

# UCCS Mathematics

## Colloquium

Thursday February 3<sup>rd</sup>, 2011

UC 307

12:30 pm – 1:30 pm

(Refreshments at 12:15 pm)

**Dr Alexander Woo, St. Olaf College**

### **Local properties of Schubert varieties**

Abstract: Nineteenth century geometers were interested in problems such as counting the number of lines which met four specified lines in space. Schubert varieties are geometric objects devised to help answer such questions. I will discuss some geometric properties and which Schubert varieties satisfy these properties.

Algebra enters the picture in two important ways. First, because Schubert varieties can be defined by polynomial equations, the study of polynomial rings and their ideals is crucial. Secondly, many answers to such questions can be formulated in terms of the combinatorics of permutations and the symmetric group