

“Group Theory International” Online Seminar

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“*Verbal subgroups of hyperbolic groups have infinite width*”

Thursday, Feb 16, noon (New York Time)

Abstract:

Let \mathbf{G} be a non-elementary hyperbolic group. Let \mathbf{w} be a group word such that the set $\mathbf{w}[\mathbf{G}]$ of all its values in \mathbf{G} coincides neither with \mathbf{G} , nor with $\{1\}$. We show that the width of the verbal subgroup $\mathbf{w}(\mathbf{G}) = \langle \mathbf{w}[\mathbf{G}] \rangle$ is infinite. That is, there does not exist a natural number \mathbf{l} such that any \mathbf{g} from $\mathbf{w}(\mathbf{G})$ can be represented as a product of not more than \mathbf{l} values of \mathbf{w} and their inverses. As a corollary we obtain the same result for a wide class of relatively hyperbolic groups. (This is joint work with Alexei Myasnikov.)

Next presentation: **Mar 1, 2012.** *Susan Hermiller (University of Nebraska–Lincoln)*