International Science and Technology Center (ISTC)

www.istc.kz

I S T C

М Н Т Ц

International Science and Technology Center

ANNUAL REPORT 2014

Table of Contents

Transition & Outreach towards Central Asia & the Caucasus

I S T C

М Н Т Ц

Annual Report 2014

Statement
of the Chairman of the ISTC Governing Board 2014

The International Science and Technology Center is now in its third decade. The endurance of ISTC in the midst of much turmoil and change reflects the value of this innovative institution. ISTC has helped members and partners of international scientific talent in support of vital, common goals. As a result, the parties of ISTC have demonstrated how technical cooperation can enhance the security, health, and prosperity of their citizens. Indeed, the entire world benefits.

Multi-disciplinary science and technology is expanding at such a rapid rate that even the experts cannot keep track of the opportunities and challenges created for all societies. Different centers of excellence are springing up around the globe. Networking and synergy are the driving themes. The best science – the most valuable science – is international and open, bringing together the best minds in different fields from diverse cultures. The success of ISTC derives from the fact that our center has always operated where this multi-national scientific cooperation is most valuable.

As the world changes, however, the International Science and Technology Center must change also. Over the last few years, the parties and the members of the Governing Board have undertaken a strategic review of the future of ISTC. All of the Board Members recognized that we were approaching a turning point in the history of the center. The parties reached a consensus on a strategy for ISTC transformation, but individual governments have continued to review their own budgets and priorities for action. Some decisions have been taken. Others remain to be made. The Board and the Executive Secretary remain in close contact with the parties in order that it actions follow the intent of the parties.

From its bright new headquarters, ISTC will be taking important new steps. Above all, ISTC will focus on maximizing the utility of its programs. In part, this involves transitioning further from the sustainment of scientific capability to the advancement of high quality applied science. Also, priorities are increasingly shifting from maintaining current academic work to targeting economic, health, and security problems deemed urgent by each party.

The true measure of merit of ISTC is the benefit it creates for mankind. The resources invested, the effort undertaken, and the efficiency of the management process determine the value of this output. Our renewed ISTC must continue to reduce overhead, increase efficiency, and tailor efforts to the needs of the parties. Over the next year, a more streamlined secretariat will be working even more closely with the parties to improve performance. Still, the year 2014 has been dynamic.

During 2014, the ISTC began to move into a new main headquarters in Astana, Kazakhstan. The new Astana office was officially opened in June 2014 by the Governing Board with a ribbon cutting ceremony attended by Ambassadors and representatives of all the funding party countries along with senior officials from the Kazakh Government and Ministries as well as the President of Nazarbayev University, where our new main headquarters is now located. The movement of headquarters activities of ISTC from Moscow to Astana is ongoing and recruitment of staff continues apace with the target to have a fully operational office by mid 2015.

On behalf of the Governing Board, I wish to express our warmest appreciation to the President and to the Government of the Republic of Kazakhstan for inviting and hosting ISTC in their country and to Nazarbayev University for providing an excellent and collegial work environment.

Since opening a main headquarters in Astana in June, the parties have worked intensely to finalize the new ISTC International Agreement that will officially make Kazakhstan the host country for ISTC. This agreement is due to be initialed at the Governing Board meeting in 2015 and then the respective parties will proceed to sign and ratify this agreement within their Governments.

With the completion of the last of the Russian Federation projects in December 2014, a withdrawal of the Russian Federation from ISTC will be effective mid-year 2015. Thus will end twenty years of cooperation and scientific success with our Russian colleagues and friends, 60,000 individuals at 600 institutions. These statistics reveal engagement and interaction on a very large scale. This is just one way to measure the extraordinary initiatives and investments of ISTC's funding parties and partners.

None of this would have been achievable without the great contributions and cooperation of the Government of the Russian Federation. In particular, we have had a close relationship first with MINATOM and then ROSATOM. As we wind down our operations in our Moscow facilities, we are mindful of the cooperation and assistance that ROSATOM has given.

Additionally, on behalf of the other Board Members and for myself deeply and personally, I wish to express our great appreciation and affection for our Russian colleague, Minister Lev Dmitriyevich Ryabev, who from the earliest days ensured that ISTC was placed on a sound footing. Minister Ryabev's representation on the Governing Board provided great wisdom and valuable candor. Were it not for visionaries such as Lev Dmitriyevich, the great good that was accomplished would not have been possible.

Special appreciation must go to our Russian and Belarussian staff, which has contributed so much to the success of ISTC over these last 20 years. Words cannot express adequately how the skill, hard work, determination, professionalism, and commitment of these staff members contributed to the success of this remarkable intergovernmental organization – ISTC. Even as we complete the steps in closing our doors in Moscow, we hope that in future we may be able to again re-engage with our Russian colleagues for further cooperation.

As an intergovernmental body, ISTC has benefited from the contributions of staff and officials from many countries and will continue to do so. Obviously, our Kazakh staff is increasing, but we will always maintain a diverse staff to support existing and future members. We will also see diverse leadership as well. Daily leadership is provided by the Executive Secretary and the Secretariat. We have been very fortunate this year that David Cleve was available to step in to continue seamlessly the next big steps in a process already initiated by his predecessors Leo Owsiacki and Adriaan van der Meer. The Board is appreciative of the sound leadership that has permitted the Secretariat to manage the ISTC transition and transformation so smoothly.

As we look forward to a renewed ISTC that reflects the strategy of the parties to mobilize science cooperation for international security, prosperity, and health, I also want to think the leaders and officials in the capitals of all the parties who help us achieve the goals set by the parties. In particular, active participation by colleagues in the capitals is the means by which ISTC remains focused on what is truly important and helpful.

The parties are openly cooperating in discussions to move ISTC forward to the next stage of operations, and efforts are already underway to refine strategies, enhance the governance role of all parties, develop more targeted approaches to funding, develop additional funding mechanisms, and consider new members.
These are exciting times, filled with opportunity.

Dr. Ronald F. Lehman II

Chair, Governing Board
International Science and Technology Center

STATEMENT
OF THE EXECUTIVE DIRECTOR

It has been a very busy year as we finalise the move from the ISTC Moscow to ISTC Astana office. Our final projects in Belarus and Russia finished successfully in December 2014. Both countries will now end their association with the ISTC and withdraw from the International Agreement by July, 2015. I would like to thank the Government of the Russian Federation for hosting the ISTC over the past 20 years.

From a personal perspective it will be a sad moment to end our association in Belarus and Russia. I would like to pay tribute to the dedication and professionalism of our Moscow ISTC staff. They are the true unsung heroes and backbone that have made ISTC the success it is today and deserve a special mention. We wish our friends and colleagues success for their future. We will also miss our many friends at Rosatom and the various Russian Institutes, Ministries and Government.

I would like to thank the thousands of Russian scientists and engineers who worked on ISTC-funded projects over the years. Without doubt, our combined efforts contributed to both improved international scientific collaborations and a safer world. I also recognise the importance of maintaining the many trusted friendships developed over the years. This legacy is at least as important as the scientific projects and achievements made over the past two decades.

As we move forward, I wish to sincerely thank President Nazarbayev for inviting the ISTC to Kazakhstan. Furthermore, I thank the Ministry of Education and Science for fully supporting the ISTC as we refresh our activities in Kazakhstan.

Our Astana Office at Nazarbayev University was officially opened in June 2014 at the time of the GB59 Governing Board. All ISTC Parties and Partners were present as well as Ambassadors, dignitaries and representatives from the Kazakh Government. Nazarbayev University is a particularly apt location, it is Kazakhstan's flagship for learning in science, technology and innovation. We look forward to a long and fruitful association.

We hope to complete our move to the new Astana Office by June 2015. Several expatriates moved from Moscow as part of this transition and are now managing their projects from Astana. We have also begun to build-up the local staffing compliment and technical infrastructure to support our new activities.

Whilst transition continues in earnest, normal business and operations go on regardless. Projects, workshops, seminars and training courses have all been continuing across the regions. A number of new organizations have asked to participate in partner projects. Additionally, several new partners have been accepted into the ISTC fold. We have initiated outreach activities in Southern and South East Asia and in the Middle East North Africa region in order to further expand our program. This highlights how the ISTC continues to be relevant, and, accepted in high regard within the Science and Technology community. The benefits of working with the ISTC are well recognised and demonstrated by our pipeline of Targeted Initiatives, project proposals and workshops. Our longer-term, on-going projects include work conducted for EU DEVCO and US DOE, some of which were completed in 2014. Details of some of these projects are provided below.

Both the ISTC and STCU have contributed to the remediation and environmental monitoring of the geographical area impacted by the Fukushima Daiichi Nuclear Power Plant Accident of 2011, through the establishment of the DOE-funded Fukushima Initiative. This Initiative taps into the substantial expertise of ISTC and STCU scientists and engineers, enabling them to provide practical and technical support to their Japanese colleagues.

The 5 year EU-ISTC funded program "Strengthening Bio-Safety and Bio-Security Capabilities in Central Asian Countries" (No IFS/2009/217-540, € 6,799,967) was successfully completed in 2014. Selected Central Asian scientists, supervisors and laboratories now benefit from improved biosafety and biosecurity training, additional equipment and improvements in their epizootiological monitoring system and diagnostics capabilities. Projects included providing bio-safety and bio-security training by the Kazakh Scientific Center for Quarantine and Zoonotic Diseases (KSCQZD); renovation and modernization of an animal breeding facility at KSCQZD according to International Laboratory Animal regulations; creation of a regional biosafety training center in Dushanbe for capacity building for Tajikistan and Afghanistan professionals and biosafety and biosecurity training for mobile medical unit personnel working in field conditions.

