

Séminaire d'Algèbre, Topologie et Géométrie  
Jeudi 22 mars à 14h00  
Salle I

Kristian Ranestad

(Oslo)

**Title :** *Decompositions of symmetric tensors*

**Abstract :** The rank of a symmetric tensor  $f$  is the minimal number of summands in an expression of  $f$  as a sum of symmetric tensors of rank one, i.e. powers of linear forms. A sum of powers decomposition of  $f$  corresponds, in the classical notion of apolarity, to a smooth finite apolar subscheme to  $f$ . Non-smooth finite apolar subscheme to  $f$  may have shorter length than the rank. I shall discuss additive decompositions of  $f$  corresponding to apolar subschemes of minimal length, and present recent joint work with F.O. Schreyer and with A. Bernardi.