel fictitious domain algorithm for direct simulation of particulate flows.

10.00 Sergey Gavrilyuk, IUSTI, Marseille, France
Solid-fluid diffuse interface model in cases of extreme deformations.

11.00 Coffee break

11.15 Olivier Bottella, Université de Nancy, France
The LS-STAG Method for viscous Incompressible Flows in Irregular Geometries I:
Basics of the Discretization and Application to Newtonian Fluids.

11.45 Yoann Cheny, Cerfacs, Toulouse, France
The LS-STAG Method for Incompressible Flows in Irregular Geometries II:
Application to Viscoelastic Liquids.

12.15 Discussions

12.30 Lunch

14.00 Romain Nguyen van yen, ENS Paris, France
Application of a volume penalization method to study the vanishing
viscosity limit of 2D incompressible flows with solid boundaries.

14.30 Dmitry Kolomenskiy, M2P2, Université de Provence, Marseille, France
A volume penalization method with moving obstacles for Navier-Stokes with advection-diffusion equations.

15.00 Fabien Godeferd, LMFA, Ecole Centrale de Lyon, France
On the effects of confinement in turbulent flows using the penalization method.

15.30 Coffee break

16.00 Arthur Sarthou, Université de Bordeaux I, France
A second-order curvilinear to Cartesian transformation of immersed interfaces and boundaries.
Application to fictitious domains and multiphase flows.

16.30

19.30 Dinner: Bouillabaisse

Friday, September, 3rd

9.00 Angelo Iollo, Université de Bordeaux I, France
Boundary conditions and flow simulations on Cartesian grids.

10.00 Zhilin Li, North Carolina State University, Raleigh, USA
A unified approach for some CFD problems with free boundaries/moving interfaces, and irregular domains.

11.00 **Coffee break**

11.15 Fereydoon Sabetghadam, Azad University, Tehran, Iran
Embedded boundary Fourier pseudospectral solution of the two-dimensional incompressible Navier-Stokes equations.

11.45 Discussions

12.30 **Lunch**

14.00 *Au revoir*

Please note that all sessions will take place in the Auditorium of CIRM.

For details we refer to the CIRM web site: www.cirm.univ-mrs.fr