

**COMPLEX HYPERBOLIC LATTICES****Fudan Topology Seminar****Speaker: John R. Parker****Durham University****Time: Thur, Apr. 7th, 15:00-17:00****Zoom meeting ID: 956 0945 4208****Passcode: hyperbolic**

**Abstract:** I will give a survey on recent results about complex hyperbolic lattices. A lattice in a Lie group is a discrete subgroup whose quotient has finite Haar measure. In this talk I will concentrate on the Lie group  $SU(n,1)$ , often restricting to the case where  $n=2$ . Elements of this group act as holomorphic isometries of complex hyperbolic space. Roughly speaking, there are four methods of constructing complex hyperbolic lattices. I will discuss how these are related, with particular emphasis on a family of non-arithmetic lattices.