Séminaire de théorie des nombres

Le 14 février à 14h

Inseparable field extensions associated to p-divisible groups

Exposé de Richard Pink

Résumé : Let X be a p-divisible group over a field K of characteristic $p > 0$. Then the field of definition $K(x)$ of any point $x \in X$ is a finite extension of K, which may be separable or inseparable. How do the separable and inseparable degrees of $K(x)/K$ vary with x ? The separable degree is determined by the action of the absolute Galois group of K on the Tate module of X, and hence by group theory. In a joint project by Frans Oort and the speaker, a partial answer is given for the inseparable degree. One of the tools used is deformation theory of p-divisible groups. Another is the theory of multilinear morphisms for commutative group schemes and p-divisible groups, which incorporates tensor product and inner hom, and which allows the extension of the results to a variety of similar questions.