Partner funding continues to be an important part of ISTC activities. The US Biotechnology Engagement Program (BTEP) supports both Centers for Disease Control and Prevention (CDC) and National Institutes of Health (NIH) projects. BTEP continues to expand its support of scientific redirection through active engagement of CIS scientists in high priority healthcare projects and promotion of scientific exchange of research results. Current engagements include MDR TB, HIV and Salmonella projects in Kazakhstan, Georgia, Tajikistan. More details of these projects can be found in this annual report.

As the ISTC chairman has outlined in his opening statement, work is already underway to review the new strategy of ISTC going forward in the light of these current changes and move. We see this as a new opportunity to re-focus our plans, priorities and efforts towards targeted funding areas and new funding mechanisms. Needless to say more focus has been and will be aimed at transition and outreach towards Central Asia and the Caucasus Countries in the future as part of the ever changing development of ISTC.

As for the Science Centers, together ISTC and STCU are continually looking for ways to synergize more effectively in order to bring efficiency gains to both Science Centers. In this respect, the STCU is currently assisting ISTC with specialists in the implementation of a new accounting ERP software system in Astana, so that both centers will utilize the same accounting systems in future. The Centers are also looking at potential collaboration of experts and regional offices as part of ongoing efforts to reduce operation costs for both centers.

Finally I would like to thank the representatives from all the ISTC Parties for their valuable contribution to the work of the various Governing bodies of the Centre and we look forward to welcoming the new Kazakh Representatives into the Governing Board and the Science Advisory Committee in 2015.

David Cleave

Acting Executive Director

International Science and Technology Center (ISTC) 21 Years in the Russian Federation

The International Science and Technology Center started functioning in Moscow over 20 years ago, in March, 1994. Its creation was agreed in Brussels, in March of 1992, by representatives of the European Community, the US, the Russian Federation and Japan.

The parties agreed that the main objective would be "to give weapons scientists and engineers from the former Soviet Union, particularly those who possess knowledge and skills related to weapons of mass destruction or missile delivery systems, opportunities to redirect their talents to peaceful activities".

Those were not easy days for the newly established states – the Russian Federation, the CIS countries and Georgia.

Collapse of the USSR resulted in the severance of the traditional economic ties, cuts in the level of budget appropriations. Problems occurred with the respect to the payment of salaries to highly-qualified staff.

Implementation of international agreements, related to the reduction and liquidation of weapons of mass destruction led to release of tremendous research and industrial potential in the defense sphere.

There were concerns that such a situation would provoke "brain-drain", loss of control and, as a result, proliferation of knowledge and skills, related to the development of WMD and missile delivery systems.

Obviously, the major responsibility for non-proliferation issues rested with the states, engaged in the development and production of WMD.

However, assistance of other countries expedited solution of the urgent issues. Thus, the established Center began to provide opportunities to the weapons scientists and engineers to redirect their talents to peaceful activities.

Transition & Outreach towards Central Asia & the Caucasus

The Center became an organization developing, selecting, financing and monitoring science and technology projects, implemented by the institutes and organizations of the Russian Federation, other CIS states and Georgia.

Throughout the years of operation several thousand projects have been implemented (funded), which involve dozens of thousands of scientists and engineers.

The Center has promoted basic and applied research, engineering, thermonuclear research and power, laser technologies, improvement of nuclear power safety, solution of environmental problems, creation of new materials, medical devices and preparations, improvement of radioactive and toxic waste management techniques and other activities.

There is a fact which deserves a special mentioning: many of the abovementioned research directions did not receive funding in the states where they had been developed which, eventually, might lead to the loss of the gained research potential.

The Center created an environment in which any research specialist or engineer could execute his/her proposal in the form of a project, put together a team and demonstrate his/her leadership skills. This also facilitated identification of talented managers.

Project proposals were submitted by the Russian Federation or by the CIS states and approved by the ISTC Governing Board.

The allocated funds went directly to the project participants for the project related activities and not for the maintenance of institutes and organizations. Theses funds were not subject to taxation; their targeted use was monitored by in-situ activity auditing, which ensured proper use of resources.

All the ISTC Governing Board decisions were based on consensus, i.e., they could not be made to the prejudice of either the Russian Federation or any other CIS state without consent of the latter.

Implementation of projects facilitated integration of scientists into the international scientific community, establishment of contacts with foreign research centers, engagement of specialists in international collaboration, participation in joint workshops and seminars.

The economy of the Russian Federation has improved over the recent years; the budget allocations for scientific research have increased sufficiently. Salaries of scientists and research specialists have notably grown; new structures for scientific and industrial management have been established and reinforced.

One can say that by this time the Center has fulfilled its tasks and now, under new economic conditions, international cooperation of the Russian Federation and other countries is being reshaped. At the same time the ISTC's experience in establishing international collaboration is enduring and may well be demanded in the changed situation. Scientists and engineers of the Russian Federation commend the contribution, which the ISTC made in the strengthening of cooperation between our countries during the challenging period of the national formation in Russia.

Lev D. Ryabev,

ISTC Governing Board Member from the Russian Federation

Overview of ISTC Activities in 2014

ISTC – Pursuing our Objectives

In 2014, the ISTC has once again proved to be an efficient conduit for the Funding Parties in promoting international scientific and technological cooperation with a nonproliferation component. The year 2014 was a major turning point in the ISTC history with the opening of the Astana office in June 2014 as part of the transition and transfer of operation from Moscow to Astana.

The ISTC has become a mechanism for cooperation in areas of nuclear science, agriculture, biosafety, biosecurity, biotechnology, chemistry, earth and materials science, the environment, medicine, and information technology.

The direction of further activities is now clearly a challenge and all Parties are contributing to devise a new strategy for the ISTC. The strategy that will take into consideration more joint regional activities and outreach, more targeted areas for funding along with new funding mechanisms.

The move to Kazakhstan heralds a new start for the ISTC and the Parties wish to make use of this timing to launch a new strategic approach for the future of ISTC's operations. The contribution of the non-Russian ISTC member countries of the former Soviet Union have proved to be of a great importance in pursuing ISTC's the main objectives.

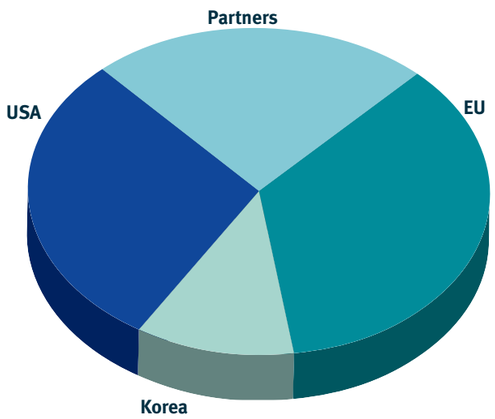
The Center continues to transform itself into a more modern, efficient, and effective intergovernmental science organization, looking to enhance international science cooperation for international security, prosperity and health.

Overview of ISTC Activities

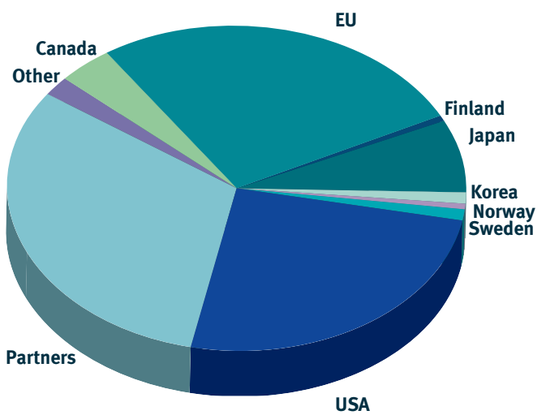
- The information provided below gives an overview of the funded projects by financing source, beneficiary country and technology area.
- These figures show that between 1994 and 2014 the ISTC supported 2807 projects with a total value of USD $881,311,766. Most projects were funded respectively in the areas of biotechnology, environment, chemistry and materials.
- Over the years the EU and the US were the main sources of funding for ISTC projects. This year this funding is directed more and more to ISTC's Central Asia and Caucasus countries.

2014 Project Funding and Total Project Funding (1994-2014) - by Source

2014 Project Funding ($ 3,368,951) by Source



1994-2014 Total Project Funding ($ 881,311,767) by Source

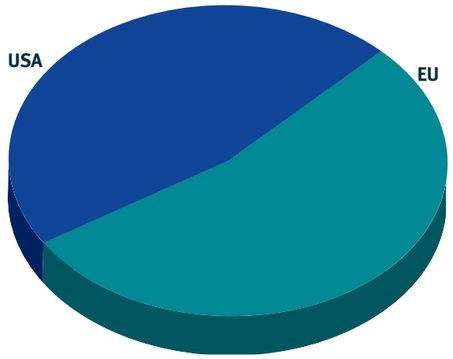


Transition & Outreach towards Central Asia & the Caucasus

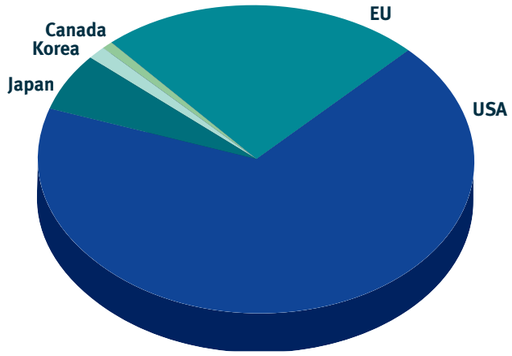
Party	Amount in 2014 (USD)	Amount Total (USD)
Canada	0	35,302,224
EU	1,201,129	244,843,564
Finland	0	1,185,960
Japan	0	64,981,149
Korea	380,000	5,161,952
Norway	0	1,881,450
Sweden	0	3,831,906
USA	987,822	227,348,279
Partners	800,000	284,226,062
Other	0	12,549,221
Total	3,368,951	881,311,767

