

**April, 2016**

### **RS RAS and IS NAS KR scientific collaboration**

The scientific collaboration between **Research Station of RAS** and the **Institute for Seismology of NAS KR** in the seismological research scope continues.

Two sets of RT130-01 seismic station and STS-2 seismic sensors have been prepared and consigned to the Institute for Seismology by Group of New Technologies Introduction staff according to the last Agreement. It is the fifth Agreement for similar works during last three years.

RT130-01 stations and STS-2 seismic sensors purchase was funded by CRDF (U.S. Civilian Research and Development Foundation). PDA-KIT terminal software, intended for RT130-01 control, was updated in 2014. It must be noted that manufacturer of RT130-01 – namely REFTEK Inc., USA, supports its equipment maintenance during all time of equipments and software usage. Updated PDA-KIT terminal firmware was provided upon the Research Station request in shortest time.

Field work assumes RT130-01 seismic stations completed by STS-2 sensors arrangement at studied area and continuous recording of microseisms and vibrations from remote earthquakes and industrial explosions. The monitoring period depends on seismic activity level at observed territory. 10 seismic events at least with high records quality are necessary for data processing. While one station is taken as a reference point other stations are mobile.

One month is period of Agreement.

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Group of New Technologies Introduction staff render methodical support, operators training, consultations for Institute for Seismology staff and provide seismic data processing software.

**Federal target programme “Academic and educational cadres of innovative Russia**

**for 2009 – 2013 years.**

**Approved by decree of the Government of Russian Federation from July, 28, 2008, № 568**

**Agreement № 8670 from September, 21, 2012,** between the Ministry of Education and Science of Russian Federation and the Russian Academy of Sciences and Federal State Budgetary Institution of Science Research Station of the Russian Academy of Sciences in Bishkek about granting in a form of donation

**Project title:** “Development of geodynamical model of surface and deep structure interaction of Tian Shan’s lithosphere according to the complex geophysical observation data”.

Executor: Federal State Budgetary Institution of Science - Research Station of the Russian Academy of Sciences in Bishkek (RS RAS)

[Read more](#)

### Basic Research Programs of National Academies of Sciences for 2008-2012

#### 7.3. Physical Fields of the Earth: Nature, Interaction. Geodynamics and Internal Structure of the Earth

**Subject 1:** Study of deep structure of Tien Shan and surrounding territories using a complex of geophysical methods to find out the interrelation of mass-energy transfer in the Earth's crust and upper mantle with spatio-temporal distribution of seismicity

Principal Investigator: Anatoly K. Rybin, Candidate of Physics and Mathematics

Registration number: 0120.0713070

**Subject 2:** Study of distribution of velocities of the Earth's crust modern movements at the territory of Central Asia by means of space geodesy

Principal Investigator: Gennady A. Sobolev, Doctor of Physics and Mathematics, Corresponding Member of the Russian Academy of Sciences

Registration number: 120.0713071

### 7.11. Disastrous Processes of Natural and Technogeneous Origin, Seismicity – Study and Forecast

Subject: Study of geodynamic, seismic and geophysical processes as a base of earthquake forecast (including modeling of nonelastic processes in seismogenerating zones)

Principal Investigator: Vladimir A. Zeigarnik, Doctor of Technical Sciences

Registration number: 0120.0713072

### 7.13. Development of Methods, Technologies, Technical and Analytical Means of Studying the Earth's Surface and Interior, Hydrosphere and Atmosphere.

#### Geoinformatics.

**Subject:** Development of hardware and software aids and technological foundations of

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electromagnetic monitoring of geodynamic processes in seismoactive zones and assessment of their risks

Principal Investigator: Vitaly D. Bragin, Candidate of Physics and Mathematics

Registration number: 0120.0713073

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**Basic Research Program of the Presidium of the Russian Academy of Sciences for 2009-2011 □ 13**

**Problems of creation of the national scientific distributed data-processing medium on the base of development of GRID technologies and modern telecommunication networks**

**Subject:** Optimization of scientific Intranet and development of network applications for analysis of spatio-temporal geodata of Tien Shan and surrounding territories (as a possible GRID-proving ground)

Principal Investigator: Anatoly K. Rybin, Candidate of Physics and Mathematics

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### **Basic Research Program of the Department of Earth's Sciences of the Russian Academy of Sciences for 2009-2011 □ 6**

#### **Geodynamics and physical processes in lithosphere**

**Subject:** Study of spatio-temporal distribution of deformations in the Earth's crust at the territory of Bishkek proving ground using electromagnetic and geodesic methods

Principal Investigator: Vitaly D. Bragin, Candidate of Physics and Mathematics

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### **Basic Research Program of the Department of Earth's Sciences of the Russian Academy of Sciences for 2009-2011 □ 7**

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### **Physical fields and the Earth's interior**

**Subject:** Complex interpretation of anomalies of geophysical fields and their time variations with regard to non-uniformly scaled geological and geophysical models of lithosphere

Principal Investigator: Vitaly D. Bragin, Candidate of Physics and Mathematics

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**Basic Research Program of the Department of Earth's Sciences of the Russian Academy of Sciences for 2009-2011 □ 9**

**Structure and formation of principal types of geological structures of moving zones and platforms**

**Subject:** Complex study of deep structure of the Earth's crust using geological and geophysical methods by the example of Tien Shan folded zone

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Principal Investigator: Anatoly K. Rybin, Candidate of Physics and Mathematics

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**Federal Target Program “Scientific and Pedagogic Personnel of Innovative Russia” for 2009-2013**

**State contract of the Ministry of Education and Science of the Russian Federation**  
□ **02.740.11.0730 dated 5<sup>th</sup> of April, 2010.**

**Subject:** Development of technology of multidisciplinary geophysical monitoring of geodynamic processes in the Earth’s crust in seismoactive regions

Principal Investigator: Anatoly K. Rybin, Candidate of Physics and Mathematics

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### **Projects of the Russian Foundation for Basic Research (RFBR)**

#### **11-05-00840-a (2011-2013)**

Deep structure and geodynamic features of depression areas of intracontinental orogenesis by the example of the Central Tien Shan

Project Director: Anatoly K.Rybin

#### **09-05-00687-a (2009-2011)**

Study of tectonic stresses generation mechanism in the Earth's crust of intraplate orogens

Project Director: Nelly A.Sycheva

#### **10-05-00572 (2010-2012)**

Deep structure and geodynamics of the largest fault zones of Tien Shan

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Project Director: Elena A.Bataleva.

### **10-05-00231 (2010-2012)**

Study of influence of electromagnetic fields on microfracture in geological medium by methods of active geoacoustic monitoring and laboratory modeling

Project Director: Alexander S.Zakupin