

Maria Bergemann

Title: Spectroscopy of giants and supergiants

Abstract: Cool red giants and supergiants are among the most complex and fascinating stars in the Universe. They can be observed to enormous distances allowing us to study the key properties of their host galaxies - dynamics and chemical abundances. This talk focuses on connection of theory and observations. I will review different aspects of spectroscopic diagnosis of giants, including the advances of atomic data, models of atmospheres, and synthetic spectra, and show how these impact science done with Galactic and extra-galactic observations. I will also assess the of potential of the planned instruments at E-ELT to provide different stellar information with new generations of models, such as the quality and families of chemical abundances in stars.