

Emil Hopfinger Colloquium 2016

Program

11–13 May 2016

LEGI, Grenoble, France



AGPMF



Wednesday, May 11, 2016

TIME	EVENT
9:45 am - 10:30 am	Coffee and registration (Hall K)
10:30 am - 12:30 pm	Reviews on Emil Hopfinger's career (Amphi Craya)
10:30 am - 10:50 am	> GertJan van Heijst, President of EUROMECH
10:50 am - 11:10 am	> Paul Linden, APS Fellow & Deputy Editor of the Journal of Fluid Mechanics
11:10 am - 11:30 am	> Jacques Magnaudet, President of section 10 of the CoNRS
11:30 am - 11:50 am	> Achim Wirth, Current Head of LEGI
11:50 am - 12:10 pm	> Gilbert Binder, First Head of LEGI 1991–1995
12:10 pm - 12:30 pm	> Emil Hopfinger
12:30 pm - 2:00 pm	Lunch (Hall K)
2:00 pm - 3:20 pm	Convective flows (Amphi K118)
14:00 - 14:40	> Roles of large and small scales in 'free horizontal convection' - <i>Ross Griffiths, Research School of Earth Sciences, Australian National University</i>
14:40 - 15:00	> Transition to geostrophic convection: the role of the boundary conditions - <i>Roberto Verzicco,</i>

TIME	EVENT
	<i>Dipartimento di Ingegneria Industriale, University of Rome "Tor Vergata"</i>
15:00 - 15:20	› Influence of wall roughness and thermal conductivity on turbulent natural convection - <i>Paolo Orlandi, Dipartimento di Ingegneria Meccanica e Aerospaziale, Università di Roma "La Sapienza"</i>
3:20 pm - 3:40 pm	Coffee break (Hall K)
3:40 pm - 5:00 pm	Atomization I Drops and bubbles in mixtures, sloshing and surfing (Amphi K118)
15:40 - 16:20	› Aiding in the response to the largest marine oil spill disaster ever recorded in history: Flow rate estimation of the amount of oil discharged during the 2010 Deepwater Horizon accident in the Gulf of Mexico using statistical correlation algorithms. - <i>Juan C. Lasheras, University of California San Diego</i>
16:20 - 16:40	› Parametrically forced axisymmetric gravity waves and jetting in a circular cylinder - <i>Shyama Prasad Das, Department of Mechanical Engineering, Indian Institute of Technology Madras</i>
16:40 - 17:00	› Axial Sloshing of Liquid Hydrogen in Cylindrical Containers with Superheated Walls in Weightlessness - <i>Michael Dreyer, University of Bremen</i>
5:00 pm - 5:20 pm	Coffee break (Hall K)
5:20 pm - 6:30 pm	Atomization I Drops and bubbles in mixtures, sloshing and surfing (Amphi K118)
17:20 - 17:50	› Physics of surfing - <i>Christophe Clanet, Laboratoire d'Hydrodynamique, Ecole Polytechnique</i>

TIME	EVENT
17:50 - 18:10	› Droplet formation - <i>Stéphane Zaleski, Institut Jean Le Rond d'Alembert</i>
18:10 - 18:30	› On the scaling of jetting from bubble collapse at a liquid surface - <i>Baburaj Puthenveetil, Dept of Applied Mechanics, Indian Institute of Technology Madras</i>
6:35 pm - 8:35 pm	Poster session and cocktail (Hall K)
18:35 - 20:35	› A Velocity Independent Pressure Drag for Sub-Critical Two-Layer Shallow-Water Flow Around an Inclined Oceanic Ridge : a Numerical Study - <i>Achim Wirth, Laboratoire des Écoulements Géophysiques et Industriels</i>
18:35 - 20:35	› Atmospheric rotors induced by stably stratified flows over mountains - <i>Dieter Etling, Institute of Meteorology and Climatology, University Hannover</i>
18:35 - 20:35	› Energetic budget of Direct Numerical Simulations in a turbulent stratified flow - <i>Ernesto Horne, Laboratoire de Mecanique des Fluides et d'Acoustique</i>
18:35 - 20:35	› Evidence of Görtler vortices in a katabatic jet along a convexly curved slope. - <i>Christophe Brun, Laboratoire des Écoulements Géophysiques et Industriels</i>
18:35 - 20:35	› Geometric focusing of internal waves - A linear theory - <i>Bruno Voisin, Laboratoire des Écoulements Géophysiques et Industriels</i>
18:35 - 20:35	› High Stokes number wave focusing by a circular ridge: Internal, inertial and inertia--gravity waves - <i>Natalia Shmakova, Laboratoire des Écoulements Géophysiques et Industriels</i>

