

CRD FRIENDS

NEWSLETTER



Volume 6, Number 1

www.crdfriends.org

NOVEMBER 2012

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

CRD Bike-a-thon 2013

Yerevan–Aparan–Vanadzor–Dilijan/Ijevan–Sevan–Yerevan

June 3 through June 7

325 Km in 5 days

Plenty of time to do some sightseeing

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

For details and to sign up visit www.crdfriends.org



The third annual CRD bike-a-thon was a smashing success this year. The Captial-To-Capital ride commencing in Stepanakert's main square and terminating at Republic Square in Yerevan drew supporters and reporters from all over the world. The three Bike-a-thons have raised over \$30,000 for CRD.

A tradition, started by Mr. Vatche Soghomonian and Saro Hartunian in 1999 called Ride for Hope for Armenia, has raised funds to support the Armenian farmers under the umbrella of the Armenian Technology Group based in Fresno California for 8 years and for the Armenia Fund for 3 years. Three years ago, the riders turned their attention to another important aspect of Armenia's development: the scientists of the Cosmic Ray Division of Yerevan Physics Institute.

The first annual CRD Bike-a-thon in 2010 was a 5 day grueling ride starting at Republic Square in Yerevan, reaching the Cosmic Ray research stations on Mt. Aragats at 10,000 ft elevation, then through the mountains of Dilijan, and to the blue waters of Sevan, and back to Republic Square in Yerevan.

The second ride in 2011 was an easy stroll compared to the first, probably because the chair of the Support Committee for Armenia's Cosmic Ray Division, Anahid Yeremian, would join the group. The scenic Chaman du Roi (Road of the King) from Montreal to Quebec City in Canada was enchanting and Anahid proved to the men that she could do it.

The third annual CRD Bike-a-thon in 2012 took the riders to Armenia again. Two very strong new riders from California, Michael Kludjian and Philip Lavolenti, joined the group. Riders from Armenia, Martin Sharbatyan, Armen Boghosyan and Raffik Baghdasaryan participated also. The champions from the Armenian Bicycle Team joined the group in Yerevan to make a very impressive entry into Republic Square on the final day. About 100 people, among them television and newspaper reporters, the director of the Yerevan Physics Institute and head of the CRD prof. Ashot Chilingarian, CRD staff and the international scientists who were in Armenia to teach at the Cosmic Ray Summer School were all gathered at Republic Square to greet the tired riders who made a grand entry waving Armenian and Artsakh flags and were escorted by the Armenian traffic police. We thank the Diaspora Ministry and the Armenian Traffic Police departments for their outstanding service. Thanks to the sponsors who helped us raise \$11,000 for CRD!

THE SUPPORT COMMITTEE FOR ARMENIA'S COMSIC RAY DIVISION INVITES YOU TO:

CELEBRATE THE ACHEIVEMENTS OF CRD

MARCH 10, 2013

Back by Popular Demand: Comedienne Lory Tatoulian!

Please save the date

THANK YOU FOR YOUR SUPPORT!



CRD ON THE WORLD STAGE



Prof. Ashot Chilingarian at the UN headquarters in Vienna discussing future of space science with Prof. Nat Gopalswamy and Prof. Joseph Davila, co chairs of the International Space Weather Initiative steering committee.

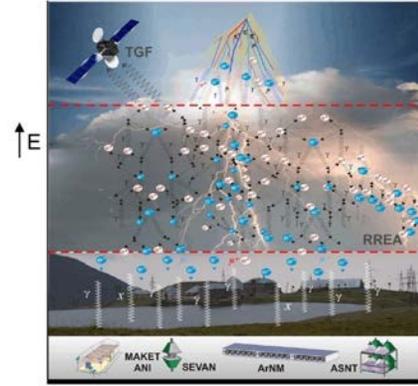
On February 13, 2012, the President of the Scientific Committee on Solar-Terrestrial Physics (SCOSTEP), Dr. Nat Gopalswamy of NASA invited Armenia to join SCOSTEP as an adherent member of this important international scientific team. This invitation is a direct result of the monumental achievements of the Cosmic Ray Division (CRD) of the Yerevan Physics Institute in the global scientific arena. "Armenia has been very active in the Solar Terrestrial Physics research area with lots of young researchers active and making their presence known with excellent publications. Armenian scientists have also been contributing enormously to the physics of the Sun-Earth system by creating observing facilities and data analysis tools, and are recognized internationally. For this reason, I invite Armenia to become an official member of the Scientific Committee on Solar Terrestrial Physics (SCOSTEP)." Said Dr. Gopalswamy

