

SPEAKER: Julia Maddox (University of Oklahoma)

TITLE: Some Remarks on Representations of  $\mathfrak{sp}(2m, \mathbb{C})$

ABSTRACT: Any irreducible representation of  $\mathfrak{sp}(2m, \mathbb{C})$  can be expressed as a formal sum of tensor products of symmetric powers of the standard representation. First I will present a basic result from linear algebra, which lays the foundation for an initial case of this statement. Then I will give a sketch of the proof of the general statement, which involves the application of Littelmann's work with Young diagrams in the context of decomposing a tensor product of two irreducible representations of  $\mathfrak{sp}(2m, \mathbb{C})$ . Finally I will set up an algorithm for finding such sums and provide some of the consequences in the cases of  $\mathfrak{sp}(4, \mathbb{C})$  and  $\mathfrak{sp}(6, \mathbb{C})$ .