TIME	EVENT
18:35 - 20:35	› How to appear elastic when you are liquid: emergent mechanical properties of living cells - <i>Jocelyn Etienne, Laboratoire Interdisciplinaire de Physique</i>
18:35 - 20:35	› Impact of the valley-wind system on the dispersion of passive tracers in the stably stratified atmosphere of an Alpine valley - <i>Julian Quimbayo Duarte, Laboratoire des Écoulements Géophysiques et Industriels</i>
18:35 - 20:35	› Isotropy recovery in rotating-stratified turbulence: the role of Ozmidov and Hopfinger scales. - <i>Alexandre Delache, Laboratoire de Mécanique des Fluides et d'Acoustique site de Saint Etienne</i>
18:35 - 20:05	› Kinetic and total mass transfer of a pollutant between two electromagnetically stirred molten layers - <i>Jacqueline Etay, SIMAP</i>
18:35 - 20:35	› Modal stability analysis of mechanically-driven flows in rigid rotating ellipsoids - <i>Jérémie Vidal, Institut des Sciences de la Terre</i>
18:35 - 20:35	› Nonlinear Reflection of Internal Gravity Waves onto a slope - <i>Keshav Raja, Laboratoire des Écoulements Géophysiques et Industriels</i>
18:35 - 20:35	› Temperature fluctuations induced by turbulent dissipation - <i>Wouter Bos, Laboratoire de Mécanique des Fluides et d'Acoustique</i>
18:35 - 20:35	› Wave and vortex regime in large-gap stratified Taylor--Couette flow - <i>Jan-Bert Flór, Laboratoire des Écoulements Géophysiques et Industriels</i>

Thursday, May 12, 2016

TIME	EVENT
8:30 am - 10:10 am	Atomization II From shear to filaments, drops and sprays (Amphi K118)
08:30 - 09:10	› Last but not least: Recollections in the light of new facts on liquid fragmentation. - <i>Emmanuel Villermaux, Institut de Recherche sur les Phénomènes Hors Equilibre</i>
09:10 - 09:30	› Primary atomization under the simultaneous action of Rayleigh-Taylor and Kelvin-Helmholtz mechanisms - <i>Mahesh Panchagnula, Department of Applied Mechanics, Indian Institute of Technology Madras</i>
09:30 - 09:50	› Flow characteristics and turbulence analysis of a large-scale pressure-atomized spray - <i>Fabien Anselmet, Institut de Recherche sur les Phénomènes Hors Equilibre</i>
09:50 - 10:10	› Shear instabilities in the context of liquid atomization - <i>Jean-Philippe Matas, Laboratoire de Mécanique des Fluides et d'Acoustique</i>
10:10 am - 10:30 am	Coffee break (Hall K)
10:30 am - 12:10 pm	Vortex dynamics (Amphi K118)
10:30 - 11:10	› The anatomy of a draining vortex in a rotating bathtub - <i>GertJan van Heijst, Department of Physics, Eindhoven University of Technology</i>
11:10 - 11:30	› Surface and subsurface dynamics of two vortex patches - <i>Mikhail Sokolovskiy, Institute of Water Problems of RAS</i>

TIME	EVENT
11:30 - 11:50	› Self-elongation and nonlinear intensification of unstable baroclinic vortices - <i>Georgi Sutyrin, Graduate School of Oceanography URI</i>
11:50 - 12:10	› Production of dissipative vortices by solid boundaries in 2D flows: comparison between Prandtl, Navier-Stokes and Euler solutions - <i>Marie Farge, Laboratoire de Météorologie Dynamique, ENS de Paris</i>
12:10 pm - 1:40 pm	Lunch (Hall K)
1:40 pm - 3:20 pm	Turbulence (Amphi K118)
13:40 - 14:20	› The Soft to Hard transition in turbulence - <i>Bernard Castaing, Laboratoire des Écoulements Géophysiques et Industriels</i>
14:20 - 14:40	› Closed-loop Control of Laminar Separation Bubbles - <i>Andreas Spohn, Institut P'</i>
14:40 - 15:00	› On the near wall dissipation - <i>Sedat Tardu, Laboratoire des Écoulements Géophysiques et Industriels</i>
15:00 - 15:20	› Interfacial layers in stratified/non-stratified turbulent flows - <i>Julian Hunt, University College London</i>
3:20 pm - 3:40 pm	Coffee break (Hall K)
3:40 pm - 4:40 pm	Rotating & turbulent flows (Amphi K118)
15:40 - 16:00	› The Viscous Structure of Baroclinic Critical Layers in Stratified Shear Flow with Background Rotation - <i>Patrick Huerre, Laboratoire d'Hydrodynamique, Ecole Polytechnique</i>

