Denis Osin

(Vanderbilt University, USA)

Acylindrically hyperbolic groups

I will survey recent advances in the study of groups acting acylindrically on hyperbolic spaces. A special emphasis will be made on the approach based on hyperbolically embedded subgroups. In particular, we will discuss the general version of group theoretic Dehn surgery and some of its applications. Most of the material will be based on the papers [1, 2, 3, 4, 5, 6, 7]

References

[1] F. Dahmani, V. Guirardel, D. Osin, Hyperbolically embedded subgroups and rotating families in groups acting on hyperbolic spaces, arXiv:1111.7048.

[2] M. Hull, Small cancellation in acylindrically hyperbolic groups, arXiv:1308.4345.

[3] M. Hull, D. Osin, Induced quasi-cocycles on groups with hyperbolically embedded subgroups, *Alg. & Geom. Topology* **13** (2013), no. 5, 2635-2665.

[4] A. Minasyan, D. Osin, Acylindrically hyperbolic groups acting on trees, arXiv:1310.6289.

[5] D. Osin, Acylindrically hyperbolic groups, arxiv:1304.1246; to appear in *Trans. Amer. Math. Soc.*

[6] D. Osin, Small cancellations over relatively hyperbolic groups and embedding theorems, *Annals of Math.* **172** (2010), 1-39.

[7] D. Osin, Peripheral fillings of relatively hyperbolic groups, *Invent. Math.* **167** (2007), no. 2, 295-326.