

# SEMPARIS – Séminaires en région parisienne

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## Seminar of the theory group of APC

**Mardi 28 Novembre 2017, 14 :00**

APC, 483 A - Malevitch

Domaines : hep-th

Titre : *Scale invariant Lifshitz hydrodynamics and Torsional Newton-Cartan geometry*

Orateur : **Elias Kiritsis ( APC, Université Paris Diderot )**

Résumé : *Hydrodynamics is the generic low energy theory that describes fluids and generalizes thermodynamics. There are however quantum field theories, whose hydrodynamics is not known. A large class are non-relativistic theories with Lifshitz scaling (appearing in condensed matter systems). The gauge/gravity correspondence has provided a novel and precise correspondence between fluid dynamics and the gravitational physics of horizons. We use this to find the hydrodynamic equations that describe non-relativistic quantum field theories with Lifshitz scaling and hyperscaling violation. We also find the (torsional) Newton-Cartan gravity plays an important role.*

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