RevMexAA (Serie de Conferencias), **41**, 3–3 (2011)

WELCOME REMARKS AND INTRODUCTION

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It is a special honor for me to summarize briefly achievements and prospects of the Astrometeorology Group of our University.

First of all, I would like to emphasize that this Group and our Astronomy Department in general, is the work of one creative and dynamic person: of Michel Curé. Without Michel, neither you nor I would now be here in Valparaíso.

Let me point out briefly a bit of our history: Since Valparaíso is the most important harbor of Chile, there was always a special need of reliable weather forecast. Therefore, meteorology as a discipline has a long tradition here, and in fact the University of Valparaíso is still the only place in Chile that offers a meteorology study program at undergraduate level. This study program was hosted in the former Physics and Meteorology Department. Michel Curé joined this Department in the 90s after finishing his PhD in Germany. For a long time, he was the only astronomer in a group of physicists and meteorologists, dedicated mainly to teaching tasks, and not so much to research projects. It took until 2004 that Michel convinced the University authorities, as well as his physicist colleagues to open a new line of research in astronomy, which without doubt is one of the fields with the best comparative advantages and prospects in Chile, due to the unique weather conditions and the presence of the large international observatories in the North. From 2005 on, there has been an exponential growth of our research group in astronomy, consistent presently of 8 astronomy professors (2 Chileans, 3 Germans, 2 Bulgarians and one from Uruguay), being complemented by the 9th astronomer from United States, who will arrive in March. A similar number of post-docs from different countries complete our research capacities. The main areas of our science are cosmology, gravitational lenses, star clusters, stellar winds, close binary stars, accretion disks, star formation, brown dwarfs and extra solar planets. Our undergraduate study program "Licencatura de Física, mención Astronomía" started in 2006, and we will establish a postgraduate Master degree program next year.

In spite of all these achievements in astronomy research and teaching, Michel Curé did not forget his former close relations to meteorology. He created a very successful interdisciplinary Astrometeorology Group, consisting at present of 4 professors (3 of them meteorologists or atmosphere physics scientists), and 3 students. The main task of this group is to develop models for a reliable forecast of clouds, humidity and seeing at the location of each international astronomical observatory in the North of Chile. This is an important service since it enables each observatory to optimize its schedule, taking into account especially the seeing and PWV conditions expected for the next nights. This service is available now, and I imagine that during this conference you will hear details of this project in the talks by our group members.

However, I personally believe that the prospects of Astrometeorology will go much further; involving much more than applied meteorology as a service for astronomers on Earth. There are also fascinating topics of basic research. We are just beginning to apply the methods of meteorology to other planets, outside the Earth, for instance to Venus, Mars and Titan, the only satellite in the solar system with a dense atmosphere. But even more fascinating is a totally new field: the atmospheres of extra solar planets, especially those within the habitable zones of sun-like stars. The research on other planetary systems is developing rapidly; today we know more than 500 extra solar planets. Most of them are gas giants as Jupiter or Saturn. But there are already ambitious missions such as KEPLER which will detect also Earth-like planets. Sophisticated instrumentation in space (Terrestrial Planet Finder) and at the coming E-ELT 42 meter telescope of ESO on Cerro Armazones will be able to analyze their atmospheres, in order to find hints to the presence of life. There is no doubt that the Astrometeorology Group of the University of Valparaíso will play an important role in this new field of research which not only contributes to future scientific knowledge, but also can be considered especially attractive to the general public, pointing to eternal questions: Why is Earth as it is? Why do humans exist? Are we alone in the Universe?

I wish you a stimulating conference and a pleasant stay in Valparaíso and in the 5th Region of Chile.

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