September 17: Alexander Postnikov (MIT), "Affine Weyl groups in K-theory and representation theory."

We present a simple model for characters of irreducible representations of semi-simple Lie groups and, more generally, for Demazure characters. This is a combinatorial counterpart of the Littelmann path model. We give an explicit Chevalley-type formula for equivariant K-theory of generalized flag manifolds G/B. The construction is given in terms of alcove paths, which correspond to decompositions of affine Weyl group elements, and saturated chains in the Bruhat order on the usual Weyl group. A key ingredient is a certain R-matrix that satisfies the Yang-Baxter equation. Joint work with Cristian Lenart.