

SEMINARIO ARITMÉTICA Y GEOMETRÍA EN VALPARAÍSO

Fecha: Miércoles 11 de enero 2017

Hora: 14:00-16:10

Lugar: Sala 2.2, IMA, PUCV

Expositor: **Marusia Rebolledo** (U. de Clermont-Ferrand II (Francia))



Título: Explicit construction of abelian varieties of dimension 3 with large Galois image

Resumen : Let A be a principally polarized abelian variety of dimension g over a number field K . For ℓ a prime number, let consider the representation $\rho_{A,\ell}$ associated to the Galois action on the ℓ -torsion of A . The image of this representation is a subgroup of the general symplectic group $\mathrm{GSp}_{2g}(\mathbb{F}_\ell)$. Serre showed that when g is 2, 6 or odd, and $\mathrm{End}_{\overline{K}}(A) = \mathbb{Z}$, the image of $\rho_{A,\ell}$ is the whole general symplectic group, provided that ℓ is larger than some (non explicit) constant depending on A and K . In this context, the aim of my talk will be the following explicit problem : given a prime number ℓ , construct a family of abelian varieties of dimension 3 over \mathbb{Q} for which the associated representation has image $\mathrm{GSp}_6(\mathbb{F}_\ell)$. It is a joint work with S. Arias de Reyna, C. Armana, V. Karemaker, L. Thomas, and N. Vila.

<http://seminarioaritmeticaygeometria.wordpress.com/>

Auspicios

- Pontificia Universidad Católica de Valparaíso
- Universidad de Valparaíso