Third Workshop "Lidar Measurements in Latin-America"

July 11 - 15, 2005, Popayán, Colombia

Sponsors

European Space Agency (ESA)
NASA Goddard Space Flight Center
Inter American Institute for Global Change Research (IAI)
National Oceanic and Atmospheric Administration (NOAA)
National Science Foundation (NSF)
Third World Academy of Sciences (TWAS)

International Organizing Committee

- Mauricio Jaramillo, PUJ – Cali, Colombia.
- Errico Armandillo, ESA/ESTEC, Holanda.
- Juan Carlos Antuña, CLS, Camagüey, Cuba.
- Eduardo Landulfo, IPEN, Sao Paulo, Brasil
- Eduardo Quel, CITEFA, Argentina

Local Organizing Committee

- Alvaro Bastidas, U. Cauca, Popayán
- Edith Rodríguez, U. Cauca, Popayán
- Elena Montilla, U. Valle, Cali
- Efraín Solarte, U. Valle, Cali

Main Purpose

The Workshop will be centered mainly on instrumentation for lidar systems, quantitative measurements and inversion algorithms, as means to coordinate activities among the various ALINE (Americas Lidar Network) sites.

The overall purpose of the Third Workshop "Lidar measurements in Latin-America" is to communicate and share experiences in current techniques of environmental monitoring, to promote means of cooperation and integration, and to consolidate ALINE network activities. In addition, this will be an opportunity to present our interests to the international lidar community, as well as to promote the development of remote sensing techniques that can contribute to the our knowledge of the tropical and subtropical atmosphere, and to research and service.

Specific Goals

1. To gain detailed knowledge of the basic principles of measurement systems for remote sensing.
2. To acquire training on data analysis methods and their applications.
3. To establish communication mechanisms for consultation and cooperation with lidar specialists and researchers.
4. To implement means for the transfer of know-how and expertise in the region, so that the different Latin American research groups may participate in environmental and global change research programs.
5. To broaden our vision on future goals of lidar techniques world-wide and their impact on the growing scientific and technological development.

Background

One of the first activities organized in the region for Latin-American integration in lidar studies was the creation of ALINE, the Americas Lidar Network. This first step was received with great interest by researchers from different Latin American countries working with lidar techniques. The main purpose of the network is to address the needs for standardized instruments, computing tools and data protocols. ALINE will be in charge of coordinating experimental campaigns form ground-based lidars to contribute in the process of calibration and validation of satellite-based lidars.

Among other activities to consolidate the ALINE network, two workshops on lidar measurements in Latin America have been successfully organized. The first took place in Camagüey, Cuba, in March 6 to 8 of 2001, and the second, also in Camagüey Province, in February 17 to 21 of 2003. Researchers and scientists from Latin America and elsewhere gathered to exchange ideas and knowledge on current topics in lidar remote sensing techniques. Financial support for these events was partially provided by Inter-American Institute for Global Change Research (IAI) and the World Climate Research Programme, with additional funding requested from the Third World Academy of Sciences and the International Centre for Theoretical Physics.

Some concrete results from the activities by the ALINE network have been the following:

- A new lidar station has been established in Bolivia, with the cooperation of the European Space Agency, ESA, and the Laboratory for Atmospheric Physics of La Paz.

- Plans for a new lidar station in Colombia are currently in development with support from ESA and IANABIS, the Inter-American Network for Atmospheric and Biospheric Studies.