

# The Armenian Engineers and Scientists of America

Presents

“Research at the Cosmic Ray Division of the Yerevan Physics Institute”

by

**Anahid Yeremian**

**Friday, November 15, 2013**

**at 7:00 pm**

Armenian Society of Los Angeles — Library

117 South Louise Street,

Glendale, CA 91205



## **ABSTRACT:**

High-energy cosmic rays offer a window for the exploration of the dynamic and forceful processes in the far corners of the universe and close to the Earth. The Aragats Space Environmental Center (ASEC) of the Cosmic Ray Division (CRD) of the Yerevan Physics Institute (YerPhI) in Armenia conducts research in the fields of galactic cosmic rays, solar physics, space weather, and high-energy phenomena in the terrestrial atmosphere. The two research stations, at elevations of 3200m and 2000m on Mt. Aragats, are equipped with scientific and technical infrastructure, laboratories, a

conference center, and living accommodations. Particle detectors located at the research stations on Mt. Aragats operate 24 hours per day, year-round, uninterrupted, and CRD scientists live at the stations in three-week shifts to gather data.

The strategic geographic coordinates of the CRD research stations, the particle detectors there, as well as the particle detectors developed by Armenian scientists and deployed throughout the world as part of the Space Environment Viewing and Analysis Network (SEVAN), allow Armenian scientists to develop space-weather forecasting services, research high-energy phenomena due to thunderstorms, and explore the universe. These detectors coupled with detectors in space deployed by the international community, taken with CRD's state-of-the-art data analysis methods and the data accumulated over the past seventy years of CRD's existence, allow Armenian scientists to make new discoveries and lead the world in ground-based cosmic ray and thunderstorm research.

The CRD is a contributing partner in several international scientific collaborations and the leader of two of them: the Aragats Space Environmental Center (ASEC), and the Space Environment Viewing and Analysis Network (SEVAN).

CRD's strong presence at international conferences, as well as the international conferences held at the CRD, attract the attention of eminent global scientists from NASA, the European Space Agency, the Japan Space Agency, and science laboratories from around the world.

The research on Mt. Aragats provides an outstanding platform for graduate-student research theses and the training of young postdoctoral researchers. CRD has a strong working relationship with the local universities in Yerevan, as well as with universities abroad.

Under the leadership of Prof. Ashot Chilingarian, the Yerevan Physics Institute (CRD's parent organization), continues to undergo major organizational reforms to better facilitate the evolving scientific mission and the productivity of the talented scientists there. Prof. Ashot Chilingarian is an energetic and visionary leader, committed to scientific excellence. He has been the head of the CRD since 1993 and the director of the Institute since 2009.

The presentation will cover the mission, science, and most recent achievements of the Cosmic Ray Division of the Artem Alikhanyan National Laboratory, and the strategic steps taken towards the reorganization of the national laboratory.

Anahid Yeremian is a Particle Accelerator Physicist at the SLAC National Accelerator Laboratory in Menlo Park, California. She is the chair of the Support Committee for Armenia's Cosmic Ray Division.