

CRD FRIENDS NEWSLETTER



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www.crdfriends.org

NOVEMBER 2013

CRD ANNUAL BIKATHONS RAISE FUNDS AND AWARENESS OF ARMENIA'S TALENT

CRD Bike-a-thon 2014

**Yerevan–Aparan-Gyumry-Vanadzor-Ijevan-Dilijan–
Sevan–Yerevan**

**May 24 through 30, 2014
400 km in 7 days
Including Some Sightseeing**

**Join us by riding and asking your friends to support the CRD
We will be joined by the Armenian Cycling Team!**



The fourth annual Cosmic Ray Division (CRD) bike-a-thon under the umbrella of the *Bike for Hope for Armenia* raised \$30,000 for CRD this year. Diaspora riders and cyclists from the Armenian Olympic Cycling School under the skillful leadership of head coach Albert Soloyan, and Junior team coach Mr. Gevorg Boyadjyan, gathered at Yerevan's Republic Square at 8 AM on June 7 to start the ride. Reporters and well-wishers from around the world were there to bid the riders success. Homenetmen scouts sang Homentmen March. Armenian Traffic Police then escorted the riders from Republic Square to the open road on the outskirts of Yerevan. The grueling route from Yerevan to Aparan, Vanadzor, Dilijan, Sevan and then back to Yerevan took its toll on the riders but all returned safely back to Yerevan's Republic Square. They expressed great satisfaction in conquering the challenging but inspiring mountains and valleys of Armenia and raising much needed funds to support the scientists and students at the Cosmic Ray Division.

The *Bike for Hope for Armenia*, a tradition started by Mr. Vatche Soghomonian of California, has raised funds to support Armenia's farmers under the umbrella of the Armenian Technology Group, the Armenia Fund, and scientists at the Cosmic Ray Division of Yerevan Physics Institute. Vatche celebrated his landmark 80th birthday on the ride this year. The ride concluded with a dinner at CRD's Nor Ambert research station on Mt. Aragats. Attendees celebrated a very successful mission and especially Vatche's years of dedication. Attendees included the riders, coaches, drivers, Armenia's champion biking team, CRD's young scientists and CRD's head Prof. Ashot Chilingarian – all dedicated to promoting excellence in Armenia. Prof. Chilingarian thanked them all. Prof. Ashot Chilingarian, together with CRD's, staff are also very grateful to the Armenian Traffic Police, the Office of the Mayor of the City of Yerevan, and the many Diaspora supporters for their assistance and contribution to the success of the ride and its mission.

Please join us in 2014 for another spectacular experience and another opportunity to support the scientists of the Cosmic Ray Division (CRD). Riders need to be in good physical condition, train in advance of the ride, pay their own way including an entry fee that covers all the expenses associated with the ride. Riders are encouraged to solicit donations for the Cosmic Ray Division. Donations are not used for ride expenses.

Visit www.crdfriends.org COMING EVENTS section for ride details and coming presentations about the CRD.

SUPPORT COMMITTEE FOR ARMENIA'S COMSIC RAY DIVISION INVITES YOU TO JOIN BIKE-A-THON 2014 IN ARMENIA, CELEBRATING CRD ACHIEVEMENTS

MAY 24 - 30, 2014

You can join by riding and soliciting donations, or donating via our riders or website in support of the efforts of the riders to help the scientists of the Cosmic Ray Division.



THANK YOU FOR YOUR SUPPORT!

TEPA-13 CONFERENCE IN ARMENIA



Some of the TEPA 13 participants at the Matenadaran on Saturday after the conference.

