

Title: "Hands-on Astrophysics: Analysis of Presolar Stardust Grains to Decipher Stellar Nucleosynthesis "

Abstract:

The talk introduces how analyses of presolar stardust grains allow us to decipher the slow neutron-capture (s-) process in asymptotic giant branch stars. These measurements are therefore valuable to better understand how the material the Solar System formed from came together in the first place. The talk also introduces resonance ionization mass spectrometry (RIMS), a technique that allows us to analyze the trace element isotopic composition in such micrometer-sized samples. Finally, the background of stellar nucleosynthesis and existing measurements to constrain the s-process are discussed before concluding with an outlook to future RIMS measurements.