

# MATHEMATICAL AND NUMERICAL ASPECTS OF LOW MACH NUMBER FLOWS

## PROGRAM AT A GLANCE

**Sunday, June 20**

**Monday, June 21**

**Tuesday, June 22**

**Wednesday, June 23**

9:00 Welcome-Information and Opening

**Session "Mathematical Theory of Low Mach flows"**

**Session "Acoustics"**

**Session "Mathematical Theory of Low Mach flows"**

|   |   |   |
|---|---|---|
| 9:30 Pr Steve Schochet (Tel Aviv University)<br><i>"The mathematical theory of Low Mach Number flows"</i> | 9:00 Pr D. Bresch (Clermond-Ferrand University)<br><i>"Acoustic Waves in Bounded domains"</i> | 9:00 Pr Emmanuel Grenier (ENS Lyon)<br><i>"Title to be announced"</i> |
| 10:45 Coffee break  | 10:15 Coffee break  | 10:15 Coffee break  |

**Contributed papers**

**Contributed papers**

**Session "Pressure correction methods"**

|                      |                      |                      |
|----------------------|----------------------|----------------------|
| 11:00 T. Alazard     | 10:30 S. Roller      | 10:30 K. Nerinck     |
| 11:30 M. Massot      | 11:00 A. Gordner     | 11:00 V. Sankaran    |
| 12:00 Lunch at IGESA | 11:30 R. Sery        | 11:30 P. Pebay       |
|                      | 12:00 Lunch at IGESA | 12:00 O. Mazhorova   |
|                      |                      | 12:30 Lunch at IGESA |

**Session "Preconditioning techniques"**

**Session "Modelling of low Mach number flows"**

**Session "Mathematical Theory of Low Mach flows"**

|  |  |  |
|--|--|--|
| 15:30 Pr Eli Turkel (Tel Aviv University)<br><i>"Dual time-stepping for time-dependent low Mach flows"</i> | 16:00 Dr Isabelle Faille (IFP)<br><i>"Two Models for the simulation of multiphase flows in oil and gas pipeline"</i> | 16:00 Raphael Danchin (Paris XII)<br><i>"Low Mach Number limit for viscous compressible flows"</i> |
| 16:45 Coffee break   | 17:15 Coffee break   | 17:15 Coffee break   |

16h00 Bus shuttle to  
La Tour Fondue

**Contributed papers**

**Contributed papers**

**Numerical Workshop**

|                       |                       |                       |
|-----------------------|-----------------------|-----------------------|
| 17:00 O. Allain       | 17:30 O. Lafitte      |                       |
| 17:30 P. Birken       | 18:00 W. Frick        |                       |
| 18:00 T. Kloczko      | 18:30 S. Dellacherie  |                       |
| 18:30 T. Bui          |                       |                       |
| 19:00 Cocktail        |                       |                       |
| 19:30 Dinner at IGESA | 19:30 Dinner at IGESA | 19:30 Dinner at IGESA |

18h00 Boat shuttle to  
Porquerolles

## Thursday, June 24

### Session "Numerical Methods and asymptotics"

9:00 Pr Rupert Klein (Frei Universitat Berlin)  
*"Using multiple scale asymptotics in the construction of low Mach number numerics"*  
10:15 Coffee break

#### Contributed papers

10:30 G. Accary  
11:00 F. Picano  
11:30 C. Dinescu

12:00 Lunch at IGESA

16:00 Pr Pieter Wesseling (TU Delft)  
*"Unified methods for computing compressible and incompressible flows on structured and unstructured staggered grids"*

17:15 Coffee break

### Session "Natural convection"

17:30 V. Heuveline  
18:00 M. Jobelin  
18:30 C. Weisman  
19:00 C. Merkle

20:00 Diner

## Friday, June 25

### Session "Numerical Methods"

9:00 Pr Philip Roe  
*"Elliptic/hyperbolic splitting of 2D and 3D first-order differential systems with numerical applications"*  
10:15 Coffee break

#### Contributed papers

10:30 M. Braack  
11:00 A. Cadiou  
11:30 A-C. Lesage

12:30 Lunch at IGESA

15h30 Boat shuttle to La Tour Fondue  
16h00 Bus shuttle to the railway station