

Welcome words by Rene A. Mendez
Chairman of the Organizing Committee ADeLA2014@SCL
Gorbea Auditorium, Monday, September 29th, 2014

Welcome to ADeLA2014@SCL – Bienvenidos a ADeLA2014@SCL

ADeLA is the acronym for Astronomía Dinámica en Latino-América (Dynamical Astronomy in Latin America), a series of scientific meetings devoted to astrometry, that started in 2001 in San Juan Argentina.

ADeLA began because of the wish and need of the small but active Latin-American astrometric community to have a forum to share ideas, promote collaborations, and to be acquainted with the latest news and research in our various sub-areas. From a humble start, and despite many difficulties, we have managed to organize ADeLA every two to three years, continuously. ADeLA has taken place so far in Argentina, Brazil, Mexico and Venezuela. This is the VIth edition of ADeLA, and the first time that it takes place in Chile. For us, it is a pleasure to have you all attending this science meeting and its graduate workshop. To my knowledge, this is also the first specific conference on astrometry organized in Chile (and certainly the first one of the 21st century!).

Quoting from a recent textbook on astrometry, which I am sure many of you know: “The field of astrometry, the precise measurement of the positions, distances and motions of astronomical objects, has been revolutionized in recent years. As we enter the high-precision era, it will play an increasingly important role in all areas of astronomy, astrophysics and cosmology...”. This is from the recent textbook titled “Astrometry for Astrophysics”, Cambridge University Press, edited by Professor William van Altena, a renowned authority in astrometry, and one of the founding

fathers of the ADeLAs. Astrometry is one (if not the) oldest branch of observational astronomy, and it concerns itself with the measurements of positions of objects in the sky, and their angular displacements.

Astrometric tools, techniques and measurements over time (preceding by many centuries the now fashionable topic of “time-domain” astronomy) have led to an understating of the dynamics of our solar system and the Galactic system (contributing to what has been called “near field cosmology”). It has also allowed determining masses for individual stars and planets orbiting other stars located many light years away, opening the path to the eventual discovery of life-bearing planets and astro-biology. Astrometry has also allowed building a three-dimensional map of our solar-neighborhood, through a determination of direct geometric distances, using exquisite trigonometric parallax measurements. All the associated required measurements are very demanding but, thanks to advancements on solid-state detectors, observational techniques, and analysis algorithms, it is today possible to routinely reach precisions of milli-arc-seconds in the measurement of angular displacements (this is equivalent to been able to detect the displacement of ant on the surface of the Moon within 20 seconds). Very-long baseline radio interferometry can reach today precisions of micro-arc-seconds. In the very near future, the Gaia astrometric satellite will also provide tens of micro-arc-second location precision for one billion stars of our Galaxy, truly revolutionizing the field. It is our responsibility to alert and educate the younger generation of astronomers of the magnificent research opportunities that lay ahead with the advent of these new facilities and databases: This is indeed one of the goals of this ADeLA, and its associated graduate student workshop. We truly hope that the scientific content and balance of the topics in the program of lectures during this week will provide a wide and fresh view on current astrometric research both in Latin-America and the world.

This ADeLA would have not been possible without the support of many people and institutions, that I feel compelled to acknowledge at this time:

First of all, to our host institution this week, the Faculty of Physical Sciences and Mathematics, represented by our Dean, Dr. Patricio Aceituno, our Vice-Dean, Dr. Felipe Alvarez, our Director of Academic affairs and Research, Dr. Claudio Perez, and the Director of the School of Engineering and Sciences Professor Aldo Casali. Many thanks for allowing this bunch of crazy scientists to use our Campus. I would like to thank specially Prof. Julio Salas, Deputy-director of the School of Engineering and Sciences and his team for their continuous support and diligence to make ADeLA possible at the Gorbea auditorium.

The Millenium Institute of Astrophysics, MAS, represented by its Director, Professor Mario Hamuy has provided not only important financial help (devoted mostly to grants for students), but also critical logistical support through the Institute's Journalist Makarena Estrella, Administrator Mrs. Claudia San Martin, and Secretary Natalia Atencio, all led by Mrs. Marcela Valle, Executive Director of the Institute.

The French-Chile International Mixed Unit of the CNRS, represented in Chile by Prof. Francois Menard, and the Chile-China Joint Center for Astronomy (which will make possible the publication of our proceedings, and the attendance of several Chinese colleagues), represented by Dr. Zhong Wang. The Pontificia Universidad Catolica, through a grant from the Vice-Rector of research granted to the Co-Chairwoman of the ADeLA Science Organizing Committee, Prof. Manuela Zoccali.

The Bureau of Energy, Science, Technology, and Innovation of the Ministry of foreign affairs of the government of Chile, represented today by its deputy director Mrs. Karen Molina has greatly helped us not only in matters of local logistics, but also, very importantly, facilitating and expediting VISAS for our visitors from all over the world!

The Gemini-CONICYT competitive fund for the development of astronomy in Chile, the European Southern Observatory, the Las Campanas Observatory and the GMT Corporation, the National Astronomy Observatories of Japan, and the AURA Observatories in Chile, and of course, my own Astronomy Department, led by Director Prof. Guido Garay.

The support from all these institutions has meant that, without charging any registration fee (a tradition followed by all other previous ADeLAs), we have been able to provide financial help on airplane or bus tickets, accommodation, and stipends for many of our attendees. This includes under-graduate and graduate students, postdocs, and researchers from Argentina, Bolivia, Brazil, Colombia, Peru, Paraguay, Venezuela and, of course Chile. In total, we have 40 students, 10 postdocs, 30 researchers, and 20 professors registered on this version of ADeLA. The logistics to make all the arrangements for these 100 attendees is not minor. For this reason I would like to acknowledge specially:

Our logistical coordinator Mr. David Azocar and our web master, Mr. Fernando Abalo, as well all the members of the Local Organizing Committee. The Science Organizing Committee has, of course, provided constant help to make this, hopefully, a successful scientific meeting. I would like to specially thank Prof. Manuela Zoccali for her constant

advice on scientific matters, and also for obtaining financial support for ADeLA from the PUC and MAS Institute. Prof. Kathy Vieria from the Centro de Investigacions de Astronomia in Venezuela, took the lead of organizing the graduate student workshop “The VLBI-Gaia connection - The next step in reference frames for astronomy”, a very timely subject, and one that is at the very heart of astrometric research, we should all be very grateful to her.

Finally, I would like to acknowledge all our invited and contributed speakers for their time and willingness to support ADeLA. I am sure that with their wisdom, expertise and enthusiasm, this will be an enlightening learning and sharing experience. The location of the meeting, Chile, is not accidental. The ALMA mm array was inaugurated last year, being the largest radio telescope on Earth. By the end of 2020 Chile will concentrate more than 70% of all the astronomical collecting light power of the world. Some people say that Chile is becoming the world capital of astronomy. We would like to share the opportunities provided by all these observatories to which Chilean researchers have a privileged access, by inviting colleagues from all over the world, and specially Latin America, to work on research collaborations of common interest, using these new facilities.

Without further delay, I liberate the authorities present here today, so that they can attend their more important shores. Of course, they are also welcome to stay if they so wish.

We will start now with the first part of the morning session, chaired by Dr. Manuela Zoccali. Manuela, please.