

BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

**TOPOLOGY OF THE TROPICAL MODULI  
SPACES  $M_{G,N}$**

**Melody Chan**  
Harvard

Dec 10, 2014, 4:00 – 5:00pm  
Math/Computer Science, Room 148  
111 Cummington Street, Boston

Tea: 3:45pm in Room MCS 144

**Abstract:** The moduli space of  $n$ -marked, genus  $g$  tropical curves is a cell complex that was identified in work of Abramovich-Caporaso-Payne with the boundary complex of the complex moduli space  $M_{g,n}$ . It also has connections to many other important geometric objects: for example, if  $g = 0$ , it is the Billera-Holmes-Vogtmann space of phylogenetic trees, while if  $n = 0$ , it is a compactified quotient of Culler-Vogtmann Outer space. In this talk, I will give new results on the topology of tropical  $M_{1,n}$  and  $M_{2,n}$ , obtaining as corollaries new calculations of the top-weight cohomology of the complex moduli spaces  $M_{1,n}$  and  $M_{2,n}$ . Joint work, in part, with Galatius and Payne.

See <http://math.bu.edu/research/geom/seminar.html> or contact Ryan Grady [regrady@math.bu.edu](mailto:regrady@math.bu.edu) for more information.