Topology, Algebraic Geometry, & Dynamics Seminar

Strings of beads and the equivariant cohomology or Peterson varieties

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Understanding the product structure of cohomology rings of Grassmann manifolds and flag manifolds is an area of classical interest. For certain special bases of cohomology rings of these spaces, products of basis elements are known to be positive and integral linear combinations of other basis elements for appropriate notions of ``positive'' and ``integral.''. In this talk I'll present a positive and integral formula for special basis elements of the equivariant cohomology of the Peterson variety, which is a subvariety of the complete flag manifold. I'll also discuss a previously unknown combinatorial identity that was discovered and used in the proof of the product formula in the equivariant cohomology of the Peterson variety.

Date: Friday, November 1, 2019
Time: 11:30-12:30 pm
Place: 4106 Exploratory Hall