

MAPS TO TREES AND LOCI IN THE MODULI SPACE OF TROPICAL CURVES

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Tropical geometry is a large and growing field of mathematics that aims to find combinatorial, piecewise-linear analogues of various algebraic and geometric objects. One particularly well-developed correspondence is the one between algebraic curves and metric graphs, which are also called tropical curves. There exist tropical analogues of many constructions and results for algebraic curves, such as meromorphic functions, divisors, linear equivalence, the Riemann–Roch theorem, Jacobians, and moduli spaces. Such objects can be studied using purely combinatorial methods, and results about them can then be used to understand their algebraic analogues.

A classical problem in algebraic geometry is the study of loci in the moduli space of algebraic curves consisting of curves admitting linear systems of a particular type. A major difference between tropical and algebraic curves is that the former usually have a much larger collection of principal divisors than the latter. For this reason, the loci of tropical curves admitting specific linear systems have unexpectedly large dimension in moduli. I will talk about an approach to this problem in which, instead of looking at tropical curves with linear systems, we look at tropical curves admitting maps to trees of a particular type.

Talk will take place in Pearce 226 on

FRIDAY, 11/09/2018, 11:15AM–12:15PM

Hope to see you there!