

## Dynamics of gravitational systems with a large number of particles

**ECTS** : 6

**Volume horaire** : 21

### **Description du contenu de l'enseignement :**

Reminder on differential equations

- Reminder on Hamiltonian systems
- Short reminder on measure and integration theories
- Elements on distributions
- Application to the Vlasov equation
- The Vlasov-Poisson system
- The BBGKY hierarchy, the hypothesis of molecular chaos
- The particular case of a cluster with spherical symmetry, an explicit solution

This course is taught at Observatoire de Paris.

### **Bibliographie, lectures recommandées :**

- Binney - Tremaine : Galactic Dynamics
- Cours polycopiés de F. Golsé