
Géométrie et dynamique dans les espaces de modules

(Carlos Matheus, Bram Petri et Anton Zorich)

Un mercredi du mois (**exceptionnellement deux exposés**) de 14h à 15h et 15h30 à 16h30 à l'Institut Henri Poincaré.

Séminaire au mois de Novembre:

- **27/11/2024 - James Farre** (Max Planck Institute)

Titre: *Affine laminations and coaffine representations*

Résumé: A surface subgroup Γ of $PSL(4, \mathbb{R})$ is convex cocompact if it preserves a nice convex set in projective 3-space on which it acts with compact quotient. In this talk, we study surface group actions on coaffine 3-space—a subgeometry of projective geometry. After an introduction to coaffine geometry, I will describe the structure of the boundary of the convex core associated to a convex cocompact surface group action on coaffine space: it is a 2-dimensional convex projective structure bent along a geodesic lamination according to an affine measure whose holonomy depends on the dynamics of a certain linear cocycle over the geodesic flow of the surface. This is joint work with Martin Bobb.

- **27/11/2024 - Jayadev Athreya** (University of Washington)

Titre: *Billiards in Rational Prisms*

Résumé: We survey what we know about the dynamics of billiards in rational prisms, that is, right prisms over rational polygons. We will discuss how to use beautiful ideas of Furstenberg and Veech to make connections between mixing properties of billiards in polygons to ergodic properties of billiards in prisms, and to produce explicit non-ergodic examples for billiards in prisms over certain regular polygons. We crucially use a construction of Mercat's for constructing eigenfunctions for substitutions, and give a geometric explanation of his construction. There will be lots of examples, and lots of pictures. This is joint work with Nicolas Bedaride, Pat Hooper, and Pascal Hubert.

Salle Olga Ladyjenskaïa (ex-salle 01)
INSTITUT HENRI POINCARÉ
11 Rue Pierre et Marie Curie, 75005 Paris