2014 Partner Project Funding and Total Partner Project Funding (1994-2014) - by Party

2014 Partner Project Funding ($ 800,000) by Party



1994-2014 Total Partner Project Funding ($ 284,442,337) by Party

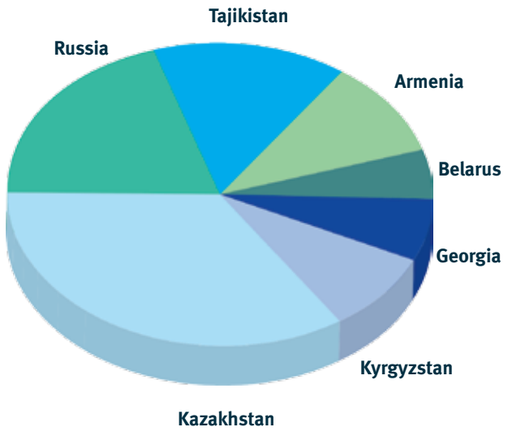


Party	Type of Partner Company	Number of projects 2014	Partner Funding 2014 (USD)	Number projects Total	Partner Funding Total (USD)
Canada	**Total**	**0**	**0**	**5**	**622,455**
	g	0	0	1	20,000
	n	0	0	4	602,455
European Union	**Total**	**1**	**430,000**	**140**	**54,490,362**
	g	1	430,000	80	43,148,902
	n	0	0	60	11,341,460
Japan	**Total**	**0**	**0**	**65**	**8,469,856**
	g	0	0	17	3,169,953
	n	0	0	48	5,299,903
Korea	**Total**	**0**	**0**	**11**	**2,119,189**
	g	0	0	7	1,780,000
	n	0	0	4	339,189
USA	**Total**	**4**	**370,000**	**563**	**218,740,472**
	g	4	370,000	530	212,352,510
	n	0	0	33	6,387,962
****Total:**	**Total**	**5**	**800,000**	**784**	**284,442,337**
	GAP	5	800,000	635	260,471,366
	Non-GAP	0	0	149	23,970,971

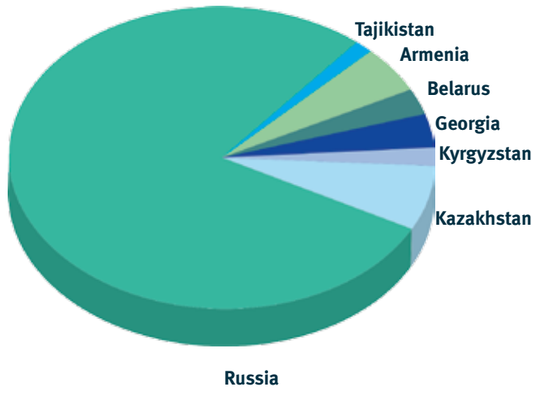
** Please note that the real number of funded Partner Projects is 750 as there are several partner projects where 2 or 3 Partner Companies are involved

Grants paid by ISTC to Beneficiary Scientists in 2014 and Total Grants paid (1994-2014) - by Country

Grants paid ($4,527,748) in 2014 by the ISTC to Beneficiary Scientists



Total grants paid ($ 552,412,289) by the ISTC to Beneficiary Scientists

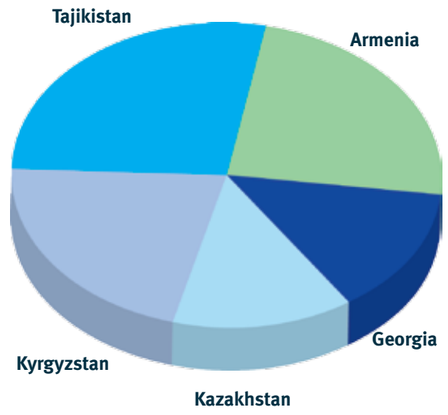


Country	Number of Scientists in 2014	Amount of Grant Payments (USD) in 2014	Number of Scientists Total	Amount of Grant Payments Total (USD)
Armenia	176	467,557	3,374	27,960,019
Belarus	104	241,581	1,868	15,902,599
Georgia	108	298,036	2,454	19,966,226
Kyrgyz	140	394,321	1,379	10,285,970
Kazakhstan	505	1,560,409	4,831	37,928,456
Russia	437	911,444	60,968	434,005,057
Tajikistan	196	654,401	668	6,363,962
Total	**1,666**	**4,527,748**	**75,542**	**552,412,289**

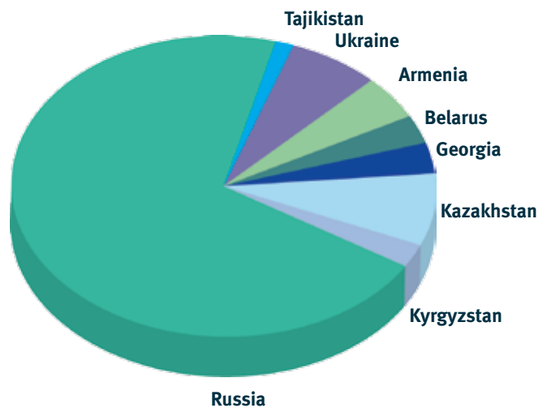
Transition & Outreach towards Central Asia & the Caucasus

2014 Project Funding and Total Project Funding (1994-2014) – by Beneficiary Country

2014 Project Funding ($ 3,368,950) by Beneficiary Country

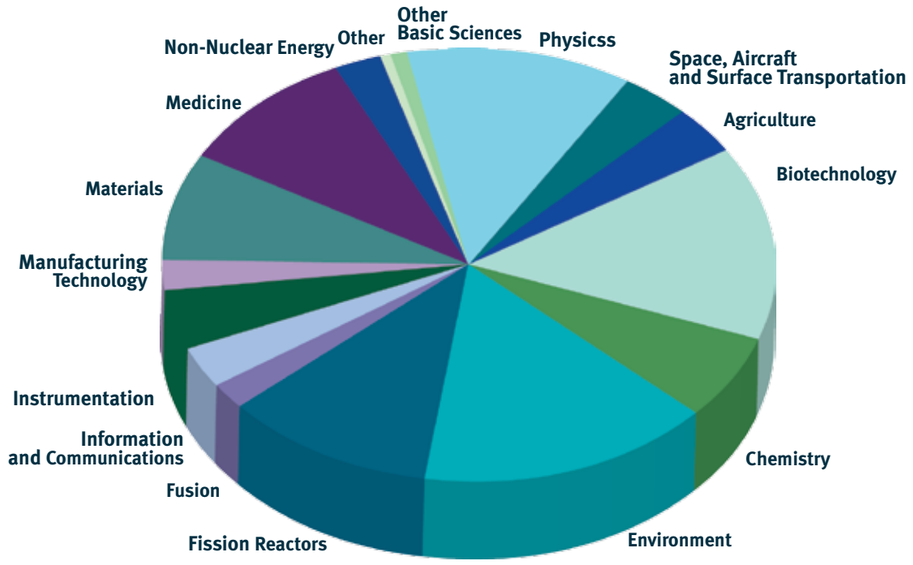


Total Project Funding ($ 881,311,766) by Beneficiary Country (1994-2014)



Country	Number. of funded projects 2014	Allocated funds 2014 (USD)	Number of funded projects Total	Allocated Funds Total (USD)
Armenia	4	796,420	175	42,437,230
Belarus	0	0	100	27,481,454
Georgia	4	466,222	156	31,020,694
Kazakhstan	2	450,000	202	75,207,589
Kyrgyzstan	2	724,406	93	24,503,073
Russia	0	0	2,033	667,127,177
Tajikistan	3	931,903	47	13,470,255
Ukraine	0	0	1	64,296
Total:	**15**	**3,368,950**	**2807**	**881,311,766**

Total Project Funding (1994-2014) – by Technology Area



Tech area	Number of funded projects 2014	Allocated funds 2014 (USD)	Number of projects Total	Allocated funds Total (USD)
Agriculture	0	0	89	34,152,144
Biotechnology	5	1,412,158	334	126,902,036
Chemistry	2	280,000	210	56,069,154
Environment	3	992,606	442	137,225,843
Fission Reactors	0	0	274	98,031,236
Fusion	0	0	51	15,542,308
Information and Communications	0	0	107	28,536,916
Instrumentation	1	100,000	136	37,424,855
Manufacturing Technology	0	0	75	21,412,969
Materials	2	319,862	217	69,378,478
Medicine	0	0	235	85,649,130
Non-Nuclear Energy	0	0	64	22,470,981
Other	0	0	18	2,798,135
Other Basic Sciences	0	0	30	6,859,930
Physics	1	96,222	420	109,012,928
Space, Aircraft and Surface Transportation	1	168,103	105	29,844,723
Total	**15**	**3,368,951**	**2807**	**881,311,766**

Transition & Outreach towards Central Asia & the Caucasus

Partner Projects

European Union

The European Union remains a major contributor to the Center's activities, providing financial support to its science project and programs. Partner projects funded by the EU trough the European Aid-Development and Cooperation office (DEVCO), as a partner, are a clear indication of how science and technology priorities are addressed at a national level in the framework of targeted program.

The overall objective of the program titled "Strengthening Bio-Safety and Bio-Security Capabilities in Central Asian Countries" (signed in September 2009 for €6,799,967) was to improve bio-safety and bio-security in the Central Asian region by raising the scientific and technical skills of personnel working at or supervising relevant laboratories, by providing training, additional equipment, and through the improvement of epizootiological monitoring systems and diagnostics capabilities for infectious diseases.

