

SIMION STOILOW INSTITUTE OF MATHEMATICS OF THE ROMANIAN ACADEMY

IMAR Monthly Lecture

***Schur polynomials, positivity and the
Hodge-Riemann property***

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Wednesday, October 18, 2023, 13:00h

IMAR, Miron Nicolescu amphitheater

Abstract: Schur polynomials are homogeneous symmetric polynomials which are associated to partitions of natural numbers. They play an important role in combinatorics. In this talk we will relate them to positivity notions appearing in the linear algebra of finitely dimensional complex vector spaces as well as to the geometry of complex projective manifolds. We will end by discussing Hodge-Riemann type properties of Schur polynomials evaluated in positive definite Hermitian forms. These properties were put into light in a recent series of joint papers with Julius Ross.