

***DISK PATTERNS, DISCRETE MODULUS AND THE  
UNIFORM BOUNDED DIAMETER CONJECTURE***

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**Time: Thu, Jan 9th, 09:00 - 10:00**

**Venue: Room 110, SCMS**

**Abstract:**

The skinning map, defined on the quasi-isometric deformation space of a hyperbolic 3-manifold  $M$ , is an important object in Thurston's hyperbolization theorem. It is known that when the manifold is acylindrical, the skinning map has bounded image. Y. Minsky conjectured that the diameter of the skinning image depends only on the topological complexity of the boundary of  $M$ . In this talk, I will discuss a positive answer to this conjecture in the setting of Kleinian reflection groups, based on recent joint work with Yusheng Luo.

It turns out that Kleinian reflection groups and disk patterns are closely related, and their underlying combinatorial information can be encoded in an edge-weighted graph. Certain geometric properties can then be studied using combinatorial objects defined on these graphs. In particular, I will describe a discrete analogue of conformal modulus on graphs and state a quasi-duality result, and then discuss how to use them to study the skinning map.