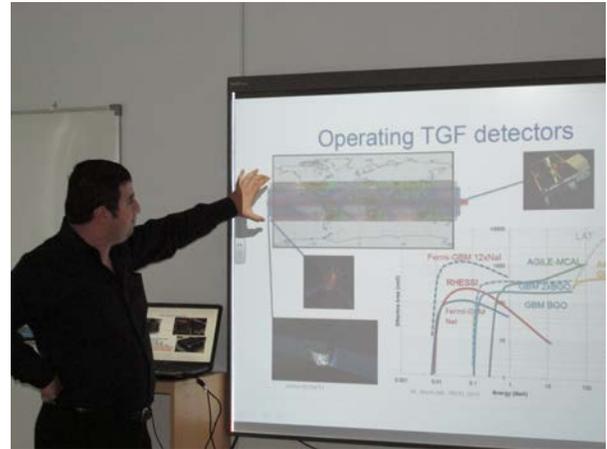
It was not Armenia's turn yet, but TEPA was back in Armenia this year because the participants love it there.

The first of the Thunderstorms and Elementary Particle Acceleration (TEPA) series of small conferences established by the Cosmic Ray Division was held at CRD's Nor Ambert Conference Center on Mt. Aragats in 2010. A new and growing field of study, first proposed by Prof. Ashot Chilingarian to the global scientific community, has gained international importance. Participants from 10 countries gathered in Armenia to discuss their initial theories and experiments.

Because of the newness of this field and the rapid growth in knowledge about it, the 2010 attendees decided that this conference should become an annual tradition rotating among participating countries. Armenia was to host the conference again in 2020. But so enamored were the participants with Armenia, its people and the organization of the conference, that by popular demand it returned back to Armenia this year from September 9 – 13

The conference attracted both seasoned and young scientists from around the world to discuss their most recent data, theories and simulation results in the quest to understand the complicated and energetic phenomena in the atmosphere so close to us. Young PhD students had the chance to interact with global figures from NASA, the Japan Atomic Energy Commission, Germany's Max Plank Institute, the Institute of Nuclear Physics at Moscow State University and others. Just as important, young scientists from around the world had the opportunity to forge friendships and share their research with each other: a practice that we expect will continue in the coming decades as Armenia continues to reestablish its scientific excellence on the global stage following independence. Once more - this is achievable thanks to our scientists and to you, the Diaspora supporters.

HILITE 2013 CONFERENCE IN TORINO



Levon Vanyan presenting his work at the HILITE 2013 conference in Torino, Italy

The Interdisciplinary workshop, HILITE 2013, held in Torino, Italy from September 30 to Oct 1, 2013 aimed at intensifying the exchange of information between the astroparticle physics community and the geophysics community to better understand high-energy atmospheric phenomena.

Prof. Chilingarian was invited to make two important presentations on discoveries made at the CRD. Instead, he elected to send one of CRD's bright newly graduated PhD physicists, Levon Vanyan, due to his research accomplishments on atmospheric physics. Levon's presentations were titled *Cosmic Rays and Gamma Ray Emissions During Thunderstorms* and *Neutron Emission in Thunderstorm Ground Enhancements*

Levon's representation of CRD at this key conference is part of the process of preparing CRD's bright young scientists to carry the torch in the coming decades. CRD's discoveries were very well received at the conference, inviting many questions and stimulating discussions afterwards.

A commonly used phrase in science is "Publish or Perish". Top scientists are expected to publish their discoveries in credible scientific journals refereed by committees of globally respected scientists. An even more important measure of the importance of scientific papers is the number of times they get cited by other authors in their work. With 1058 scientific publications in refereed journals in 2012, Armenia ranks 64th out of 225 countries, an excellent record for a country of under two million. **Even more exciting is that Armenia is number one in the world for the number of times per paper its published reports are cited in articles written by other scientists. The news for CRD is even more impressive yet, since 75% of the articles written by scientists in Armenia are written by scientists at the Yerevan Physics Institute.**

CRD AND ITS DIRECTOR ON WORLD STAGE



Prof. Ashot Chilingarian on Mt. Aragats with Prof. Michail Panasyuk, head of the Space Physics Research Department of the Institute of Nuclear Physics, Moscow State University (INP MSU)

Prof. Ashot Chilingarian is a familiar person to many CRD supporters. Whether you have had the pleasure of meeting him in person or in our articles, we thought you would be interested in his global accomplishments.

