

GEOMETRY: EXCHANGES AND PERSPECTIVES

INSTITUT DE MATHÉMATIQUES DE JUSSIEU, PARIS, 16 MAI 2019

Room 1516-1-01

Program and abstracts

9h00 – 9h30	Welcome
9h30 – 10h25	Expository talk , Jason Lotay (1/2)
10h30 – 11h00	<i>Coffee break</i>
11h00 – 11h55	Expository talk , Jason Lotay (2/2)
12h00 – 13h30	<i>Lunch break at L'ardoise</i>
13h30 – 14h30	Research talk , Heather Macbeth
14h45 – 15h40	Expository talk , Samuel Tapie (1/2)
15h45 – 16h15	<i>Coffee break</i>
16h15 – 17h10	Expository talk , Samuel Tapie (2/2)

Jason Lotay (University of Oxford) – Expository talk

Lagrangian mean curvature flow

Abstract : It is well-known that in Kähler-Einstein manifolds, the mean curvature flow preserves the Lagrangian condition. This leads to important potential applications relevant to symplectic topology, Riemannian geometry and theoretical physics, particularly in the setting of Calabi-Yau manifolds. I will describe some of the key aspects of Lagrangian mean curvature flow, and provide a survey of progress and open problems in the field.

Samuel Tapie (Université de Nantes) – Expository talk

Geodesic dynamics and Laplace spectrum in negative curvature

Abstract : The geodesic flow on a Riemannian manifold is a dynamical system whose long time behaviour provides many topological and geometrical informations. The Laplace-Beltrami is an elliptic operator whose spectral properties also encapture many topological and geometrical data. In many aspects, the dynamics of the geodesic flow and the spectrum of the Laplacian are known to be related.

We will present in this talk some precise relationships between the bottom of the spectrum of the Laplacian (first eigenvalue, associated eigenfunction, bottom of the essential spectrum. . .) and asymptotical dynamical properties (counting of geodesics, mixing of the flow. . .) which hold for hyperbolic non-compact manifolds. This talk will gather some classical results by Patterson and Sullivan together with recent works.

Heather Macbeth (École normale supérieure) – Research talk

TBA