During 2014 all activities were completed under the EU-ISTC contribution agreement concerning this program. The program with a focus on bio-safety and bio-security in Central Asia was divided into two main activities, and was implemented through ISTC Projects and supplementary budget activities:

Activity A. Provision of basic training to bio-laboratory personnel from all countries in Central Asia (Projects K-1817, K-2046, K-2048, K-2052 and T-1998).

Activity B. Provision of advanced assignment-type training to bio-laboratory scientific personnel from Central Asia (Projects K-1906, T-1818, T-1819, T-1852)

Below a summary is provided of all the deliverables accomplished under the program.

Activity A

Project #K-1817

Providing Bio-safety and Bio-security Training by Kazakh Scientific Centre for Quarantine and Zoonotic Diseases (KSCQZD)

Leading Institute:	Kazakh Scientific Center for Quarantine and Zoonotic Diseases, Almaty, Kazakhstan
Collaborators:	Foreign Affairs Canada / Global Partnership Program, Ottawa, ON, Canada (Chougaipova Z) Ludwig-Maximilians-Universit t / Max von Pettenkofer-Institutf r Hygiene und MedizinischeMikrobiologie, Munich, Germany (Rakin A)
Total funds allocated:	$3,073,445 (Partner)
Total grants:	$565365

Main objectives and results:

Duration of the project: 1 June 2010 – 31 August 2014

–Curricula for 13 Biosafety and biosecurity training courses were developed for medical professionals, laboratory staff and supervisory personnel;

–Training facility at KSCQZD was renovated and equipped with modern equipment;

–Dormitory at KSCQZD was renovated, enabling KSCQZD to provide low-cost housing for long-term trainees (some training courses take up to 3 months);

–Modern equipment was procured for training courses at the Anti-Plague Institute in Uralsk;

–27 training courses were provided at KSCQZD and the Anti-Plague Institute in Uralsk, in which 298 specialists were trained (Kazakhstan 15, Kyrgyzstan 74, Mongolia 79, Tajikistan 34, Uzbekistan 96).

Project #T-1998

Creation of Regional Biosafety Training Centre in Dushanbe for Capacity Building for Tajikistan and Afghanistan Professionals

Leading Institute:	Public Organisation “Modern Scientists”, Dushanbe, Tajikistan
Collaborators:	Centers for Disease Control and Prevention (CDC) / Central Asia Regional Office, Almaty, Kazakhstan (Schmidt G) Health Protection Agency / Novel and Dangerous Pathogens Department, Salisbury, Wiltshire, UK (Hewson R) World Health Organization / Regional Office for Europe, Copenhagen, Denmark (Brown C
Total funds allocated:	$1,176,351 (Partner)
Total grants:	$335560

Main objectives and results:

Duration of the project: 1 September 2012 – 31 August 2014

–The legal organization (LLC “FATKH 2012”) was created to run the Training Centre, including a dedicated website www.rbtc.tj;

–Facilities for the Regional Biosafety & Biosecurity Training Centre were renovated;

–Curricula for 15 theoretical and practical training modules for specialists in biosafety and biosecurity issues were developed, with extensive input from WHO;

–6 training courses were provided, with a total of 154 specialists (Afghanistan 45, Tajikistan 108, Poland 1);

–4 Legislative documents were prepared that include international norms and standards on biosafety and biosecurity issues, which were signed into law.

Transition & Outreach towards Central Asia & the Caucasus

Project #K-2046

Renovation and Modernization of the Animal Breeding Facility in KSCQZD in accordance with International Laboratory Animal Regulations

Leading Institute:	Kazakh Scientific Center for Quarantine and Zoonotic Diseases, Almaty, Kazakhstan
Total funds allocated:	$2,400,000 (Partner)
Total grants:	$110190

Main objectives and results:

Duration of the project: 1 February 2013 – 30 September 2014

–Animal Breeding facility at KSCQZD was fully renovated according to international norms and standards, in order to provide laboratory animals of the highest quality to improve reproducibility of studies with (highly) infectious diseases to reduce research incidences with especially dangerous pathogens;

–KSCQZD staff were trained during multiple training events/courses in animal care and use protocols according to international norms and standards;

–Start-up of the animal breeding facility was accomplished, and the facility is fully running;

–Draft regulation was developed to improve animal care and use the standards of the Republic of Kazakhstan, which is currently under review by legislative authorities.

Animal breeding facility main view outside (old status)

Animal breeding facility main view outside (renovated)

Old mice breeding room

Renovated mice breeding room

Pass-through autoclave and sterilization chamber – animal breeding facility

Project #K-2048

Biosafety and biosecurity training for personnel of mobile medical units working in field conditions

Leading Institute:	Kazakh-Russian Medical University, Almaty, Kazakhstan
Collaborators:	Kazakh Scientific Center for Quarantine and Zoonotic Diseases, Almaty, Kazakhstan
Total funds allocated:	$230,000 (Partner)
Total grants:	$67345

Main objectives and results:

Duration of the project: 1 February 2013 – 31 July 2014

–Curriculum for the training course of Mobile Medical Unit personnel was developed on the rules of biosafety and biosecurity. The course was designed to teach and train healthcare professionals of various disciplines to reduce the risk of exposure to quarantine and other especially dangerous infections;

–The developed training materials became the basis for clinical guidelines in Kazakhstan for medical personnel of primary health care organizations on bio-risks from quarantine and other especially dangerous infections;

–In total, 142 healthcare professionals of Mobile Medical Units were trained from all regions of the Republic of Kazakhstan.

Project #K-2052

Training on biological safety and biological security to reduce biological risks in Kazakhstan and Central Asia Countries on the basis of modular training program

Leading Institute:	Kazakh Scientific Center for Quarantine and Zoonotic Diseases, Almaty, Kazakhstan
Total funds allocated:	$428,000 (Partner)
Total grants:	$227330

Transition & Outreach towards Central Asia & the Caucasus

Main objectives and results:

Duration of the project: 1 June 2013 – 31 August 2014

–Curricula for a 1 month training program in Bio-Safety and Bio-Security issues was developed, including questionnaires to study the effectiveness of the training received;

–An interactive multimedia disc, which contains all training materials and additional resources and references, was developed;

–In total 60 trainees from different countries, different institutes, and with different qualifications were trained - Kazakhstan – 28, Kyrgyzstan - 8, Tajikistan - 9, Uzbekistan – 8, Mongolia – 7;

–An association for trainers in biosafety was created in Kazakhstan to create a platform to stay connected and to share information.

Activity B

Four long term assignment training Projects (K-1906, T-1818, T-1819, and T-1852) were implemented in the period of 1 April 2011 - 31 December 2013. Under each project, laboratory personnel were sent to the Robert Koch Institute (Germany) for a one-year, theoretical and practical training program in Biosafety and Biosecurity issues according to International norms and standards. In total 5 specialists (Kazakhstan 1, Tajikistan 4) completed this intensive 'learning by doing training' course.

In addition to the Projects implemented under Activity A and B, two supplementary budgets provided support for the implementation of the Program. Under these supplementary budgets 10 EU experts were contracted to provide training/ lectures, 75 specialist from Central Asia and the Caucasus were supported to attend the annual Biosafety Association of Central Asia and the Caucasus in the period of 2010 – 2014, as well as over 100 specialists were trained in multiple training events organized under the Program.

In summary this EU initiated Program was successfully implemented and can be used as a template for future programs at the renewed ISTC, with the key component of having a targeted scope, regional reach, international expert support, and a specific implementation timeline.

USA

Partner funding continues to be an important part of ISTC activities. During 2014, the United States Party continued its major contribution to the ISTC operations and remained one of the largest contributors to the Center's Science Projects. For example, ISTC has used workshops to initiate new collaborations and project proposals in areas of interest to our Partners thus creating a pipeline of funded projects and programs work over the next three to five years. Our US Government Partners continue to play a great role in the development of both targeted activities and thematic program areas. We look forward to continuing collaboration with them within the region and beyond.

Radioactive Waste Management

An example of a successful partner project in radioactive waste management that came to fruition in 2014 is presented below.

Project #K-2057

Treatment and safe disposal of liquid radioactive waste

Leading Institute:	Nuclear Technology Safety Center, Almaty, Kazakhstan (AJV)
Supporting Institutes:	MAEC-Kazatomprom, Aktau, Kazakhstan (BTC)
Collaborators:	Argonne National Laboratory (ANL), Argonne, IL, USA
Total funds allocated:	$490,000 (Partner)
Total grants:	$418, 350

Main objectives and results:

Handling, long term storage, and disposal of generated liquid radioactive waste is becoming an increasingly prominent issue as civilian nuclear facilities around the world grow in numbers, with new facilities being built, and older facilities being refurbished to meet modern standards. ISTC project K-2057 for "Treatment and Safe Disposal of Liquid Radioactive Waste" has proposed polymer based technical solutions for addressing long term handling of waste from civilian nuclear power facilities.

As part of the project, NOCHAR polymers were tested to determine their efficacy in immobilizing radioactive organic liquids, as well as sludge, through a mechanical and chemical solidification process. As radioactive organic liquid travels through the polymer strands, the strands swell and immobilize the liquid. As the polymer cures, it continues to collapse on the liquids to create a permanent chemical bond, essentially allowing solidification for long term storage or disposal. Data obtained from the project indicate that waste volumes can be reduced by up to 10 times their pre-treatment size.

Kazakhstan's decommissioning of a sodium-cooled fast neutron reactor (BN-350) provided a unique backdrop for testing the ability of the polymers to handle liquid radioactive waste. Testing the applicability of the polymer through solidifying specific waste streams, such as organic liquid waste, confirmed the feasability of the polymers and their cost efficiency. The decommissioning of BN-350 touched upon a wide range of issues related to sustainability of the nuclear sector in Kazakhstan, as the polymers provided a method for safe handling and storage of radioactive liquid waste.

