SPEAKER:

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TITLE:

Cuspidal curves, and partition arithmetic, and lattice points in polytopes

ABSTRACT:

The irreducibility the Severi variety of plane curves $V_{d,g}$ of fixed degree d and arithmetic genus g is a well-known and celebrated result of J. Harris from the 1980s. In higher (ambient) dimension, the situation changes drastically, and (the natural generalizations of) Severi varieties of curves with fixed numerical invariants in $\mathbb{P}^n$ are very often reducible and have components of larger-than-expected dimensions. In this talk, I will explain why this is the case, and what this has to do with partitions and lattice points in polytopes.