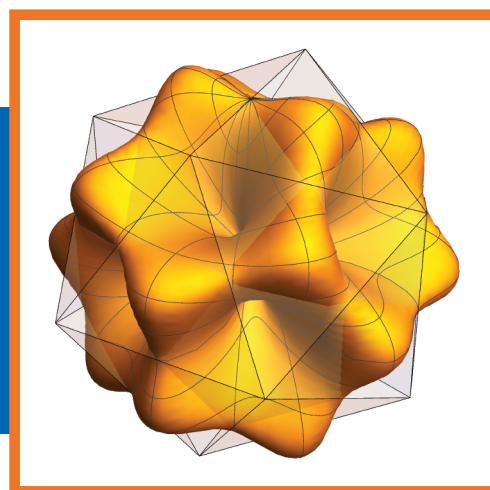


## AMS SHORT COURSE

# Sum of Squares: Theory and Applications



**January 14–15, 2019, Baltimore, MD**

(in conjunction with the Joint Mathematics Meetings)

The American Mathematical Society's Short Courses connect mathematicians and students to emergent areas of applied mathematics through a series of survey lectures and activities. Short Courses are designed to introduce state-of-the-art research to a non-specialist audience, fueling their curiosity, discovery, and research.

In 2019, the Short Course lecturers focus on the theory and application of sums of squares (SOS) polynomials. These applications span a wide spectrum of mathematical disciplines from real algebraic geometry to convex geometry, combinatorics, real analysis, theoretical computer science, quantum information and engineering.

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### Course Organizers:

**Pablo A. Parrilo**, *Massachusetts Institute of Technology*

**Rekha R. Thomas**, *University of Washington*

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### Lecture Topics:

**Overview of SOS polynomials,**

Greg Blekherman, *Georgia Institute of Technology*

**Lifts of Convex Sets,**

Hamza Fawzi, *University of Cambridge*

**Engineering Applications,**

Georgina Hall, *Princeton University*

**Theoretical Computer Science,**

Ankur Moitra, *Massachusetts Institute of Technology*

**Algebraic Geometry,**

Mauricio Velasco, *Los Andes University*

**Geometry of Spectrahedra,**

Cynthia Vinzant, *North Carolina State University*