

PHYSICAL COLLOQUIUM
INVITATION

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speaks

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Observatoire de la Cote d'Azur,

Nice, France

about

Reveiling the formation of our Galaxy: Galactic Archeology

How did our galaxy form? What is its place, and ours, in the cosmic evolution? Modern astronomy has revealed that the origins of our planet, our Sun and the Milky Way are intricately tied to the nature of the early Universe and the laws of physics.

Galactic Archaeology aims at unveiling the history of the Milky Way by analysing stars, just as the history of life was deduced from examining rocks. Stars record the past in their ages, compositions and kinematics and can provide unprecedented detailed constraints on the early phases of galaxy formation, back to redshifts greater than two (a look-back time of ~10 billion years). In particular, the chemical abundance patterns imprinted on stellar atmospheres reflect the gas conditions at the time of the stars' formation. The 'chemical tagging' approach opens the way to the temporal sequencing of a large fraction of stars.

During the last years many galactic Archeology spectroscopic surveys has been performed (RAVE, APOGEE, Gaia-ESO, GALAH, LAMOST, etc..) with the aim to get detailed chemical abundances. I will give a short overview of one the surveys I am involved -the APOGEE survey (SDSSIII/IV) and will talk about my implication in understanding the formation of the Milky Way galactic Bulge, the central part of the Milky Way. Due to its high interstellar extinction, the study of the Galactic Bulge remains challenging and I will show here the most recent results using high-resolution infrared spectroscopy.

The Centre Pédagogique Planète et Univers (C2PU) is situated at the plateau de Calern close to Nice where two 1m telescops are dedicated for resarch studies but also for training of students. The University of Oldenburg participated actively since several years in an exchange programme sending regular students which performed a full observation program at the C2PU site.

I will a give a summary about these activities during the last years and will conclude with some perspectives about this extremely succesful collaboration between the Observatoire de la Cote d'Azur and the University of Oldenburg.

All interested persons are cordially invited.

Sgd. Prof. Björn Poppe