Contribution ID: **89**   Type: **talk**

Can we really use chemical properties of red-giant stars as age indicators ?

Thursday, 21 September 2017 10:45 (15 minutes)

The cornerstone mission, Gaia, together with complementary surveys (CoRoT, Kepler, APOGEE, Gaia-ESO) will revolutionize our understanding of the formation and history of our Galaxy, providing accurate stellar masses, radii, ages, distances, as well as chemical properties for very large samples of stars across different Galactic stellar populations.To exploit all potential of the combination between spectroscopic and seismic observations, the population synthesis approach will be a very crucial and efficient tool. We develop the Besançon Galactic model (Lagarde et al 2017) for which stellar evolution predictions are included, providing the global asteroseismic properties and the surface chemical abundances of low- and intermediate-mass stars. For the first time, the BGM can explore the effects of an extra-mixing occurring in giant stars. Using this new version of the BGM, we attempt to evaluate the possibility of deriving ages and masses of clump stars from their chemical properties.

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Session Classification: Evolved stars and the connection to Galactic archaeology