

De: Centre de recherches mathématiques crm@crm.umontreal.ca
Objet: COLLOQUE DES SCIENCES MATHÉMATIQUES DU QUÉBEC (23/02/2018, Sabin Cautis)
Date: 19 février 2018 11:24
À: activites@CRM.UMontreal.CA



COLLOQUE DES SCIENCES MATHÉMATIQUES DU QUÉBEC
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DATE :
Le vendredi 23 février 2018 / Friday, February 23, 2018

HEURE / TIME :
16 h / 4:00 p.m.

CONFERENCIER(S) / SPEAKER(S) :
Sabin Cautis (University of British Columbia)

TITRE / TITLE :
Cluster theory of the coherent Satake category

LIEU / PLACE :
UQAM, Pavillon Président-Kennedy, 201, ave du Président-Kennedy, salle PK-5115

RESUME / ABSTRACT :
The affine Grassmannian, though a somewhat esoteric looking object at first sight, is a fundamental algebro-geometric construction lying at the heart of a series of ideas connecting number theory (and the Langlands program) to geometric representation theory, low dimensional topology and mathematical physics.

Historically it is popular to study the category of constructible perverse sheaves on the affine Grassmannian. This leads to the *constructible* Satake category and the celebrated (geometric) Satake equivalence.

More recently it has become apparent that it makes sense to also study the category of perverse *coherent* sheaves (the coherent Satake category). Motivated by certain ideas in mathematical physics this category is conjecturally governed by a cluster algebra structure.

We will illustrate the geometry of the affine Grassmannian in an elementary way, discuss what we mean by a cluster algebra structure and then describe a solution to this conjecture in the case of general linear groups.

Responsables :
Olivier Collin (UQÀM)
Henri Darmon (Université McGill)
Dimitris Koukoulopoulos (Université de Montréal)
Iosif Polterovich (Université de Montréal)
David Stephens (Université McGill)
Hugh Thomas (UQÀM)
Yi Yang (Université McGill)
