Contribution ID: **198** Type: **Invited talk**

Unraveling the mysteries of Carbon-Enriched Metal-Poor (CEMP) stars

Friday 20 September 2024 09:00 (25 minutes)

In this presentation, the carbon-enriched metal-poor (CEMP) stars will be briefly reviewed. Recent progress in determining the stellar parameters, on the challenges to get benchmark stars within this category, as well as on nucleosynthetic processes that shape the composition of CEMP stars, will be reviewed. CEMP stars exhibit a rich diversity, with at least four distinct types identified. The most prevalent are the CEMP-s stars, characterized by an enrichment of s-process elements. We also encounter CEMP-r stars, CEMP-rs, and CEMP-no stars. The evidence for binarity of some of these classes will be summarized. The attribution of the CEMP-rs chemical peculiarities to the i-process will be discussed. Lastly, we will explore how isotopic ratio diagnostics aid in unraveling the nucleosynthesis process responsible for the chemical peculiarities of CEMP stars, with a presentation of recent findings in this area.

Primary author: Prof. VAN ECK, Sophie (Université Libre de Bruxelles)

Presenter: Prof. VAN ECK, Sophie (Université Libre de Bruxelles)

Session Classification: Plenary Session