

ESO/MPA Workshop on

## CARBON-RICH ULTRA METAL-POOR STARS IN THE GALACTIC HALO

28 November – 2 December 2005, Schloss Ringberg, Tegernsee, Germany

The main goal of the workshop is to thoroughly discuss, review and understand in depth all aspects related to the many carbon-rich stars found in the last decade among the oldest and most metal-poor objects of the Galactic Halo, i.e. their origin, nature, main characteristics, and implications for the chemical evolution of the (early) Galaxy.

Keen interest in this class of objects has arisen from the extensive HK survey of metal-deficient stars conducted by Beers, Preston, & Shectman. Among the several exciting results, this survey has revealed for the first time an unexpectedly large number of very metal-poor stars with anomalously strong CH and CN bands (up to 25–30% in the metallicity range  $[Fe/H] < -2.5$  compared to a few per cent among stars of higher metal abundances). This significant increase in the frequency of carbon-enhanced stars at the lowest metallicities has been further confirmed by the more recent Hamburg/ESO stellar survey and it may have an impact on chemical evolution issues and abundance trends in the early Galaxy. Their presence in the very early phases of the Galaxy formation has recently been discussed in connection with the early metal pollution of the intergalactic medium.

In recent years, several high-resolution spectroscopic analyses of carbon-rich ultra metal-poor stars, making use of the largest ground-based telescope facilities, have become available and/or are presently under way. Similar efforts have been devoted to the theoretical aspects (nucleosynthetic origin of the observed carbon and influence on the early Galactic chemical evolution), in order to properly compare observations and theoretical predictions and to understand the nature and history of these stars.

Because of all these new efforts and developments, we think this is a very exciting time to get together and discuss certainties and uncertainties, the many open issues, and the future needs to significantly advance our understanding of these objects.

For more details please check: <http://www.mpa-garching.mpg.de/~crumps05/>

Please note that because of space reasons, the number of participants is limited to 40 and that the deadline for *early* registrations was on April 30. But there are still some places available!

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ESO Conference on

## GROUPS OF GALAXIES IN THE NEARBY UNIVERSE

5–9 December 2005, Santiago, Chile

Comparative studies of galaxy groups and group members, and detailed studies of individual groups, promise an understanding of the evolution of the groups themselves as well as their stellar systems. Historically, the former approach was pursued for nearby groups, while the latter was restricted to the Local Group. The recent advance of technology allows both approaches to be combined. The next generation of extremely large telescopes and space missions will make it possible to study nearby groups at the same level of detail as is currently achievable for the Local Group. We will hold a conference aiming to summarize the considerable progress that has been made since the last meetings dedicated to galaxy groups, and to formulate the new problems that can be tackled both with the new instrumentation available to the community, and with the ever advancing theoretical work.

The participants will discuss the following topics: (1) Search, definition, classification, and statistics of groups; comparison with clusters and field; surveys (imaging, spectroscopy) at all wavelengths: X-rays, optical, IR, etc.; (2) Evolution of galaxies in groups: DM, gas, dust; Stellar and galaxy populations in groups; mergers, starbursts, nuclear activity; galactic chemical evolution; (3) Evolution of groups as a whole: Dynamical evolution, chemical evolution of the intra-group medium; galactic luminosity function; Role of environment (density); (4) Groups in the context of cosmological structures: Comparison with clusters of galaxies and field population; Group environment; Distances to groups; Theoretical/numerical simulations of groups and the intra-cluster/intra-group medium; Sunyaev-Zel'dovich effect; (5) Extreme groups: densest, largest, closest, with most peculiar galaxy population, etc.; (6) The fate of nearby groups; and the future avenues of research, both theoretical and observational.

**Invited Speakers:** Local Group(s) – Eva Grebel, Group searches/surveys – Vince Eke, Evolution of Galaxies (in Groups) – observational – Chris Conselice, Evolution of Galaxies (in Groups) – theoretical – Ray Carlberg (tbc), Evolution of Groups (as a system) – Ann Zabludoff, Intra-group Medium/Gas processes – Trevor Ponman (tbc), Groups in a Cosmological context – Stefano Borgani, Overview/Summary/Future – Ken Freeman

**Scientific Organizing Committee:** Stefano Borgani (Trieste, Italy), Gary Mamon (IAP), France Warrick Couch (NSW, Australia), Claudia Mendes de Oliveira (Sao Paulo, Brazil), Gary Da Costa (ANU, Australia), John Mulchaey (Carnegie, USA), Duncan Forbes (Swinburne, Australia; Chair), Bianca Poggianti (OAPD, Italy), Roberto Gilmozzi (ESO), Trevor Ponman (Birmingham, UK), Deidre A. Hunter (Lowell, USA), Evan Skillman (Minnesota, USA), Leopoldo Infante (PUC, Chile), Ann Zabludoff (Steward, USA)

**Local Organizing Committee:** Ivo Saviane, Valentin Ivanov, Jordanka Borissova (ESO)

Further information is available at: <http://www.sc.eso.org/santiago/science/NGG/> or by e-mail to [groups2005@eso.org](mailto:groups2005@eso.org)

**Deadline for pre-registration:** 31 July 2005