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THE WEIZMANN INSTITUTE OF SCIENCE  
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE  
Algebraic Geometry and Representation Theory Seminar

Room 1 ,Ziskind Building  
on Wednesday, Aug 03, 2016at 10:30

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The Capelli problem for  $\mathfrak{gl}(m|n)$  and the spectrum of invariant differential operators

Abstract:

The "generalized" Capelli operators form a linear basis for the ring of invariant differential operators on symmetric cones, such as  $GL/O$  and  $GL/Sp$ . The Harish-Chandra images of these operators are specializations of certain polynomials defined by speaker and studied together with F. Knop. These "Knop-Sahi" polynomials are inhomogeneous polynomials characterized by simple vanishing conditions; moreover their top homogeneous components are Jack polynomials, which in turn are common generalizations of spherical polynomials on symmetric cones. In the talk I will describe joint work with Hadi Salmasian that extends these results to the setting of the symmetric super-cones  $GL/OSp$  and  $(GL \times GL)/GL$ .