Also in mid-February the United Nations Office of Outer Space Affairs held its International Space Weather Initiative (ISWI) steering committee meeting in Vienna. As a member of this elite group of scientists from around the world, Prof. Ashot Chilingarian reported on CRD's Space Environmental Viewing and Analysis Network (SEVAN), a network of cosmic ray monitors designed and made in Armenia and being deployed around the world.

In December 2011 Prof. Ashot Chilingarian, was named an American Physical Society fellow. The announcement reads as follows: "Ashot Chilingarian, Yerevan Physics Institute: For bringing one of the world's largest facilities for monitoring different species of secondary cosmic rays located in Armenia to the International Space Weather Initiative as a global warning system from violent space events. Nominated by: Forum on International Physics" The American Physical Society was founded in 1899 by 36 prominent physicists. A few elite scientists from abroad are named to its ranks annually.

Congratulations to Prof. Chilingarian and to the Cosmic Ray Division

NEW DISCOVERIES BY CRD SCIENTISTS



Secondary cosmic rays produce seed electrons in thunderclouds

In April 2012 the head of Armenia's Cosmic Ray Division (CRD) and director of the Yerevan Physics Institute, Prof. Ashot Chilingarian, was invited to the European Space Agency center in Italy to a conference devoted to the Italian "AGILE" space satellite mission.

Prof. Chilingarian discussed the recently discovered phenomena of Terrestrial Gamma Ray Flashes (TGFs) in which the earth emits high energy radiation previously assumed to originate only from space. Armenia's Cosmic Ray Division is in the forefront of this area of research.

CRD atop Mt. Aragats has assumed a leading position in this branch of research. Prof. Chilingarian discussed the energy spectra and physical models of Thunderstorm Ground Enhancements (TGEs) in which high energy electrons are accelerated both downward towards the earth and upward towards space from within thundercloud formations. Much of the research in this new and exciting field is conducted by young CRD scientists. Recent PhD recipient Bagrat Mailyan's doctoral dissertation sheds a great deal of light on this subject within the international science community.

Numerous particle detectors and electric field meters located on the slopes of Mt. Aragats and in Yerevan continuously monitor changing geophysical conditions. These and a new planned geophysical station near Lake Sevan will monitor particle fluxes from the sun, thunderclouds and galaxies, as well as magnetic and electric fields near earth and lightning occurrences. CRD aims to issue alerts and forewarnings on upcoming space weather events and thunder-storms.

In series of three papers published by the journal of American Physical society "Physical Review" this year, Armenian physicists reported new phenomena manifested by a number of physical effects including electron and gamma radiation, neutron radiation, short bursts of electron radiation, reduced cloud to ground lightning coinciding with increased cloud to cloud lightning.

COSMIC RAY SUMMER SCHOOL ON ARAGATS A BIG HIT



Next generation of scientists conducting their PhD thesis at CRD

From left to right: Hovhannes Tsakanyan, Stepan Sargsyan, Hasmik Rostomyan, Hripsime Mkrtchyan, Manya Gasparyan, Hakob Kanoyan

From June 1 – 7 an internationally renowned group of cosmic ray scientists addressed students studying and performing research at the Cosmic Ray Division (CRD) of Armenia’s Yerevan Physics Institute. The lectures took place at CRD’s Nor Ambert conference center, near Armenia’s famous ancient Ambert fortress. Addressing the seminar theme “A Century of Cosmic Rays” Prof. Johannes Knapp from the University of Leeds in Great Britain, Prof. Razmik Mirzoyan from the Max Plank Institute in Germany, Prof. Hartmut Gemmeke of the Karlsruhe Institute of Technology in Germany and Prof. Ashot Chilingarian lectured on a number of topics. The recent CRD PhD recipients and PhD candidates also presented their work and learned from the masters through their constructive comments.

