1135-11-62 **Alina Ostafe*** (alina.ostafe@unsw.edu.au), University of New South Wales, School of Mathematics and Statistics, Sydney, NSW 2052, Australia. *Multiplicatively dependent points in orbits of algebraic dynamical systems.*

Bombieri, Masser and Zannier (1999) proved that the intersection of a curve defined over a number field with the union of all proper algebraic subgroups of the multiplicative group $\mathbb{G}_m^n$ is a set of bounded height (unless this is false for an obvious reason).

Based on this result, in this talk we present recent finiteness results on multiplicative relations of values of polynomials or rational functions defined over a number field. As an application, we obtain new results on multiplicative dependence in the orbits of a univariate polynomial dynamical system. We also obtain a broad generalisation of the Northcott theorem replacing the finiteness of preperiodic points from a given number field by the finiteness of initial points with two multiplicatively dependent elements in their orbits. (Received July 16, 2017)