

SCHEDULE WEEK 1

Preschool in Luminy

	Monday 15/4	Tuesday 16/4	Wednesday 17/4	Thursday 18/4	Friday 19/4	Saturday 20/4
8h						Week-end
9h						
10h	Peyre	Harari	Schindler	Demarche	Demarche	
11h	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break	
12h	Harari	Peyre	Demarche	Schindler	Schindler	
13h	Lunch	Lunch	Lunch	Lunch	Lunch	
14h						
15h	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break	
16h	Peyre	Harari	Schindler	Schindler		
17h						
18h	Harari	Peyre		Demarche		
19h						
20h	Dinner	Dinner	Dinner	Dinner		

Cyril DEMARCHE: *Cohomological obstructions to local-global principles*

Hasse proved that for quadrics the existence of rational points reduces to the existence of solutions over local fields. In many cases, cohomological constructions provide obstructions to such a local to global principle. The objective of these lectures is to give an introduction to these cohomological tools.

Date: Monday, April 15th–Sunday, April 21th.

David HARARI: *Galois cohomology, arithmetic duality and obstructions to local-to-global principles for rational points*

A general survey about Galois and étale cohomology, arithmetic duality theorems, and Poitou-Tate exact sequences, with an emphasis on applications to local-to-global principles.

Emmanuel PEYRE: *Points of bounded height*

These talks will start with an introduction to the notion of heights before giving a survey on the program of Manin about the asymptotic behaviour of rational points of bounded height on varieties.

Damaris SCHINDLER: *Interactions of analytic number theory and geometry*

A general introduction to the state of the art in counting of rational and integral points on varieties, using various analytic methods with the Brauer–Manin obstruction.