This project served as local verification of polymer performance in various radioactive waste streams and led to the development of a new encapsulation technique using sulfur compounds and polymer solidification. The encapsulation technology is currently being considered for a patent.

Project K-2057 was U.S. funded, with Argonne National Laboratory serving as technical collaborator.

Transition & Outreach towards Central Asia & the Caucasus

Biotechnology Engagement Program (BTEP)

The U.S. Department of Health and Human Services (DHHS), Biotechnology Engagement Program (BTEP), supports the U.S. Centers for Disease Control and Prevention (CDC) and the U.S. National Institutes of Health (NIH) projects and continues to expand its support of scientific redirection through active engagement of CIS scientists in collaborative research in high-priority health problems and the promotion of scientific exchange of research results.

The ISTC sponsored a call for proposals from collaborative research teams involving scientists from the United States, and the Republic of Georgia for the 2014 U.S-Georgia Small Grant Initiative for Research Collaboration on HIV, Tuberculosis (TB), Hepatitis. This call for proposals was announced during the "Program-Development Workshop on HIV, TB, Hepatitis" convened in Tbilisi, Georgia from June 16-18, 2014. This ISTC initiative was developed in partnership with the National Institutions of Health (NIH) National Institution of Allergy and Infectious Diseases (NIAID) and the Georgian Ministry of Labour, Health and Social Affairs (MOLHSA). Seven projects will be funded totaling US $584,000. Seventeen proposals were submitted for consideration. The award announcement will be made in March 2015.

Current BTEP engagements include $2,958,825.00 USD for projects in Kazakhstan, Georgia and Tajikistan.

Some examples of Partner projects supported/funded by BTEP are presented below:

Project #K-1282

Microbiological Synthesis of New Medicine Preparation with Tonic, Anti-Oxidant and Anti-Tumor Activity

Leading Institute:	JSC, Institute of Industrial Biotechnology, Stepnogorsk, Kazakhstan
Collaborators:	US Department of Health & Human Services / National Institutes of Health, Bethesda, MD, USA
Total funds allocated:	US $625,000.00
Total grants:	US $407,943

Main objectives and results:

This project combines extensive experience of former bio-weapons workers in microbiology and organic chemistry with the expertise of scientists in natural plant products from middle Asia with collaborators from the National Cancer Institute in purifying, processing, characterizing and biological testing of natural products.

The Project goal is microbiological synthesis from the point of view of pharmacological activity of more perspective structures of Ecdusteroids.

The project includes an array of plant derived natural product rather than just ecdysterones.

In addition, the project's general goal is pharmacological screening of new synthesized structures for tonic, anti-oxidant and anti-tumor activities. Development of methods of stereo-selective oxidation of phytosteroids by biocatalysts (microbiological oxidation). Development of methods of purification of reaction product (oxidized). Identification and approving of the structure of synthesized product. Obtaining of phytosteroid product with aromatic cycle on the A-ring (new structure) by microbiological method (patent-sufficient). Development of methods of side link of phytosteroid splitting with aromatic cycle in the A-ring (new structure) (patent-sufficient).

Project #G-1081

Development of Surveillance System and Control Strategy for Leishmaniasis in Georgia by Means of Epidemiological Investigation and Strengthening of Laboratory Capacities

Leading Institute:	National Center for Disease Control and Public Health, Tbilisi, Georgia
Collaborators:	US Department of Health & Human Services/ National Institutes of Health, Bethesda, MD, USA
Total funds allocated:	US $562,009
Total grants:	US $340,438

Main objectives and results:

The main goal of the project is the re-establishment and improvement of the surveillance system for Leishmaniasis in Georgia that will contribute to the development and implementation of an appropriate control strategy and to health policy rationalization. The improvement of the surveillance system will rely on adoption of modern laboratory methods for early diagnosis of VL, for parasite species and zymodeme identification, and for determining the prevalence of Leishmania infection in humans and presumed canine reservoirs of disease.

Project #G-1462

Establishment of National Sentinel-Site, Laboratory-Based Salmonella Surveillance System and Outbreak Response Capacity for Enhanced Control of Foodborne Disease in the Republic of Georgia

Leading Institute:	National Center for Disease Control and Public Health, Tbilisi, Georgia
Collaborators:	Centers for Disease Control and Prevention (CDC) / Centers for Disease Control and Prevention / Foodborne and Diarrheal Diseases Branch, Atlanta, GA, USA
Total funds allocated:	US $430,000
Total grants:	US $275,365

Transition & Outreach towards Central Asia & the Caucasus

Main objectives and results:

The goal of the project is to develop a Salmonella-surveillance and control program in the Republic of Georgia, including sentinel-site based active Salmonella surveillance, outbreak response capacity, selective microbiologic food testing, and a public health campaign to help the citizens reduce their risk of infection by Salmonella and other pathogens.

The project will re-establish a sentinel-site surveillance system for Salmonella in the Republic of Georgia. The system will consist of the national reference laboratory at NCDC, and 4 regional hospital laboratories (Tbilisi, Kutaisi, Batumi, Rustavi). Alaboratorian will be trained locally and through the WHO Global SalmSurv network courses on Salmonella diagnostics. In the catchment area of each of these four reference hospitals, outpatient and inpatient facilities will be identified, and stool samples will be obtained from a representative sample of patients presented to systematically selected care facilities.

Careful sampling method design will allow collection of a sample of reasonable representatives of the underlying population, and in fact this methodology will provide superior representation of patients than the traditional passive surveillance practiced in most developed countries.

Project #G-1683

Distribution and Diversity of Bartonella Pathogens among People and Animals in Georgia and Evaluation of Factors Associated with the Emergence of Bartonellosis

Leading Institute:	National Center for Disease Control and Public Health, Tbilisi, Georgia
Collaborators:	Centers for Disease Control and Prevention (CDC) / National Center for Infectious Diseases/ Division of Vector-Born Infectious Diseases, Fort Collins, CO, USA
Total funds allocated:	US $100,000
Total grants:	US $50,430

Main objectives and results:

The main objectives of the project are the collection of blood and tissue samples from rodent species and domestic animals from different regions of Georgia to determine the regional diversity of Bartonellaspp; the development of additional antigens for serological assays from rodent-associated isolates; characterizations and comparisons of the isolates obtained in Georgia with those obtained in the USA; the analyses of the human patient samples for detection and identification of Bartonella isolates by serology, PCR, and microbiological techniques andthe identification of Bartonella species directly in clinical specimens by PCR-sequencing analysis of several genes and improvement of techniques for direct DNA amplification and detection of uncultured Bartonella species in environmental and clinical specimens.

Project #G-1759

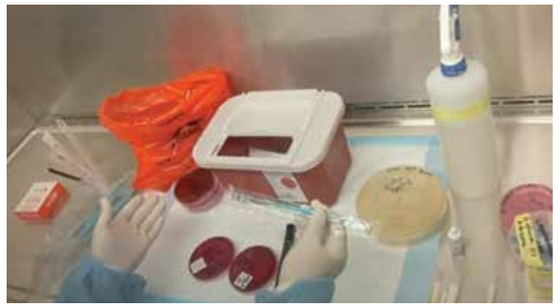
Epidemiology of Clostridium Difficile-Associated Disease in Georgia

Leading Institute:	National Center for Disease Control and Public Health, Tbilisi, Georgia
Collaborators:	Centers for Disease Control and Prevention (CDC) / Midwest Research Institute, Frederick, MD, USA
Total funds allocated:	US $100,000
Total grants:	US $59,595

Main objectives and results:

The specific objectives of the project include: the study of C. difficile-associated disease (CDAD) prevalence in Georgia; identification and assessment of risk factors of healthcare-associated-CDAD in Georgia; study of relationships between C. difficile toxins A and B and CDAD; study of the molecular epidemiology of C. difficile strains; develop recommendations to hospitals and to the Ministry of Health of Georgia.

In 2014, questionnaires, data collection forms and a protocol were prepared and developed. To raise awareness on Clostridium difficile-associated disease (CDAD) – presentations were prepared and physicians of intensive care units were trained. A database for epidemiological and laboratory surveillance of CDAD was developed. An analysis of epidemiological surveillance data of CDAD is performed using SPSS 20.0 software package. Collection forms and questionnaires were collected from seventy-seven patients (19 at the adult hospitals, 43 - children's hospitals, 6 – adult ambulatory care, 9 – ambulatory pediatric). Epidemiological and laboratory surveillance data was entered into the database. It was determined that the main risk factors of hospital acquired CDAD are: prolonged hospital stay (more 7 days), severe underlying disease, antibiotics exposure and nasogastric tube feeding.



Project #G-2100

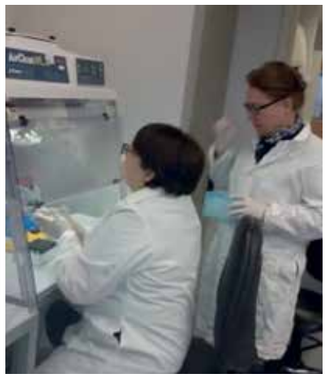
Molecular Epidemiology of Multidrug Resistant and Extensively Drug Resistant Tuberculosis in country of Georgia

Leading Institute:	National Center for Disease Control, and Public Health Tbilisi, Georgia
Collaborators:	Centers for Disease Control and Prevention (CDC) , Atlanta, Georgia, USA
Total funds allocated:	US $100,000
Total grants:	US $53,240

Transition & Outreach towards Central Asia & the Caucasus

Main objectives and results:

This project enhances the collaboration of public health institutions in Georgia to control drug-resistant tuberculosis, so that appropriate actions can be taken to prevent ongoing M. tuberculosis transmission. In addition to the research objectives proposed, this project provides substantial development of research capabilities for the Georgian NCDC and NCTBLD as well as providing training opportunities for Georgian collaborators.



