

# Workshop on “Turbulence and Instabilities in Plasma Flows”

Monday 25<sup>th</sup> to Wednesday 27<sup>th</sup>, November 2019

École Centrale de Lyon, Écully (France)



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## Monday 25<sup>th</sup>

9:00 – 9:45 : Welcome coffee and registration

9:45 – 10:00 : Workshop opening

10:00 – 10:15 : Jean-Pierre Bertoglio (ECL delegate for research)

10:15 – 12:30 : Turbulence, Waves and Instabilities in Geophysical Fluids and  
Astrophysical Plasmas (I) - *ERCOFTAC SIG#50 kickoff*

10:15 <b>Roberto Bruno</b>	<i>Solar wind turbulence from energy injection scales to dissipation Scales</i>
11:00 <b>Sébastien Galtier</b>	<i>Turbulence, dissipation and heating in the solar wind</i>
11:45 <b>Thierry Passot</b>	<i>Energy and generalized cross-helicity cascades in strong imbalanced collisionless Alfvén wave turbulence</i>

Lunch @ École Centrale de Lyon

## 14:30 – 18:00 : Fundamental Plasmas (I)

14:30 <b>Axel Brandenburg</b>	<i>Reversed dynamo, reversed helicity, and diagnosing it</i>
15:15 <b>Benjamin Favier</b>	<i>Internal gravity waves generated by turbulent flows</i>
16:00-16:30	<b>COFFEE BREAK</b>
16:30 <b>Alain Pumir</b>	<i>Turbulence generation through an iterative cascade of the elliptical instability</i>
17:15 <b>Aziz Sahli</b>	<i>Nonlinear effects on the precessional instability in magnetized turbulence</i>

Cocktail @ École Centrale de Lyon

**Tuesday 26<sup>th</sup>**

**9:00 – 12:15 : Fundamental Plasmas (II)**

9:00 <b>Sergey Nazarenko</b>	<i>Rotating MHD turbulence</i>
9:45 <b>Nobumitsu Yokoi</b>	<i>Transport and large-scale instability in strongly compressible magnetohydrodynamic turbulence</i>
10:30 – 11:00	<b>COFFEE BREAK</b>
11:00 <b>Jan Friedrich</b>	<i>Investigation of small-scale intermittency in MHD turbulence: from the scaling features of longitudinal and transverse structure functions to a projection method on the universal features of MHD turbulence</i>
11:45 <b>Fabio Feraco</b>	<i>Simulations of decaying parametric instability of an Alfvén wave in MHD</i>
12:00 <b>Wesley Agoua</b>	<i>Generation of helicity in unstably stratified MHD</i>

*Lunch @ École Centrale de Lyon*

**14:00 – 18:15 : Turbulence, Waves and Instabilities in Geophysical Fluids and Astrophysical Plasmas (II) - ERCOFTAC SIG#50 kickoff**

14:00 <b>Jorge Chau</b>	<i>Four dimensional quantification of Kelvin-Helmholtz instabilities in the polar summer mesosphere using volumetric radar imaging</i>
14:45 <b>Doris Folini</b>	<i>10048<sup>3</sup> - Isothermal compressible turbulence re-visited</i>
15:30 – 16:00	<b>COFFEE BREAK</b>
16:00 <b>Fabien Godeferd</b>	<i>Statistical modeling and direct numerical simulations for anisotropic turbulence in conducting fluids and plasmas</i>
16:45 <b>Rolf Walder</b>	<i>Relativistic magnetic reconnection and particle acceleration</i>
17:30 <b>Romain Lucken</b>	<i>Marginal stability and transport in low temperature magnetized plasmas</i>

*Social dinner in downtown Lyon @ “Brasserie Le Sud”*



**Wednesday 27<sup>th</sup>**

**9:00 – 12:30 : Laboratory Plasmas (I)**

9:00 <b>Eric Serre</b>	<i>A new modelling of the cross-field transport in tokamak edge plasma for magnetic fusion</i>
9:45 <b>Victor Desangles</b>	<i>Instabilities in two types of plasma thrusters: HET and ECR</i>
10:30 – 11:00	<b>COFFEE BREAK</b>
11:00 <b>Jorge Morales</b>	<i>Plasma transport overview in WEST tokamak</i>
11:45 <b>Anna Medvedeva</b>	<i>Study of turbulence in fusion plasmas using reflectometry synthetic Diagnostics</i>

*Lunch @ École Centrale de Lyon*

**14:00 – 15:30 : Laboratory Plasmas (II)**

14:45 <b>Simon Vincent</b>	<i>Low frequency waves in a magnetically confined plasma column</i>
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**15:30 – 15:45 : Concluding remarks**