Prof. Chilingarian has been the head of the Cosmic Ray Division of the Yerevan Physics Institute since 1993. In 2009, he also became the director of the entire institute by the popular demand of its employees.

He prides himself most for recruiting talented youth at the CRD. Under his leadership over 50% of CRD's scientific staff is now under the age of 40; this trend is also underway at the Yerevan Physics Institute. It is worth recounting his and CRD's achievements which your support made possible. We thank you and hope this makes you proud and energized to continue this partnership

1998 – Honored at the International Cosmic Ray Conference for being first to share cosmic ray data with collaborators on the world wide web, a tradition followed by all cosmic ray researchers.

2003 – Spearheaded the Data Visualization Interactive Network (DVIN), winner of the first World Summit on Information Society award.

- Partnered with the US National Oceanographic and Atmospheric Agency (NOAA) on a space weather project.
- Established the Aragats Space Environmental Center (ASEC).



From left to right: Prof. Christian Fasano from Mammoth College, Dr. Michael Briggs from NASA Marshall Space Flight Center, Prof. Michail Panasyuk from INP MSU, Dr. Razmik Mirzoyan from Max Plank Institute in Munich, and Prof. Chilingarian reviewing a presentation by one of CRD's PhD students before his presentation at the TEPA 13 conference.

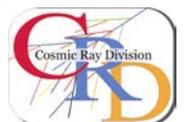
- 2004 – Represents Armenia at the:
 - Commission on Space Research (COPAR)
 - European Commission On Science and Technology (COST)
 - Memorandum of cooperation with the European Space Agency (ESA)
- 2005 – NASA includes CRD on its key observatory list
 - CRD hosts the first international Solar Extreme Events conference which became a bi-annual event rotating among participating countries.
- 2006 - CRD establishes the international Space Environmental Viewing and Analysis Network (SEVAN) to span many countries.
- 2010 - CRD hosts the first international Thunderstorm and Elementary Particle Acceleration (TEPA) conference which became an annual event rotating among participating countries.
- 2011 – Chilingarian was elected fellow of the American Physical Society, an honor bestowed on very few non-American scientists.
- 2012 – Represents Armenia at the UN International Space Weather Initiative steering committee
- 2013 – Member of international advisory committee of European Cosmic Ray Symposiums
 - Associate Editor of the international journal: *Space Weather Space Climate Journal*

Yes, I want to promote Armenian science and education by supporting the excellent work of the dedicated scientists, engineers, technicians, & students of the Cosmic Ray Division of Artem Alikhanyan National Laboratory (formerly Yerevan Physics Institute).

Name _____ Address _____

My contribution is in the amount of \$2000 \$1000 \$500 \$200 \$100 \$_____

Please send this cut-out with your check, payable to **AESA-CRD** and mail to the Support Committee of Armenia's Cosmic Ray division at:
AESA-CRD, P.O. Box 655, Menlo Park, CA 94026



VAPORCIYAN PRIZE TO CRD'S TOP ACHIEVERS



Vaporciyan Scholars at CRD

This year Mr. and Mrs. Harutyun and Nadia Vaporciyan recognized the young achievers at CRD with a Scholarship. The recipients include physicists, engineers, a graphic designer, a public relations liaison, and students. The Vaporciyans' generosity demonstrates to our young Armenians who choose to remain in Armenia and contribute to Armenia's progress, that their efforts are appreciated and valued. CRD youth impact CRD's achievements and set an example of what can be done.