Project #G-2101

Emerging Zoonotic Pathogens In Georgian Bats

Leading Institute:	National Center for Disease Control, and Public Health Tbilisi, Georgia
Collaborators:	Centers for Disease Control and Prevention (CDC) , Atlanta, Georgia, USA
Total funds allocated:	US $100,000
Total grants:	US $58,830

Main objectives and results:

This project helps to identify the infection source and pathogens transmission path from bats to humans in compliance with different epidemiological tools. Under the project diagnostic infrastructure, it is established that the research will lead to the early detection and prediction of emerging and reemerging disease in Georgia. This project will provide Georgian researchers involved in the project with the possibility to gain experience and establish international connections to performer fundamental and applied studies within the framework of international science and technology programs in the field of biology and medicine.

Project #G-2143

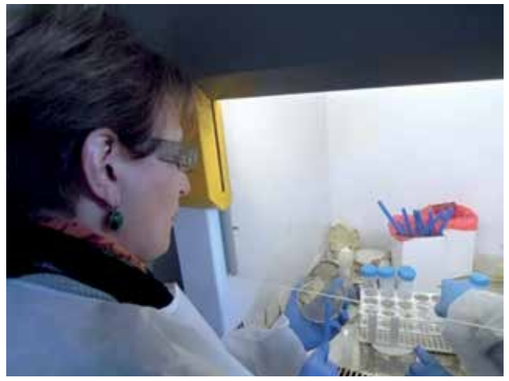
Expanding global knowledge of tuberculosis by establishing the Georgia Tuberculosis Portal

Leading Institute:	National Center for Tuberculosis and Lung Diseases / NCTBLD, Tbilisi, Georgia
Collaborators:	National Institute of Allergy and Infection Diseases, Washington DC, USA
Total funds allocated:	US $70,000
Total grants:	US $53,450

Main objectives and results:

The main purpose of the project is to create a global information resource for tuberculosis researchers. Once created, all the data contained in the Portal will be accessible to the researchers for viewing, querying and downloading. In addition, the sequenced genomes will be deposited into the global repositories and available for the further analysis.

The project will create a TB Portal, which gives an opportunity to share data about clinical history and treatment outcomes in cases of MDR/XDR TB. MTB genomes sequencing data analysis will show possible difference between MTB obtained from different parts of human lungs, as well as give additional data on drug resistance development in MTB.



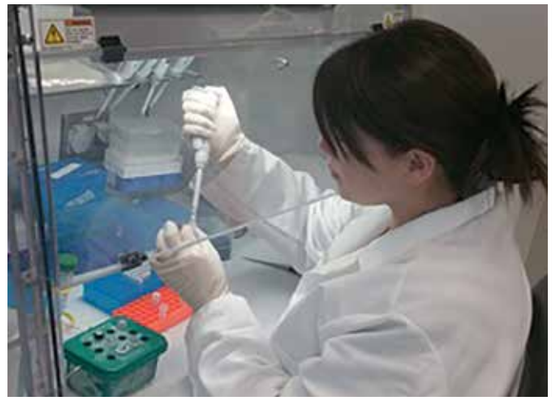
Project #G-2099

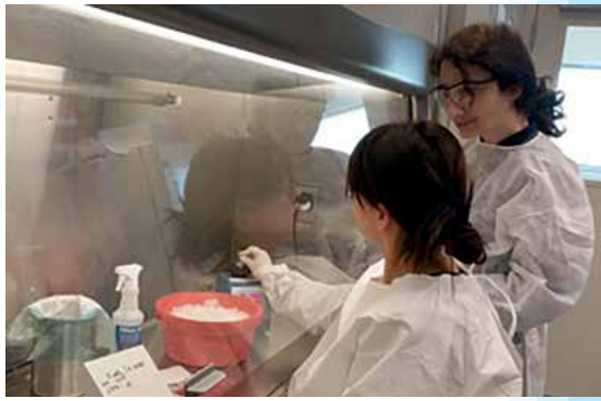
Molecular Epidemiology of Toxigenic Escherichia Coli in the Country of Georgia

Leading Institute:	National Center for Disease Control, and Public Health Tbilisi, Georgia
Collaborators:	Centers for Disease Control and Prevention (CDC) / Midwest Research Institute, Frederick, MD, USA
Total funds allocated:	US $100,000
Total grants:	US $55,350

Main objectives and results:

The project includes the study of stool specimens from patients with diarrhea with different bacteriology and molecular biology methods and to include patients with STEC infections who will be interviewed by epidemiologists from NCDC using a standardized questionnaire to obtain demographic, clinical and exposure information. The project uses PCR method for the detection of toxigenic E.coli markers. PCR-positive samples are streaked for isolation of toxigenic strain culture. PCR-positive toxigenic E. coli colonies are tested by slide agglutination using OK pooled and individual antisera for O-antigen serotyping. Molecular genotyping are performed with Pulse Field Gel Electrophoresis (PFGE) method and BioNumerics software is implemented to routine analysis and obtained typing results will be compared to the PulseNet Database. All information obtained is placed in database and analyzed using epidemiological software.





Project #K-878

Molecular-Epidemiological Research for Swine Influenza Viruses Circulation in the Southeast Kazakhstan and the Western Siberia

Leading Institute:	Institute of Microbiology and Virology, Almaty, Kazakhstan
Collaborators:	US Department of Health & Human Services / National Institutes of Health, Bethesda, MD, USA
Total funds allocated:	US $100,000
Total grants:	US $69,960

Main objectives and results:

TThe project goal is to investigate influenza A type virus circulation in pig populations in North Kazakhstan as potential pathogen for pigs and possible human pathogen that may cause the influenza outbreaks. Now the world awaits the next influenza virus pandemic that is considered as an inevitable event. Therefore, efforts of researchers from different countries are related with the search of features pointing to the emergence of the next pandemic strain and its possible sources. This project is planned in connection with the isolation of new pandemic virus H1N1v circulated among people in different regions of Kazakhstan during the 2009 epidemic. The structure of this virus is complex, and includes genes of swine influenza of European and American lines, avian and human influenza viruses. In addition, nine isolates of influenza A virus (H3N2, HswN1, and H1N1) were obtained from swine of various ages in the Republic of Kazakhstan in 2008-2009. Co-circulation of new virus H1N1v, HswN1 and seasonal human influenza virus H3N2 in these regions may stimulate mutations, which would be a prerequisite for emergence of new drift-variants with both influenza viruses H1 and H3.



Project #G-2175

Genotype-phenotype characterization and toxin study of archival and newly isolated Georgian Clostridium botulinum strains

Leading Institute:	National Center for Disease Control, and Public Health Tbilisi, Georgia
Collaborators:	Centers for Disease Control and Prevention (CDC) / National Center for Infectious Diseases / Enteric Diseases Laboratory Branch, Atlanta, GA, USA
Total funds allocated:	US $216,275
Total grants:	US $95,000

Project #G-2102

Database of Antimicrobial Activity and Structure of Peptides

Leading Institute:	I. Beritashvili Center of Experimental Biomedicine (IBCEB), Tbilisi, Georgia (BTG)
Collaborators:	US Department of Health & Human Services / National Institutes of Health, Bethesda, MD, USA
Total funds allocated:	US $66,000
Total grants:	US $55,000

Main objectives and results:

The key objective of this project is to present the database of antimicrobial peptides (DBAASP) to the wide scientific community as a modern bioinformatics resource, tightly integrated with other large databases via DAS clients, and hosted at NIAID. This will also favorably address the infrastructure behind the resource and ensure its permanence. It will supplement DBAASP with world-class structural predictions for selected entries from the database.

Transition & Outreach towards Central Asia & the Caucasus

Project #T-2023

Clinical and epidemiological aspects of viral hepatitis E in the Republic of Tajikistan

Leading Institute:	Institute of Gastroenterology, Academy of Sciences, Republic of Tajikistan, Dushanbe, Tajikistan
Collaborators:	Centers for Disease Control and Prevention (CDC) / National Center for Infectious Diseases / Division of Viral Hepatitis, Atlanta, GA, USA
Total funds allocated:	US $289,550
Total grants:	US $186,600

Project #G-2103

Patterns of HIV drug resistance and molecular epidemiology of HIV in Georgia

Leading Institute:	National Center for Disease Control, and Public Health Tbilisi, Georgia
Collaborators:	Emory University, Atlanta, GA, USA; Johns Hopkins University, Baltimore, MD, USA
Total funds allocated:	US $100,000
Total grants:	US $50,452

Main objectives and results:

The goal of this project is to expand knowledge on HIV drug resistance and better understand driving forces of the epidemic in Georgia. The long-term objective is to move obtained knowledge into effective treatment and prevention strategies. Specific aims of the study include: analyzing patterns of HIV drug resistance; evaluating time trends in molecular epidemiology of HIV and characterize distribution of HIV subtypes among newly diagnosed HIV patients enrolled in the study and establishing a national HIV sequence database.

Outreach activities- Japan

The outreach activities of the ISTC have promoted further integration of the scientists of the states of the CIS and Georgia into the international scientific community. The aim of the various outreach initiatives is to bring scientists together worldwide to discuss the latest scientific findings in specific areas of research and in particular to discuss and disseminate the results from ISTC funded programs and projects.

Being one of the signatories of the ISTC Agreements, establishing ISTC, the Japanese Party has been actively engaged in this Center's activities.

