

Foreword

The conference “A Universe of Dwarf Galaxies” was held at Université Lyon 1, in Lyon, France, from June 14th to 18th. It was the third of the CRAL-IPNL series, co-organized every two years by the Centre de Recherche Astronomiques de Lyon (CRAL) and the Institut de Physique Nucléaire de Lyon (IPNL). The first conference, held in 2006, was dedicated to Chemodynamics, and the second to Dark Energy and Dark Matter. The conference provided a lively and stimulating forum for discussion of the latest results in the field of Dwarf Galaxies, a particularly active domain recently marked by the discovery of new classes of objects. Over 190 participants from all over the world, including a large fraction of students and post-docs, attended it. Ten invited and 47 contributed talks were given, and ample sessions were reserved for discussions around the 98 poster presentations. Simon White (MPA, Garching, Germany) gave the closing summary.

The goals of the conference were to (1) make a census of dwarf galaxy populations and review our knowledge of such physical properties as star formation history and dark-matter content as functions of environment; (2) review the degree of accordance between semi-analytic models in a cosmological framework and observations of the evolution/morphological transformation of dwarfs; and (3) address the prospects of progress in this field with new and future instrumentation (refurbished HST, 2nd generation instrumentation on 10 m class telescopes, ALMA, ELTs, ...) coupled with advanced models or simulations.

Accordingly, the subjects covered a broad range of topics, including observations, modelling and simulations, and covering all types of objects, classical star-forming dIrr and BCD, quiescent dEs, ultra-faint and ultra-compact dwarfs, satellites and streams both in the very nearby universe (resolved into individual stars) or distant. The present volume gathers 101 contributions divided in 11 sections reflecting the course of the conference.

The area of Lyon is usually warm and pleasant in the late spring. This week of 2010 was however an exception, being the almost only rainy one of the season... this favoured the concentration and intensity of the discussions. Fortunately, the free afternoon was the only day with clement weather and the participants could appreciate the marvellous scenery of the city or visit the assembly hall of the MUSE spectrograph, currently under construction. For many, this conference was the opportunity to discover this gastronomic capital, its numerous small restaurants, the Beaujolais and the cheese.

We will keep a good souvenir of this conference thanks to the enthusiasm of the participants and quality of the presentations. We are grateful to all the people who contributed to the organization.

The scientific program was arranged by (Scientific Organizing Committee, see the list of members on the previous page). The Local Organization Committee (see the list of members on the previous page) ensured that the conference ran smoothly. In particular, Chantal Petit was the contact person for the participants, and assisted them efficiently to complete their registration or reserve a hotel. The LOC was assisted by several members of CRAL and IPNL to help in the conference room, at the desk and for the logistics. We thank the members of the LOC and members of the CRAL: Loïc Brotons, Stéphanie Courty, Léo Michel-Dansac, Thibault Garel, Pierre-Yves Lablanche, Marie-Hélène Lassalle, Fabien Momey, Matma Pomier, Joakim Rosdahl and Xavier Roy. Nathalie Olivier, chargée de communication at IPNL, took the photos.

Daniel Kunth, from Institut d'Astrophysique de Paris, gave a public talk, which was highly appreciated. We are grateful to Bruno Guiderdoni and Bernard Ille, respectively the directors of CRAL and IPNL for their support. The conference could provide grants to many participants, in particular to students, thanks to the support of the CNRS (INSU, IN2P3), PNCG (CNRS and CNES), the Conseil Scientifique of Université Lyon 1, and the Conseil Régional Rhône-Alpes covered most of the cost of the proceedings.

The editors,
M. Koleva, Ph. Prugniel and I. Vauglin

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