Galactic archaeology with old, metal-poor stars

Low-mass, long-lived stars preserve, to a large extent, the chemical composition and kinematic properties of the gas cloud from which they formed. Therefore, metal-poor and hence old stars of the Galactic halo can be used to study the earliest phases of chemical evolution and formation of our galaxy; that is, for "Galactic Archaeology". These stars are the local relics of epochs otherwise only observable at high redshifts, and they provide us, e.g., with information on the properties (e.g., mass, rotation) of the first generation of massive stars which exploded as type II supernovae, nucleosynthesis processes occurring in them, and star formation processes in the early Universe. In my talk I will present recent results achieved in this research field, and future prospects.