By the Japanese Party's grant and also by involvement of US-DOE in part, the following workshops and meetings were organized in 2014 to explore the frontier of sciences in ISTC member countries. These events are representative of the successful implementation of the ISTC's non-proliferation goals as applied to scientific and technical collaboration.

1. ISTC/STCU Technical Review Committee Meeting on the Environmental Assessment for Long Term Monitoring and Remediation in and around Fukushima.

ISTC and STCU have contributed to the remediation and environmental monitoring of the geographical area impacted by the Fukushima Daiichi Nuclear Power Plant Accident of 2011 through the establishment of the Fukushima Initiative consisting of six projects. In the course of the Initiative, the ISTC/STCU Technical Review Committee met in Japan in April 14-17, 2014 with a site visit to Fukushima. The meetings allowed the researchers to revisit the original premises of their work and its relevance to Japan. Presentations on each project were provided in the course of the deliberations with immediate peer review by technical experts to help maintain a coherent technical focus for work that meets Japan's real needs.

2. "Japan-Russia Workshop: Toward future Japan-Russia cooperation in Arctic observation and research"
More than sixty Russian and Japanese scientists gathered in Tokyo in October 28-30, 2014. They discussed collaborative research vectors in the Arctic region, which faces drastic changes in its environment and in human society. The workshop clarified research issues that have to be tackled urgently in collaboration with researchers from various fields. The environmental changes in the Arctic region have global significance. The workshop report is available on ISTC website (http://www.istc.kz/).

3. Workshop on "Exploring Prospective Scientific Fields through International Cooperation"

The workshop, held in Astana on June 3 of 2014, was attended by 37 representatives of science academies and ministries of CIS/Georgia countries and ISTC secretariat/ED. Common keywords to be prioritized in coming ISTC activities were confirmed: Health, Agriculture, Environmental Security, Energy Security, Biofuels Impacts, Material Sciences, and Commercialization. This workshop provided an important opportunity to discuss the new funding policies at ISTC.

4. Workshop on "Probiotics and human health in severe environments such as space habitat"

This workshop featured a common theme "Probiotics and Heath", which was one of the "Target Initiative" programs of ISTC, and was funded by Japan and US-DOE. Its purpose was to review the applicability and the effect of probiotics for the maintenance of human health in extreme work environments (space, deep sea, high mountains, and more). Scientists from CIS/Georgia, Ukraine, Russia, US, and Japan reported their latest results ranging from monitoring the crews of the International Space Station for an intestinal bacterial to the treatment of familial fever diseases by Probiotics. The workshop contributed to the promotion of research on diverse aspects of probiotic application in the area of human health risk control.

List of Projects Completed in 2014

№	Short title	Leading institute	Funding party	Collaborators
#3035	Herbicidal Antidotes	Russian Research Institute of Biological Plant Protection	Partner	USA
#3289	Biological Control of Weeds in the Krasnodar Region	All-Russia Rice Research Institute	Partner	USA
#3329	Genome Evolution and Taxonomy of Potato	Russian Research Institute of Plant Protection	Partner	USA
#3352	The Germplasm of Wheat Resistant to Fungal Diseases	Phytopathology Research Institute	Partner	USA
#3431	Russian Collection of Phytopathogenic Bacteria	Phytopathology Research Institute	Partner	USA
#3455	Phytopathogenesis and Protease Inhibitors	Moscow State University / A.N. Belozersky Institute of Physical and Chemical Biology	Partner	USA
#3468	Viroid and Phytoplasmas	Phytopathology Research Institute	Partner	USA
#3681	Septorioses of Cereals In Russia	Phytopathology Research Institute	Partner	USA
#3745	Controlling fungi with new, safe approaches	Phytopathology Research Institute	Partner	USA
#3940	Control of Influenza A Virus Infection	Ivanovsky Institute of Virology	Partner	USA
#4071	Systemic acquired plant disease resistance	Phytopathology Research Institute	Partner	USA
#K-1896	Natural Base for Pesticides and Anti-Infective Agents	National Biotechnology Center of Kazakhstan / Institute of Plant Biology and Biotechnology	Partner	USA
#2618	Safety and Security System Upgrade at Pokrov Plant	Pokrov Plant of Biopreparations	Partner	USA
#3427	Security System at Institute of Animal Health	Federal Centre for Animal Health	Partner	USA
#4079	Isolated Wetlands of the Former Soviet Union	Institute of Monitoring of Climatic and Ecological Systems of SB RAS	Partner	USA
#A-1957	Probiotics growing on milk oligosaccharides	Scientific and Production Center "Armbiotechnology" NAS RA	Partner	USA
#B-488	Early Radiation Data for Chernobyl Accident	Center for Environmental Control and Radiation Monitoring	Partner	USA
#G-1912	Bacteriophages to Control Diseases of Livestock Animals	Georgian Academy of Sciences / Institute of Bacteriophage, Microbiology and Virology	Partner	Korea
#K-1906	Training for Biosafety in Kazakhstan	National Centre for Monitoring, Referencing, Laboratory Diagnostics and Methodology in Veterinary Medicine	Partner	Germany
#K-1925	Infectious Medical Waste Disposal in Kazakhstan	Scientific and Practical Center of Sanitary and Epidemiological Expertise and Monitoring	USA	USA
#KR-1880	Pectin-Containing Composite Materials	National Academy of Sciences of Kyrgyzstan / Institute of Chemistry and Chemical Technology	USA	USA
#T-1159.2	Malaria Mosquitoes of Tajikistan	Institute of Zoology and Parasitology named after E.N.Pavlovsky	Partner	UK,Tajikistan
#T-1814	Hepatocellular carcinoma in the Republic of Tajikistan	Institute of Gastroenterology, Academy of Sciences, Republic of Tajikistan	EU	Germany
#T-1819	Bio-safety Assignment Training in Tajikistan	Republican Center for Quarantine Infections' Prevention of the Ministry of Health of the Republic of Tajikistan	Partner	Germany
#T-1852	Bio-Safety Assignment Training for Tajikistan	Tajik Research Institute of Preventive Medicine	Partner	Germany
#T-1954	Great Silk Road as a Target for Biological Threats	Institute of Botany, Plant Physiology and Genetics	Other	Slovakia
#T-2021	Genome Analyses of Yersinia spp. in Tajikistan	Republican Center for State Sanitary Epidemiological Control	Partner	USA

№	Short title	Leading institute	Funding party	Collaborators
#3642	Soman, Sarin, and Sulfur Mustard Stability in Water	Scientific Research Institute of Hygiene, Toxicology and Occupational Pathology	Partner	USA
#B-1988	Cathode-phosphors	B.I. Stepanov Institute of Physics	Partner	Germany
#T-1419	Colon-Specific Drug Delivery Systems	Institute of Chemistry named after V.I.Nikitin, Academy of Sciences, Republic of Tajikistan	Partner	USA
#2757	Biogeochemical Response to Climate Change	Siberian Branch of RAS / V.N. Sukachev Institute of Forest	Partner	Germany
#3749	Molten Salt Applications for Nuclear Energy	VNIITF	EU	France,Germany, Austria,Czechia,USA
#3885	Nanoparticles for Environmental Remediation	Institute of Organic Chemistry	Partner	USA
#4007	Radionuclides on Urban Surfaces	Scientific & Production Association “Typhoon”	Partner	USA
#4034	Reducing Mercury and Fly Ash Emissions	All-Russia Thermal Engineering Institute	Partner,Other	USA
#KR-1828	Electromagnetic Monitoring of the Northern Tien Shan	Kyrgyz National Technical University	EU,Korea	Korea,Spain,Greece, Germany
#0685.2	Self-protection of Reactors	Kurchatov Research Center	EU	France,The Netherlands
#3137	Irradiation-Induced Growth of Anisotropic Metal Materials	NIIAR (Atomic Reactors)	Partner	USA
#3558	Zirconium Alloys Defects	NIIAR (Atomic Reactors)	Partner	France
#3579	Validation of Neutron Data of Structural Materials	FEI (IPPE)	Korea,Partner	Korea
#3983	Spectroscopic Neutron Detector for Detection of Nuclear Materials	Khlopin Radium Institute	USA	Canada,Japan, USA,Italy
#4017	Liquid-metal steels embrittlement	NIIAR (Atomic Reactors)	Partner	Belgium
#4039	Liquid Metal Embrittlement of Steels in Lead	NIIAR (Atomic Reactors)	Partner	Italy
#B-1177	Upgrade of Nuclear Material Protection and Control Systems for Sosny Joint Institute	Joint Institute of Energy and Nuclear Research - Sosny	USA	USA
#B-1732	Low Enriched Acceleration Driven Systems	Joint Institute of Energy and Nuclear Research - Sosny	Partner	USA
#B-1763	Benchmark Analyses for Heterogeneous Fission Assembly	Joint Institute of Energy and Nuclear Research - Sosny	Partner	USA
#K-1566	Purification of Irradiated Beryllium	National Nuclear Center of the Republic of Kazakhstan / Institute of Atomic Energy (2)	EU,Japan	Japan,Belgium
#K-1561	Tokamak Divertor on the Base of Lithium	National Nuclear Center of the Republic of Kazakhstan	EU	Italy
#A-1951	Spectropolarimeter for Medical Use	Yerevan State University	Partner	USA
#3806	Aging Effects on Materials in Space Environment	MIFI	Partner	UK
#4084	Superconducting State of Nanosystems	L.D.Landau Institute for Theoretical Physics RAS	Partner	UK
#A-1962	Antitumor Zinc Oxide Composite Drugs	State Engineering University of Armenia	USA	USA