The 7-day course exposed CRD’s students and young post-doctoral scientists to a broad spectrum of cosmic ray research being conducted by leading researchers in the world. It allowed the students one-on-one mentoring time with these giants and raised their confidence level in their arena of work.

CRD’S POST-DOCTORAL YOUNG SCIENTISTS



CRD’s young scientists and engineers discovering the universe

From left to right: Artur Reymers, Armen Hovhanissyan, Karen Arakelyan, Levon Vanyan, Bagrad Mailyan, Tigran Karapetyan

They have been "raised" by Prof. Ashot Chilingarian since they were Masters and PhD students at the Cosmic Ray Division and elected to remain and work at the CRD in Armenia. They are exceptional young men, extremely intelligent and very dedicated to their work and country. These young scientists are heavily courted by the international scientific laboratories yet they remain in Armenia. They work long hours often spending weeks in buildings under snow at the Aragats research station. Their pay is meager compared to their colleagues abroad and to their colleagues in the high tech industry in Armenia.

These young men are not greedy or arrogant. They simply want to make a living wage while working in the forefront of Cosmic Ray Physics in Armenia, so that they can raise their current or future families properly. Two of them are married the others I am sure will want to get married and raise children to follow in their footsteps. They are in every way the future of Armenia.

Thank you for your continued support in their future.

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



CRD BENEFIT EVENT WITH COMEDIENNE LORY TATOULIAN A SMASHING HIT

The 2012 Cosmic Ray Division benefits event in the San Francisco Bay Area were held at the home of Dr. and Mrs. Keledjian and the Rugs and Carpets Gallery of Mr. and Mrs. Bezdjian. The entertainment included comedienne Lory Tatoulian, music and Armenian sing-alongs. KTVU news anchor, Gasia Mikaelian was the mistress of Ceremonies. Mouthwatring mezze at the event and take out for purchase was provided by Maro Kechedjian. Many thanks to all!



“Maro’s Mezze Table will wait for you again on March 10, 2013



“Oh so you are not Armenian? No problem! I make you Armenian!” Says Dandigean mother-in-law-to-be [Lory Tatoulian] to Paul [a good natured member of the audience].



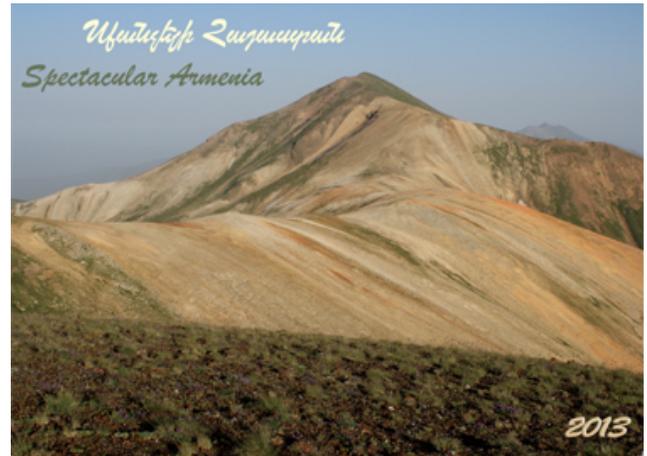
The Perfect Armenian Housewife JEOPARDY

Yes, the contestants’ buzzers are Armenian coffee demitasses. Nairi and Nanor were hilarious! Are you sure you don’t travel with Lory?

Lory has much more in store for us at the CRD Benefit event on March 10, 2013 and Maro will be back with her culinary creations.

2013 CRD CALENDAR ISSUED!

CRD’s calendar, *Spectacular Armenia 2013*, 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 2013* calendar features photographs from different regions of Armenia. You can visit Armenia every day by paging through this calendar on your wall. The Tigran Medz printing house in Yerevan printed the calendars. CRD staff members and Diaspora supporters submitted the superb photographs. Our thanks to Prof. Ashot Chilingarian, Dr. Suren Chilingarian, Mr. Dikran Dagavarian, Dr. Ara Babayan, Yevgeniya Yvanova, and Mr. Joseph Dagdigian for photo contributions to this year’s issue



2013 Spectacular Armenia Calendar available for purchase on the website and selected stores

The calendar is available from the www.crdfriends.org website and will also be sold during various Armenian events in the USA, as well as book stores and distributors. 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. Proceeds from these sales directly benefit 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.