Realising Quantum Flag Manifolds as Graph C*-algebras”

Abstract: In this talk I will show how the C*-completions of the so-called quantum flag manifolds---noncommutative spaces arising as homogeneous spaces of quantum groups---can be realised as graph C*-algebras. After recalling the definition of a quantum flag manifold and its C*-algebra, I will describe how to compute the primitive ideal space using Dijkhuizen and Stokmann's description of a complete set of irreducible *-representations. This allows one to to construct a graph directly from the Weyl group of the associated Lie algebra, and appeal to classification results of Eilers, Ruiz and Sorensen to show that this graph C*-algebra is isomorphic to the C*-algebra of the relevant quantum flag manifold. This recovers some known isomorphisms between the C*-algebras of quantum flag manifolds, as well as determining surprising new ones.