



Cosmic Rays and Radiation Events in the Atmosphere (CRREAT), a New European Structural Funds Research Project in the Czech Republic



**CRREAT Project and International Scientific Advisory Committee members in Prague near the building of Department of radiation dosimetry of Nuclear Physics Institute of the Czech Academy of Sciences.
[Prof. Ashot Chilingarian left on second row]**

Prague, 3 February, 2017: The first meeting of the international Scientific Advisory Committee (SAC) of the project Research Center for CREAT took place in Řež and Prague on 1-3 February 2017.

The project began in December 2016 within the EU structural funds operational program “Research, Development and Education (Strengthening Capacity for High-Quality Research)”. The EU promotes enhancement of Research and Innovation (R&I) teams, infrastructure and capacity to develop R&I excellence, and promotes the establishment of new centers of competence, in particular those of European interest.

The CRREAT project is led by the Nuclear Physics Institute (NPI) of the Czech Academy of Sciences (CAS) and gathers research groups from partner organizations, the Institute of Atmospheric Physics of the CAS and the Faculty of Electrical Engineering of the Czech Technical University in Prague. Karel Kudela (Slovakia), a key international scientist, is the corner stone of the project and its director, seconded by his deputy Ondřej Ploc (NPI).

The project’s Scientific Advisory Committee is composed of international scientists from seven countries who will oversee the overall direction of the project and advise on R&D activities. Its members will provide feedback on the project’s objectives and its interim results, especially with regard to the latest trends in international research. [SAC members include the director of YerPhI, Prof. Ashot Chilingarian.]

The CRREAT project is focused of

- Deepening knowledge about the relationship between the atmospheric phenomena and ionizing radiation;
- Clarifying phenomena causing variations of the secondary cosmic rays in the atmosphere;

The next meeting of the Scientific Advisory Committee, overlooking the first project results, will take place in the Czech Republic at the end of 2017.

The project's research objectives, to a great extent, coincide with ongoing research on Aragats mountain performed by physicists of Cosmic Ray Division (CRD) of Yerevan Physics Institute. Last years CRD physicist investigated, in all detail, the new physical phenomenon called Thunderstorm Ground Enhancement (TGE) i.e. the intense fluxes of electrons, gamma rays and neutrons originated in the thunderstorm atmospheres. The first results on the relationship between the storm activity and TGE and lightning initiation process obtained by CRD physicists in 2016 are now prepared for publication in the proceedings of the annual symposia "Thunderstorms and Elementary Particle Acceleration (TEPA 2016)".

After the SAC meeting, a special session was devoted to the Space Environmental Viewing and Analysis Network (SEVAN) particle detector network operated in Eastern European countries developed by CRD in Armenia in the framework of a UN program during the International Heliophysical Year 2007. One of the outcomes of the CRREAT project would be for it to become a node of SEVAN. As Armenia is now eligible to participate in the Horizon 2020, the CRREAT project opens new areas of cooperation between Armenia and the Czech Republic.

Horizon 2020 is the largest EU innovation program ever aimed at securing Europe's Global Research and Innovation competitiveness and creating brain-based economic development. CRD's participation in this program is important for Armenia in many aspects.