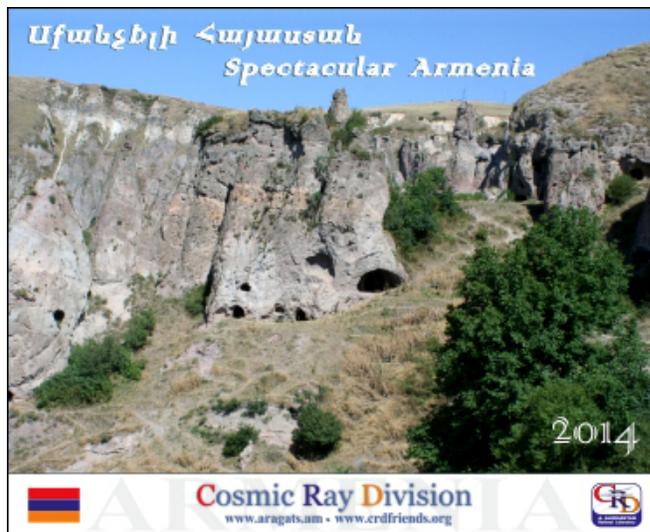
This year CRD students Hripsime Mkrtychyan and Hasmik Rostomyan successfully finished their Master in Physics courses at the Yerevan State University. Hripsime's Master's thesis was titled "*The Electrical structure of Thunderclouds and Initiation of the Thunderstorm Ground Enhancements (TGEs)*", and Hasmig's was "*The Maximal Energy of Solar Accelerators: Evidence from Space and Earth's Surface Measurements*". Currently they are preparing for the YerPhi PhD program entrance exams.

Hayk Avagyan graduated from the Computer Science Department of Yerevan State University and started his work at the CRD. His main topics of interest at the CRD are the development of new algorithms for data analysis and the analysis and correlation of the Aragats Space Environmental Center data, together with data from other astroparticle physics experiments.

Many thanks to the Vaporciyans and Diaspora supporters for your continued faith in Armenia's future.

2014 CRD CALENDAR IS HERE!

CRD's calendar, *Spectacular Armenia 2014*, is ready thanks to the efforts of CRD's graphic designer, Narine Khachatryan, and one of the founders of the Support Committee for Armenia's Cosmic Ray Division, Joseph Dagdigian. The *Spectacular Armenia 2014* calendar features beautiful scenes from different regions of Armenia. You can visit Armenia every day by paging through this calendar on your wall. CRD staff members and Diaspora supporters submitted the superb photographs. The Tigran Medz printing house in Yerevan printed the calendar.



14 Spectacular Armenia Calendar
available for purchase on the website and selected stores

The calendar is available from the www.crdfriends.org website; Armenian Vendor armenianvendor.com website; NAASR in Belmont, MA (617 489-1610); ALMA in Watertown, MA (617 926-2562), or by calling Joseph Dagdigian (978 772-9417) and at various Armenian events in the USA. Republic of Armenia commemorative stamp books celebrating CRD's achievements, and Mt. Ararat and Mt. Aragats post cards are also available. These items make perfect Christmas gifts for your Armenian and non-Armenian friends, while at the same time benefiting the work of the outstanding scientists at the CRD.

Visit www.crdfriends.org for your gift-shopping needs.

The Support Committee for Armenia's Cosmic Ray Division (SCACRD) operates under the umbrella of the Armenian Engineers and Scientists of America Inc. (AESA), a 501 (c) 3, tax-exempt (ID 95-3957498), charitable organization dedicated to promoting scientific and engineering excellence in the United States and Armenia. AESA has chapters in California, Michigan, New York/New Jersey, and the greater Metropolitan Washington DC area (www.aesa.org).

In Armenia, SCACRD operates under the umbrella of the National Foundation for Science and Advanced Technology (NFSAT), a non-profit, non-governmental, independent organization dedicated to the promotion and funding of science and education for peace in Armenia (www.nfsat.am).

AESA's and NFSAT's financial integrity are assured by annual audits in accordance with international standards by both the IRS and the independent company Grant Thornton International.