Special Colloquium

UCR

Mathematics

Department

DR. HONGBIN SUN

UC BERKELEY

"ARITHMETIC HYPERBOLIC MANIFOLD GROUPS CONTAIN NONSEPARABLE SUBGROUPS "

Given a group, whether all finitely generated subgroups are separable is an interesting group theoretical property, and it is closely related with low-dimensional topology, e.g. the virtual Haken conjecture (solved by Agol). I will show that, for almost all arithmetic hyperbolic manifolds with dimension at least 4, their fundamental groups contain nonseparable subgroups. The main ingredient is a study of certain graph of groups with hyperbolic 3-manifold groups as vertices, and the fact that hyperbolic 3-manifolds have a lot of virtual fibering structures. The proof also implies that, for a compact irreducible 3-manifold with empty or tori boundary, it supports one of eight Thurston's geometries if and only if its fundamental group is subgroup separable.

Monday, February 13th, 2017

Room 284, the 2nd Floor of the Surge Building

Tea Time @ 3:40 p.m.

Talk Begins @ 4:10 p.m.

Ends @ 5:00 p.m.

900 University Avenue
Surge Building 2nd Floor
Riverside, CA
92521
951-827-3113

UCR
Department of Mathematics