

Name: Nuno Santos  
Email: nuno@astro.up.pt  
Institution: Centro de Astrofísica da Universidade do Porto  
Title: Stellar abundances and planet frequency in the Kepler era  
Type: Contributed Talk  
Session: Stellar Activity, Rotation, Ages, Metallicity  
Abstract: It is now widely recognized that the study of the chemical properties of planet host stars provides invaluable information about the processes of planet formation. Until recently, however, these studies were mostly limited to stars hosting high mass, jovian-like planets. The detection of hundreds of Neptunes and Super-Earths with Kepler as well as with complementary state-of-the-art radial velocity surveys has now allowed to change this situation and explore the star-planet connection for the low mass planet domain. In this presentation we will first shortly review some of the most recent results of this research. We will then focus on the study of chemical abundances of different species in a sample of stars from the Kepler and HARPS samples. These studies have clearly shown the importance that some chemical elements have on the formation of low mass planets. Finally, we will present new unpublished results concerning the relation between the properties of extrasolar planets (namely the mass, period, and eccentricity) and the chemical abundances of their host stars. The impact of these results for the models of planet formation and evolution will be discussed.