1096-57-1342 **Emily R Landes*** (erlandes@gmail.com), Department of Mathematics, Technion – Israel Institute of Technology, 32000 Haifa, Israel. *Linking Nielsen Equivalence with Character Varieties.* Preliminary report.

Determining which generating sets of a given group G are Nielsen equivalent is an ongoing problem in combinatorial group theory that has important applications to low dimensional topology. For the first time we consider this problem from the perspective of character varieties, and as a start we examine fundamental groups of hyperbolic manifolds and their $SL_2(\mathbb{C})$ character varieties $X(G)$. Using González-Acuña and Montesinos-Amilibia's coordinates for $X(G)$, we see a nice correspondence between Nielsen transformations of a generating set for G and smooth automorphisms on the ambient space of $X(G)$. In my talk I will describe the construction, provide details for the figure-8 knot complement, and point out a looming connection with Teichmüller theory and the moduli space of marked genus g curves $\bar{M}_g$. (Received September 15, 2013)