Transition & Outreach towards Central Asia & the Caucasus

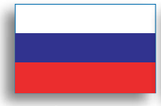
№	Short title	Leading institute	Funding party	Collaborators
#3846	Rapid Diagnostics of Chlamydia Infections	Saratov Scientific and Research Veterinary Institute	Partner	USA
#B-1910	Pediatric Cancer Epidemiology and Survival	Belarusian Research Center for Pediatric Oncology and Hematology	Japan,Korea	Japan,Korea
#KR-1429	Natural Focuses of Avian Flu	State Sanitary Epidemiological Supervision Department	Canada,Other	Canada,USA
#4047	Liner Physics Monograph	VNIIEF	Partner	USA
#4073	Discharge under Femto- and Nanosecond Pulses	FIAN Lebedev	Partner	UK
#4076	Laser Materials Search	Institute of General Physics named after A.M. Prokhorov RAS	Partner	UK
#B-1776	High-Performance X-Ray Sensors	B.I. Stepanov Institute of Physics	Partner	Germany
#B-1838	Laser Photoacoustic Sensor of Ethanol	B.I. Stepanov Institute of Physics	Canada,Partner	Canada

ISTC Structure

Permanent Governing Board Parties


European Union


Japan


Russian Federation


United States

Other Parties


Norway


Republic of Korea

CIS Parties and Georgia


Armenia


Belarus


Kazakhstan


Kyrgyz Republic (Board Member in 2014)


Tajikistan (Board Member in 2015)


Georgia

Members of the Governing Board:

Chair (USA)	Ronald F. Lehman II
European Union	Eddie Maier
Japan	Noritsugu Takahashi
Russian Federation	Lev Ryabev
United States of America	Simon Limage

Members of the Scientific Advisory Committee:

Japan	Masanori Araki
European Union	Jean-Pierre Contzen, André Syrota
Russian Federation	Evgeny Avrorin, Yuri Trutnev
United States of America	Upendra Singh Rohatgi

Transition & Outreach towards Central Asia & the Caucasus

Parties Contact Information

European Union

Eddie Maier
Deputy Head of Unit
DG DEVCO / Unit D5 -Instrument for Stability, Nuclear Safety Department
European Commission / European Aid Co Cooperation office
(DG AidCo)
J59 04/055
B-1049 Brussels/Belgium
Tel: +32 2 29 56 138
Fax: +32 2 29 66 228
E-mail: Eddie.Maier@ec.europa.eu

Russian Federation

Lyubov Kondratenkova
Coordinator, ISTC
State Corporation on Atomic Energy - Rosatom
26, ul. B.Ordynka 24,
Moscow, 119017, Russian Federation
Tel/Fax: +7 499 949 2012
Tel/Fax: +7 499 949 4926
E-mail: LMKondratenkova@rosatom.ru

Japan

Yuri Kobayashi
International Science Cooperation Division
Ministry of Foreign Affairs, Japan
2-2-1, Kasumigaseki, Chiyoda-ku, Tokyo 100-8919, Japan Tel:
+81 3 35803311
Fax: +81 3 55018228
E-mail: yuri.kobayashi@mofa.go.jp

United States of America

Walz Jonathon D
Department ISN/CTR - HST 3327
US Department of State
2201 C Street, NW, Washington DC 20520 Tel:
+81 3 35803311
Fax: +81 3 55018228
E-mail: WalzJD@state.gov

Norway

Johnny Almestad
Fagdirektor/ Director
Ministry of Foreign Affairs
Section for Russia, Eurasia and Regional Cooperation
Tel: + 47 23 95 06 26
Mobile: + 47 481 80 324
E-mail: jam@mfa.no

Republic of Korea

Young Su Jeon
Director
International Cooperation Bureau
Europe & Africa Cooperation Division
Ministry of Science, ICT and Future Planning
Seoul, Republic of Korea
Tel. +82 2 2110-2310
Fax. +82 2 2110-0275
E-mail. ysjeon@msip.go.kr

Hye Soo Kim
Researcher
EU& International Organisation Programs
National Research Foundation of Korea
Seoul, Republic of Korea
Tel: +82 2 3460 5616
Fax: +82 2 3460 5729
E-mail: khs001017@nrf.re.kr

CIS Parties and Georgia Contact Information

Republic of Armenia

Samvel Haroutunyan
Chairman
Ministry of Education and Science
of Armenia
State Committee of Science
Yerevan, 375010
Armenia
Tel.: +374 1 526602
Fax: +374 1 580403
E-mail: gpk@edu.am

Georgia

Sulkhan Sisauri
General Director
Shota Rustaveli National
Science Foundation
Tel: +995 5 77 151 551
E-mail: sisauri@rustaveli.org.ge,
info@rustaveli.org.ge

Republic of Kazakhstan

Sekerbaeva Dinara
Expert of International Cooperation Section
of the Science Committee
Ministry of Education and Science of the RK
Tel: +7 7172 742483
Fax: +7 7172 742457
E-mail: dinara.sekerbaeva@edu.gov.kz

Kyrgyz Republic

Sharipa Zhorobekova
President
National Academy of Sciences
of Kyrgyz Republic
Bishkek, Kyrgyz Republic
Tel: +996 312 392366
Fax: +996 312 392062
E-mail: jorobekova@istc.kg

Republic of Tajikistan

Farhod Kodirovich Rahimi
President of the Academy of Sciences
of the Republic of Tajikistan,
Dushanbe, Tajikistan
Tel.: +992 37 221 50 83
Fax: +992 37 221 4911
E-mail: frahimi2002@yahoo.com,
academy@science.tajik.ne

Ulmas Mirsaidov
Director of the Nuclear and Radiation Safety Agency
Academy of Sciences of the Republic of Tajikistan
ISTC CC Member,
Dushanbe, Tajikistan,
Tel.: +992 37 227 77 91
Fax: + 992 37 224 58 78
E-mail: ulmas2005@mail.ru

Haydar Safiev
Director of the Institute of Metallurgy
of the Tajik Aluminium Company
ISTC CC Member,
Dushanbe, Tajikistan,
Tel.: +992 37 224 26 21
Fax: + 992 37 224 26 21
E-mail: h.safiev@mail.ru

Transition & Outreach towards Central Asia & the Caucasus

Secretariat Contact Information

General Inquiries / Information

Nazarbayev University
Kabanbay Batyr Ave., 53
Block 39
Astana 010000
Republic of Kazakhstan
Tel: +7 7172 769 536
Fax: +7 7172 769 534
E-mail: istcinfo@istc.int

Executive Director

David Cleave
Tel: +7 7172 769513
E-mail: cleave@istc.int

Deputy Executive Director

Aidyn Turebayev (Acting)
Tel: +7 7172 769511
Fax: + 7 7172
E-mail: turebayev@istc.int

Principal Deputy Executive Director

Elena Ryabeva (Acting)
Operations Department
Tel: +7 495 982 3137
Fax: +7 499 978 1331
E-mail: ryabeva@istc.ru

ISTC Branch Office, Armenia
Republic of Armenia, Yerevan

Hamlet Navasardyan
Tel.: +374 60 62 35 17
Fax: +374 10 58 44 83
E-mail: navasardyan@istc.ru

ISTC Branch Office, Georgia
Tbilisi, Georgia

Irina Khomeriki
Tel.: +995 32 223 700
Fax: +995 32 912 386
E-mail: khomeriki@istc.ru

ISTC Branch Office, Kazakhstan
Almaty, Republic of Kazakhstan

Natalya Tomarovskaya
Tel.: +7 727 293 9740
Fax: +7 727 293 9694
E-mail: tomarovskaya@istc.ru

ISTC Branch Office, Kyrgyzstan
Bishkek, Kyrgyz Republic

Vitaly Kovalenko
Tel: +996 312 431 171
Fax: +996 312 431 171
E-mail: kovalenko@istc.ru

ISTC Branch Office, Tajikistan
Dushanbe, Republic of Tajikistan

Mukhabatsho Khikmatov
Tel.: +992 37 227 8737
+992 91 913 9598
Fax: +992 37 227 9394
E-mail: khikmatov@istc.ru

Glossary of Main ISTC Terms and Programs

The **Bio-safety/Bio-security Program** provides additional resources to support various Bio-safety and Bio-security initiatives.

The **Communication Support Program (CSP)** supports eligible CIS institutes and organisations for building IT infrastructure where existing capabilities inhibit the accomplishment of ISTC projects and the development of commercial opportunities.

The **Governing Board** is the primary ISTC decision-making body, which is made up of representatives from Canada, the European Union, Japan, the Russian Federation and the United States, with one yearly rotating seat for representation of one of the other countries of the CIS member states or Georgia.

The **Scientific Advisory Committee (SAC)** is a statutory body of ISTC with a function determined in the ISTC Statute. The work of SAC implies providing ratings for the regular project proposals, following discussion during its meetings, advising on selection of programmatic activities and evaluation of their implementation; advising on the ISTC Seminars and Science Workshops and performing Ex Post evaluation of these activities as appropriate; contributing, notably through the conduct of SAC seminars, to the identification of promising scientific avenues or programmatic activities meeting ISTC strategic objectives; identifying regular project proposals with sustainability potential for possible support through the relevant ISTC sustainability support services.

The **Mobility Program** provides additional opportunities for direct communication of the Russian and other CIS and Georgian scientists with their colleagues from abroad through financing international travel related to ISTC projects and activities.

The **Outreach Program** explains the objectives and working methodology of ISTC including the disseminating of ISTC project results.

The **Partner Promotion Program** attracts initiates and develops projects between the private sector and institutes in Russia and other CIS member countries or Georgia.

The **Responsible Science Management program** aims to increase awareness among scientists about the potential dual-use of research including the use of sensitive materials

The **Science Workshop and Seminar Program** promotes the integration of ISTC beneficiary institutions and scientists and engineers into the international S&T community through supporting various science events.