

**Speaker:** Emmanuel Ullmo

**Title:** Algebraic Flows on Abelian Varieties and Shimura Varieties

**Abstract:** Let  $A$  be a complex Abelian variety. An algebraic flow in  $A$ , is the image of an algebraic variety by the uniformizing map. The Abelian Ax-Lindemann asserts that the Zariski closure of an algebraic flow in  $A$  is a translate of an Abelian subvariety of  $A$ . We will describe what we expect for the usual topological closure of an algebraic flow and show what happens for flows by algebraic curves. For a Shimura variety  $S$ , the hyperbolic Ax-Lindemann theorem asserts that the Zariski closure of an algebraic flow in  $S$  is a weakly special subvariety of  $S$  and the same questions can be studied in this hyperbolic context. This is a joint work with Andrei Yafaev.