1102-51-177 **Larry Guth***, larry.guth.work@gmail.com. *Pants decompositions of random surfaces.*

A pants decomposition of a closed surface is a set of disjoint smooth curves so that each component of the complement is diffeomorphic to a pair of pants (a surface of genus zero with three boundary components). A pants decomposition is a way to break a complicated high genus surface into simpler pieces. Given a Riemannian metric on a surface, we can define the length of a pants decomposition to be the total length of all the curves in the decomposition. The pants length of a surface is the infimal length of any pants decomposition of the surface. We consider the question: what is the maximal possible pants length of a surface with area A and genus G? For large genus, this question is very poorly understood, and I think it is one of the most fundamental problems about the Riemannian geometry of high-genus surfaces.

We discuss joint work with Hugo Parlier and Robert Young, giving examples of random surfaces with pants length much larger than any known bound for any specific surface. (Received July 28, 2014)