BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

ENUMERATION OF SINGULAR CURVES WITH TANGENCY CONDITIONS

Yu-Jong Tzeng
Harvard

Oct 31, 2012, 4:00 – 5:00pm
Math/Computer Science, Room B21
111 Cummington Street, Boston

Tea: 3:45pm in Room 144

Abstract: How many nodal degree d plane curves are tangent to a given line? The celebrated Caporaso-Harris recursion formula gives a complete answer for any number of nodes, degrees, and all possible tangency conditions. In this talk, I will report my recent work on the generalization of the above problem to count singular curves with given tangency condition to a fixed smooth divisor on general surfaces. I will relate the enumeration to tautological integrals on Hilbert schemes of points and show the numbers of curves in question are given by universal polynomials. As a result, we can obtain infinitely many new formulas for nodal curves and understand the asymptotic behavior for all singular curves with any tangency conditions.

See `http://math.bu.edu/research/geom/seminar.html` or contact Si Li *sili@math.bu.edu* for more information.