

# **Geometry of quiver Grassmannians of Kronecker type and applications to cluster algebras**

Prof. Giovanni Cerulli Irelli

Department of Pure and Applied Mathematics, University of Padua, Italy

I will consider partial flag varieties, called quiver Grassmannians of Kronecker type, whose Euler numbers describe the generators of a cluster algebra  $A$  of type affine  $A_1$ . We will see that these varieties enjoys a cellular decomposition which allows us to compute explicitly their Betti numbers and their Poincare' polynomials. We will see that the geometry of these varieties will provide an explicit description of the atomic basis of  $A$ . This talk will be based on joint work with F. Esposito.