Meeting: 1001, Evanston, Illinois, AGOL, Invited Address

1001-57-331 **Ian Agol*** (agol@math.uic.edu), MSCS UIC, 322 SEO, m/c 249 851 S. Morgan St., 851 S. Morgan St., Chicago, IL 60607. *Two generator Kleinian groups.*

We'll discuss recent progress in the classification of Kleinian groups, by considering the special case of Kleinian groups generated by two elements. These are discrete subgroups of $PSL_2\mathbb{C}$ generated by two matrices. Recent solutions to conjectures of Thurston and Marden complete the classification of these groups, in terms of the topology of the associated 3-manifolds, and a certain completion of conformal data associated to the ends of the manifold. We'll also describe applications of this classification to the study of cocompact 2-generator groups. In particular, we'll sketch a proof that there are finitely many arithmetic 2-generator Kleinian groups, assuming the Salem number conjecture. (Received August 30, 2004)