## ABSTRACT:

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Combinatorial deformation theory: from combinatorics to models and back.

In this series of talks, we'll introduce combinatorial models for Teichmüller spaces of hyperbolic 3-manifolds that have revolutionized the study of dynamics and geometry in these fields. After describing some of the basic results and techniques, we will turn these techniques back to the study of the combinatorial structures themselves giving examples of new tools from 3-dimensional geometry and topology in their study.