

CARNEGIE MELLON UNIVERSITY
DEPARTMENT OF MATHEMATICAL SCIENCES
MATH CLUB SEMINAR

Friday, October 16, 2015

11:30 A.M., 12:15 P.M., Wean Hall 8220

Pizza provide

Richard Evan Schwartz

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Title: The Projective Heat Map

Abstract: One of the simplest things you can do when you have a polygon is connect the midpoints of the sides, getting a new polygon. This operation, when done repeatedly, has a predictable behavior that is controlled by the discrete Fourier transform (which I'll explain) and is closely related to heat flow. After explaining the secret of the midpoint map, I'll talk about a similar operation you can do on polygons which has the same flavor as the "midpoint map", but which is more closely related to projective geometry. The "projective heat map" has much wilder behavior but still resembles heat flow in some sense..

Richard Evan Schwartz is the Director of Undergraduate Studies with the Department of Mathematics at Brown University. He received his B.S. from UCLA in 1987 and Ph.D. from Princeton in 1991.