

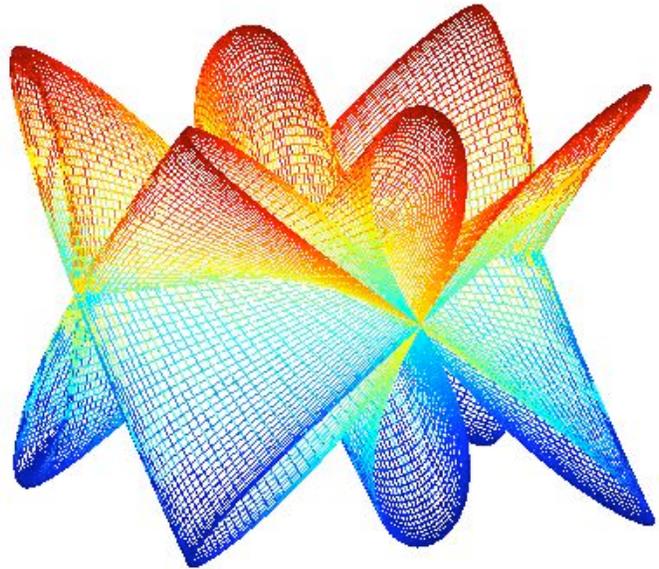
# The SUMO Speaker Series for Undergraduates

*(food from Pizza Chicago)*  
Wednesday, January 13  
4:40-5:30, room 380C

## Factorization for Matrix-Valued Functions

Prof. Ilya Spitkovsky

Abstract: There are natural situations in physics that are described by integral equations involving functions which depend only on the differences of variables, due to translational symmetry. The case when the equations involved are defined on finite intervals gives rise to factorization problems for matrix-valued functions, with entries having a special kind of discontinuity (called "almost periodic behavior at infinity").



Understanding the factorization of such matrix functions is very far from completion. We will give an overview of known results and describe some open problems. In particular, we will present examples of triangular 2-by-2 matrix functions, with trigonometric polynomials as their entries, for which it is not known whether or not they have a desired kind of factorization.

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