2:00 pm | **Will Perkins**
Georgia Tech

Searching for (sharp) thresholds in random structures: where are we now?

Phase transitions, hard computational problems, and the emergence of intricate structures in random graphs—how are these phenomena connected and how can we understand them?
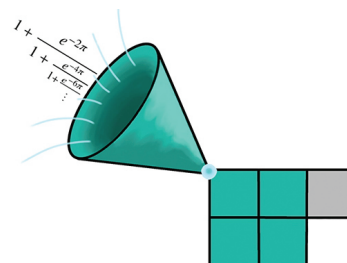

Courtesy of Pinke / iStock / Getty Images Plus.

3:00 pm | **Hussein Mourtada**
Université Paris Cité

Hilbert meets Ramanujan: singularity theory and integer partitions

What can singularities of algebraic varieties say about the various decompositions of a positive integer into a sum of positive integers?
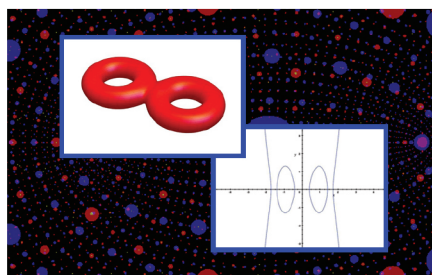

Courtesy of Hussein Mourtada.

4:00 pm | **Holly Krieger**
University of Cambridge

Uniformity when arithmetic meets geometry

Understanding how algebra and geometry provide uniform control over the number of rational points on a curve.
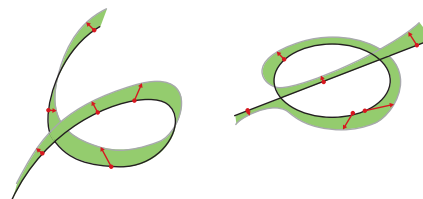

Courtesy of Holly Krieger and Laura DeMarco.

5:00 pm | **Ravi Vakil**
Stanford University

Passing a curve through n points—solution of a 100-year-old problem

When can you string a curve through a number of points in space? How two young researchers finally settled an ancient problem.

Supported by the Bose, Datta, Mukhopadhyay and Sarkar Fund.

Courtesy of The American Mathematical Society.

Organized by **David Eisenbud**, *University of California, Berkeley*