TIME	EVENT
16:00 - 16:20	› Flow through a rotating, tilted rectangular box - <i>Leo Maas, Texel, Netherlands</i>
16:20 - 16:40	› Extreme Events in Turbulent Rotating Flows: Lagrangian and Eulerian Statistics - <i>Luca Biferale, Dept of Physics, University of Rome Tor Vergata</i>
4:40 pm - 5:00 pm	Coffee break (Hall K)
5:00 pm - 6:00 pm	Stratified flows I Stability and waves (Amphi K118)
17:00 - 17:40	› Internal wave in the ocean, local, global stability and transient growth - <i>Jean-Marc Chomaz, Laboratoire d'Hydrodynamique, Ecole Polytechnique</i>
17:40 - 18:00	› Energy cascade in internal wave attractors - <i>Evgeny Ermanyuk, Laboratoire de Physique, ENS de Lyon</i>
7:30 pm - 11:00 pm	Dinner at "Pèr' Gras" (Bastille)

Friday, May 13, 2016

TIME	EVENT
9:00 am - 10:00 am	Stratified flows II Gravity currents (Amphi K118)
09:00 - 09:20	› From Stratified gravity currents to a practical hydraulic problem. - <i>Gilles Corcos, Berkeley, United States</i>

TIME	EVENT
09:20 - 09:40	› Energetics of Deep Alpine Valleys in Pooling and Draining Configurations - <i>Chantal Staquet, Laboratoire des Écoulements Géophysiques et Industriels</i>
09:40 - 10:00	› Stratified flow near a topographic control - <i>Kraig Winters, Scripps Institution of Oceanography</i>
10:00 am - 10:20 am	Coffee break (Hall K)
10:20 am - 11:40 am	Stratified flows III Turbulence, mixing and waves (Amphi K118)
10:20 - 11:00	› The turbulent/non-turbulent interface in a plume - <i>Paul Linden, Department of Applied Mathematics and Theoretical Physics, University of Cambridge</i>
11:00 - 11:20	› On mixing across a stable density interface - <i>Antoine Venaille, Laboratoire de Physique, ENS de Lyon</i>
11:20 - 11:40	› Local Thorpe length analysis of a gravity current - <i>Philippe Odier, Laboratoire de Physique, ENS de Lyon</i>
11:40 am - 11:50 am	Intermission (Hall K)
11:50 am - 12:50 pm	Stratified flows III Turbulence, mixing and waves (Amphi K118)
11:50 - 12:10	› Length scales of stratified turbulence : new insight on Thorpe displacements statistics from in situ oceanic measurements and high resolution Direct Numerical Simulations - <i>Louis Gostiaux, Laboratoire de Mécanique des Fluides et d'Acoustique</i>
12:10 - 12:30	› Waves and turbulence in the Southern Ocean: small-scale processes with global

TIME**EVENT**

impacts - *David Smeed, National Oceanography Centre*

12:30 - 12:50

› Laboratory modelling of momentum transport by internal gravity waves and eddies in the Antarctic circumpolar current - *Joel Sommeria, Laboratoire des Écoulements Géophysiques et Industriels*

12:50 pm -
2:00 pm

Lunch (Hall K)

2:00 pm -
3:00 pm

Visit of the Coriolis Platform - *Joel Sommeria & Samuel Viboud*



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Notes

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Practical information

Transportation

The colloquium takes place at LEGI, which can be reached from the North of the city centre via tram B (colour-coded green) direction Plaine des Sports, and from the South via tram C (colour-coded purple) direction Condillac Universités. In both cases stop at Gabriel Fauré or Bibliothèques Universitaires.

