1041-05-92 **Manuel Bodirsky** and **Eric P Fusy*** (ericfusy@yahoo.fr), Dept Math, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A 1S6, Canada, and **Mihyun Kang** and **Stefan Vigerske**. *Boltzmann samplers, Pólya theory, and cycle-pointing.*

Pointing is a very efficient tool to perform enumeration and random generation on a combinatorial class, as it gives a way to start a recursive decomposition. In the labelled case, the approach works fine because all atoms are distinguishable, hence pointing multiplies by $n$ the $n$th counting coefficient and preserves the fixed-size uniform distribution. In contrast, in the unlabeled case, the pointing approach does not adapt straightforwardly because a structure of size n can give rise to less than n pointed structures (rooting at two vertices in symmetric position gives the same rooted object). In this talk, we present a pointing operator, called "cycle-pointing", such that each unlabeled unrooted structure of size n gives rise to n unlabeled pointed structures. We explain how this strategy gives rise to very efficient random generators, which rely on the principles of "Boltzmann samplers", for various unlabeled classes of structures, in particular trees and graphs. (Received August 05, 2008)