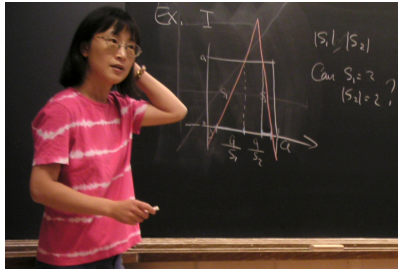


Complex dynamics and quasi-conformal geometry.



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When hyperbolic maps are matings.

Tuesday, 24 October 2017 17:15 (55 minutes)

A mating is a rational map made by combining two polynomials of the same degree in a certain fashion. Matings were a recurring theme in Tan Lei's work, not surprisingly, since the concept was invented by Douady and Hubbard after their extraordinary success in describing the Mandelbrot set in the parameter space of quadratic polynomials. In fact, Tan Lei's thesis was essentially an existence result, prompted by a question of Douady, and showing that matings are in plentiful supply. It was, however, realised early on that not all rational maps can be described in terms of matings of polynomials. Nevertheless, there are regions of the parameter space of quadratic rational maps in which matings do give a good combinatorial description of the parameter space, and describe all hyperbolic rational maps of bitransitive type. I will talk about a relatively new instance of this, in the case where all Fatou components have disjoint closures.

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