



Speaker: Daniel Cristofaro-Gardiner
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Thursday, January 15, 2015
2:00 PM
125 Hayes-Healy Hall

Title: From symplectic geometry to combinatorics and back

Abstract:

I will explain some new connections between counting lattice points in polytopes and four-dimensional symplectic embedding problems. For example, I will give examples of irrational triangles whose “Ehrhart function” is a polynomial, and I will relate this to a remarkable result by McDuff and Schlenk concerning when a four-dimensional ellipsoid can be symplectically embedded into a ball. I will also explain what these triangles have to do with embeddings of four-dimensional ellipsoids into some other symplectic manifolds. Some of this is joint work with Richard Stanley, Tara Holm, Alessia Mandini, and Ana Rita Pires.