Wireless

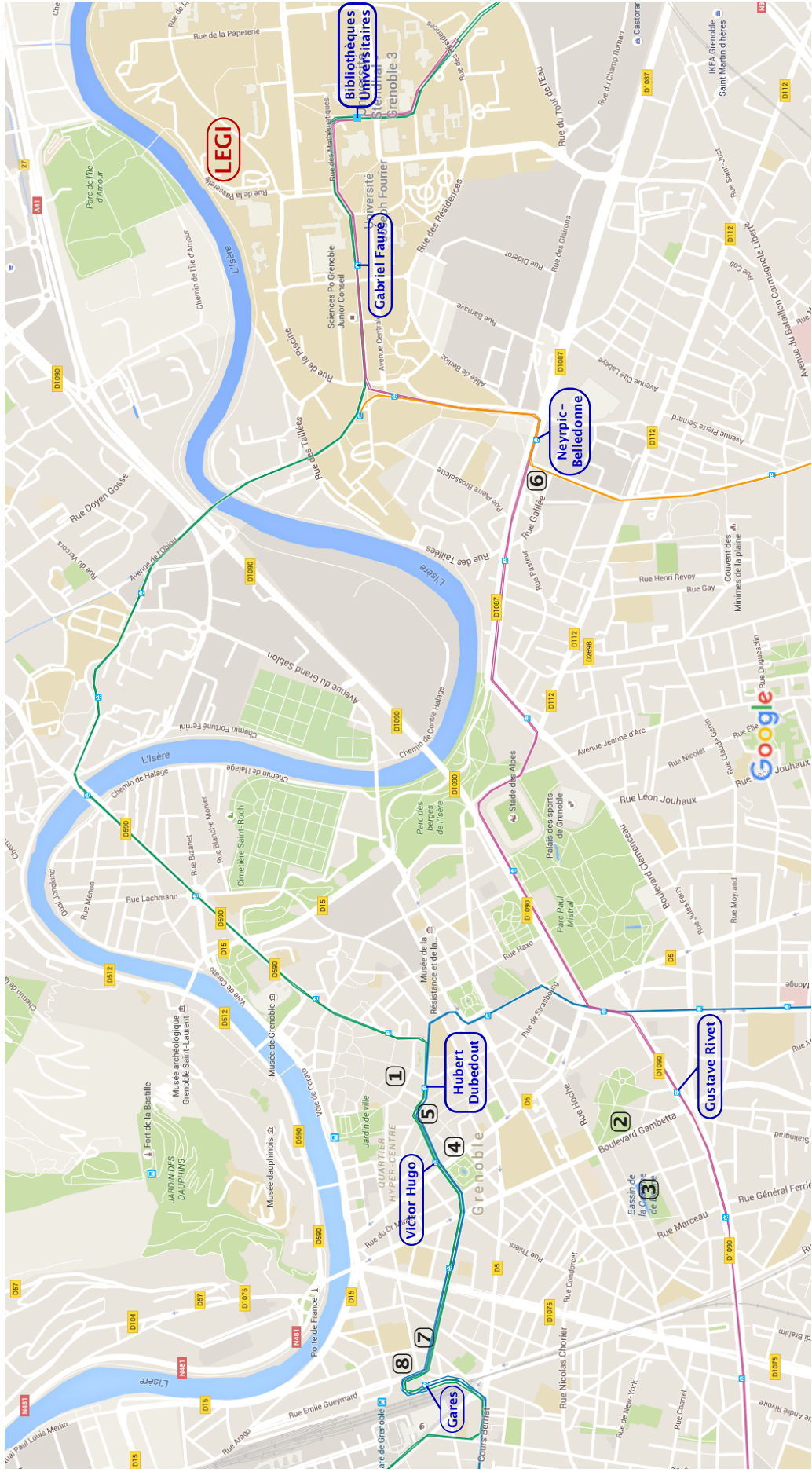
The registration package includes personal access codes for the wifi-campus network. The global eduroam network is also available.

Presentation

Please keep 5 minutes at the end of your presentation for discussion. VGA and HDMI connections are available in the conference room for personal laptops; please test the connection before the beginning of your session. A Windows computer is also available, and a Mac computer can be made available if needed, please ask the organizers in advance.

Social events and meals

Lunches and coffee breaks are included in the registration. An **icebreaker cocktail** will be held on Wednesday evening during the poster session. The **conference dinner** will take place on Thursday evening at 7:30 pm at the **Pèr'Gras** restaurant, located atop Grenoble on the Bastille mountain and accessed by cable car with departure on the left bank of the Isère river. Access to the cable car is included in the dinner ticket. People must leave the restaurant by 11 pm, so that everybody gets back to town before the cable car stops at 11:45 pm.



Pèr' Gras

